SOUTH AFRICA COVID-19 COUNTRY REPORT

2ND EDITION
NOVEMBER 2023

the dpme
Department:
Planning, Monitoring and Evaluation
REPUBLIC OF SOUTH AFRICA

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DISCLAIMER

This Country Report on the measures implemented by the South African government to combat the impact of the Covid-19 pandemic in South Africa (including individual research reports that may be enclosed as annexures) was prepared by various professional experts in their personal capacity. The opinions expressed in this report are those of the respective authors and do not necessarily reflect the view of their affiliated institutions or the official policy or position of the South African government.

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President's foreword

It is the fourth year since Covid-19 was declared a pandemic by the World Health Organisation. There is no doubt that the pandemic was unprecedented and had far reaching implications in every sphere of human development. As we learn from this report, the Covid-19 pandemic can no longer be understood as a standalone crisis. Realities have revealed a multiplicity of overlaps with other crises which caused great hardship and suffering. Similarly, the pandemic presented us with new opportunities and will remain recorded in the books of history.

We are fortunate to have been able to produce the Covid-19 Country Report series, which has proven to be not only for our purposes as a country but also to enable South Africa to exchange knowledge and practices with other countries internationally to explore policy alternatives for the future.

South Africa adopted a whole of government and whole of society approach to the Covid-19 pandemic. The government prevented severe illnesses and saved countless lives by responding swiftly. Some of the measures that we adopted, such as the lockdown, were drastic and decisive, and were informed and guided by scientific advice and careful consideration of alternatives. The leadership was, therefore, cognisant of the effects the measures would have on lives, livelihoods and the economy, but also understood that delaying action would have had far greater costs.

Evidence from other countries and our government's own modelling activities illustrated that immediate, swift and extraordinary action was required to prevent human catastrophe and minimize overextending the health services. Necessary choices and sacrifices were made in order for the country to emerge stronger. The country's constitutional architecture and its legal system were tested and were able to withstand significant pressures during the Covid-19 pandemic.

Some of the measures could have been better, but, as we all know; the pandemic was unprecedented and we were all drawing lessons on the run, reliant on the available resources and knowledge at our disposal. We will be drawing lessons from the Covid-19 Country Report series to build stronger, rigorous and adaptive mechanisms in the future to improve outcomes. Overall, as at 28 February 2023, South Africa recorded 97.1% Recovery Rate and Case Fatality Rate (CFR) of 2.5%. These ratios represent cumulative 102 595 Covid-related deaths, and 3,9 million recoveries out of about 4,0 million confirmed COVID-19 cases.

The Covid-19 pandemic saw a growing concern regarding global access to vaccines and vaccine hoarding, especially among first world countries. This has heightened a need for us to strengthen our scientific research and establish necessary capabilities to procure and manufacture vaccines against future pandemics. The African Union (AU) Summit endorsed a common agenda for manufacturing vaccines, medicines, diagnostics, therapeutics and health products on the continent. As AU champion for the Covid-19 Response, South Africa advocated for a Trade-Related Aspects of Intellectual Property Rights (TRIPS) waiver in the World Trade Organisation (WTO) to improve global access to vaccines, therapeutics and diagnostics. The continent's largest Covid-19 vaccine manufacturing plant opened in South Africa, and mRNA hubs for technology transfer exist in South Africa, Egypt, Senegal, Tunisia, Kenya and Nigeria. These are vital for the continent's health security.

The pandemic demonstrated the importance of pro-actively strengthening collaborative efforts and partnerships between various governmental clusters and other social partners, such as the economy frontiers, business sector, scientists, media, cultural and religious institutions. It brought together actors in new ways and helped established valuable relational networks. The Covid-19 Report, itself, serves to illustrate that, in working together, we can do more and are able to build a new social compact that will serve the citizens and help us draw near to the objectives of the National Development Plan, 2030.

Research now shows high levels of population immunity to SARSCoV-2. This was preceded by decreasing trend in Covid-19 related hospitalisations intensive care unit admissions and deaths. All this prompted the lifting of the restrictions and lockdowns, enabling all of us with an opportunity to return to some form of normality and focus on rebuilding our country. In rebuilding our country, our government implemented the Economic Reconstruction and Recovery Plan (ERRP) which has supported the economy and employment to return to their pre-pandemic levels. Greater determination is required as we work towards the NDP 2030 goals, of halving unemployment and eradicating poverty and inequality.

I therefore express my gratitude to all South Africans who have, for the most part, responded positively to the measures implemented by government to combat the Covid-19 pandemic and in rebuilding thereafter. We will forever be grateful to all who have been on the frontline every single day fighting the Covid-19 pandemic. We commend our health care workers, emergency personnel, policemen and women, soldiers, volunteers, and others for their services and commitment to serve and protect us. We thank the international community, civil society, organised labour, faith-based organisations, businesses, and citizens for stepping in and providing the necessary support to our communities and partnering with government during the pandemic. Last, but not least, we acknowledge and appreciate the contributions made by the researchers in producing this report. This demonstrates successful collaboration between government and academia in generating this important resource that will be used as a reference against future disasters.

We were able to show the world that we are one nation that does not despair. In co-labouring and strengthening partnerships and trust, we will emerge victorious. I thank you.

Mr Cyril Matamela Ramaphosa
President of Republic of South Africa

Preface from the Minister

As the country emerges and rebuilds from the rubble left behind by the Covid-19 pandemic, the leadership saw it that lessons learnt from the Covid-19 experience be recorded in order to provide guidance in the event of similar disasters in the near future. The Second edition of the Covid-19 Country Report builds on the First edition, which covered the period from March 2020 until March 2021. It addresses key gaps identified in the First edition and outlines the trajectory of the pandemic up to March 2023. Both reports document measures implemented by the South African government together with its social partners, to manage, respond to and mitigate the negative effects of the Covid-19 pandemic.

We are therefore grateful to present the Second edition of the Covid-19 Country Report, which is a product of collaborative efforts between the Department of Planning, Monitoring and Evaluation (DPME) in partnership with the Government Technical Advisory Centre (GTAC), and the National Research Foundation (NRF), as well as research and academic experts recruited by the NRF to draft different chapters of the report on a pro bono basis. The rationale for producing the Second edition was that the country was still going through the pandemic and confronted by a third wave, and a need to continue providing a storyline of the pandemic and drawing lessons was identified.

The Covid-19 pandemic has emphasised the importance of mainstreaming resilient disaster management systems and responses, and adopting an anticipatory governance response. It has elucidated a need to shift the focus from disaster response and relief, to a socially-centred disaster risk reduction and management, to prevent and mitigate disasters. The country's resilience and adaptability were demonstrated, not only by the test of the Constitution and the country's legal frameworks, but also by how government collaborated with social partners to deliver and respond to citizens' needs, ensuring that a balance was drawn between sustaining the economy, and saving lives and livelihoods. Government's increased focus and investment in the vaccination campaign to contain the Covid-19 virus and return to a new normal, proved worthy, as it was successful in protecting the elderly and the most vulnerable from severe infection.

The country would not have emerged stronger from the pandemic without co-labouring with social partners and citizens at large. In closing, we therefore take this opportunity to convey our gratitude to all individuals, groups and institutions that contributed positively to winning the fight against the pandemic.

We extend our gratitude to the experts who contributed to the production of the Covid-19 reports. I believe that the findings and recommendations generated in the Second edition of the report will go a long way in informing planning across different spheres of government.

Ms. Maropene Ramokgopa,
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CHAPTER 1
INTRODUCTION

Abstract

This chapter provides an overview summary of the 2nd Edition of South Africa's Covid-19 Country Report. It explains the purpose of the Covid-19 Country Report series, the background and the methodology followed in its production. This introductory chapter also presents an overview of content covered in each of the chapters and highlighting some of the key lessons learnt.

The 1st edition of the Covid-19 Country Report covered the period from March 2020 to March 2021, in which South Africa went through the first two waves of the Covid-19 Pandemic. The 2nd edition extends the scope to cover the period from April 2021 until March 2023, and for this purpose a timeline of Covid-19 pandemic is presented to highlight South Africa's experiences. The timeline of events covers infection rates, waves of infections including Delta (Third Wave), Omicron (Fourth Wave), Very mild (Fifth wave), the vaccination rollout as well as the economic and livelihood support in the country.

The themes covered in the second edition report are similar to those of the first edition. These themes include governance, legal and regulatory measures and challenges, communication strategies, social and economic measures and impact, civil society contributions, and international relations.

Abreviations and Acronyms

DMA	Disaster Management Act 57 of 2002
DPME	Department of Planning, Monitoring and Evaluation
EFF	Economic Freedom Fighters
FDA	Food and Drug Administration
FOSAD	Forum of South African Directors-General
GSCID	Governance, State Capacity and Institutional Development
GTAC	Government Technical Advisory Centre
HEIs	Higher Education Institutions
NCCC	National Coronavirus Command Council
NDMF	National Disaster Management Framework
NRF	National Research Foundation
PES	Presidential Employment Scheme
SAHPRA	South African Health Products Regulatory Authority
SA	South Africa
SASSA	South African Social Security Agency
TERS	Temporary Employee-Employer Relief Scheme
UIF	Unemployment Insurance Fund's
WHO	World Health Organisation

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1.1 Introduction: South Africa Covid-19 Country Report [Second edition]

The Department of Planning, Monitoring and Evaluation (DPME), in partnership with the Government Technical Advisory Centre (GTAC) and the National Research Foundation (NRF) produced the first edition Covid-19 Country Report, which was launched in June 2022. The first edition documented measures implemented by the South African government from the beginning of the pandemic up to March 2021 to manage, respond to, and mitigate the negative effects of the Covid-19 pandemic. The second edition outlines the trajectory of the pandemic beyond 2021.

The rationale for producing the second edition is that the country continued experiencing the effects of the pandemic and confronted by a third wave, hence government continued to implement Covid-19-related interventions such as lockdowns, social security measures, the vaccination programmes, etc. Accordingly, it has been anticipated that the full scale of some of the effects of the pandemic and government interventions would take some time to show, hence a need to conduct further research and analysis presented in the 2nd edition.

The structure and themes covered in the report are similar to those of the first edition. The opening section starts with the Covid-19 timeline, from April 2021 until March 2023, the purpose of the Covid-19 Country Report series and then an overview of the different chapters, and the key lessons.

1.1.1 Covid-19 Timeline data from April 2021 to March 2023

Figure 1: Covid-19 Timeline data from April to July 2021

Figure 2: Covid-19 Timeline data from August to December 2021

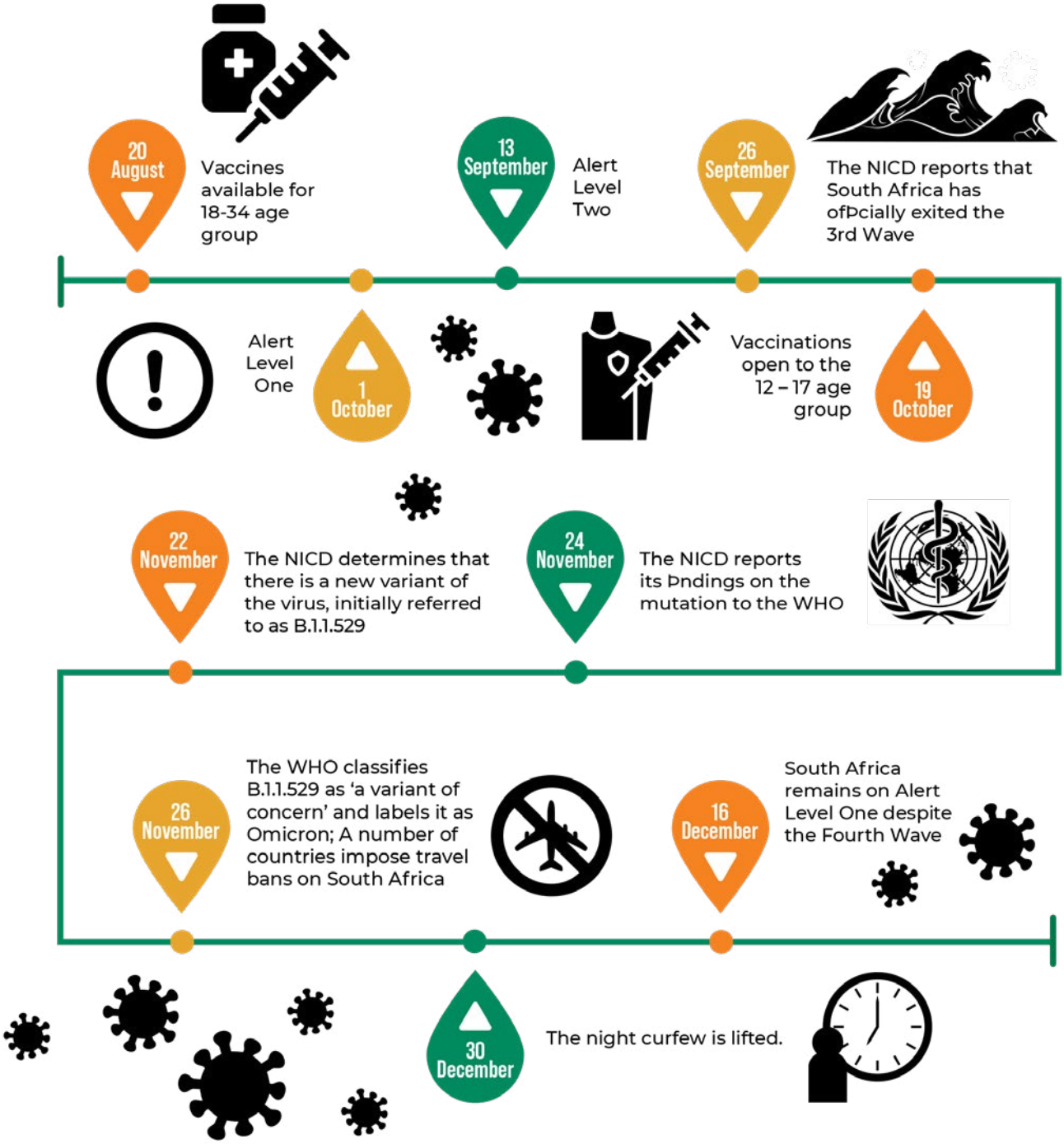
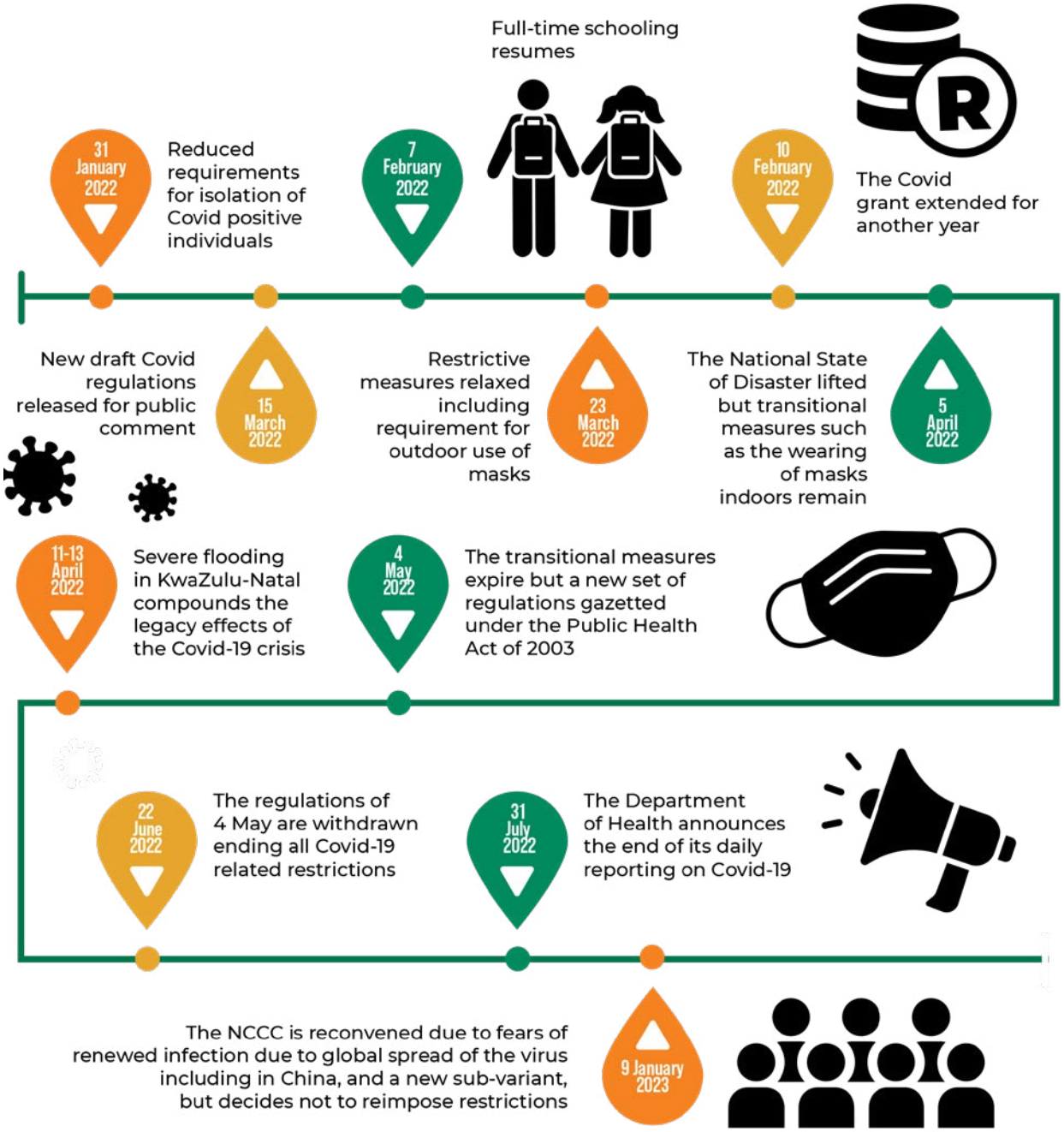


Figure 3: Covid-19 Timeline data from January 2022 to January 2023



South Africa entered April 2021 on alert level 1, with all provinces, except for the Northern Cape in a post-wave status. Infection rates remained stable through April, except for the Free State and North West, where there were modest increases. There were concerns, however, that complacency ('Covid fatigue'), and the onset of winter, with indoor gatherings in poorly ventilated spaces, would lead to a new wave of infections.

1.1.2 The Third Wave (Delta)

The Delta variant, which was first detected in India on 5 October 2020, was identified in South Africa (SA) in April 2021 (Harrison, 2023) and was soon to become the dominant strain, displacing the Beta variant, and driving a third wave of infections on 10 June (Zali, Gwala & Mukwevho, 2021)[1]. Gauteng, North West, Free State, and the Northern Cape were early leaders in the Third Wave. Major restrictions at the peak of the third wave included: the prohibition of all gatherings, sale of alcohol, a night curfew, school closures, restrictions on inter-provincial travel, and the mandatory wearing of masks (Government Gazette, No. 44838, 11 July 2021).

During the second and third week of July, a civil unrest took place. The country saw widespread looting of shops, warehouses, and factories, and damage to critical infrastructure, and disruption of the national economy, involved the loss of more than 300 lives, and occurred. This affected the rollout of the vaccination programme in KwaZulu-Natal and parts of Gauteng. On 26 July, South Africa was moved down to alert level 3, which was, sustained until 12 September 2021.

1.1.3 The vaccination rollout

In 2021, government began with an ambitious target of vaccinating 67% of the population (40 million) by the end of the year, but experienced challenges with procurement and distribution and also with low demand, including 'vaccine hesitancy' (Harrison, 2023). The roll out was affected by the suspension of the J&J vaccine, following concerns raised by the USA's Food and Drug Administration (FDA)[2] contestations regarding discriminatory practices. In July, an agreement was reached between the European Union and the African Union for the accelerated delivery of J&J doses to Africa, including South Africa, from late July. The United States was to provide vaccines through the COVAX facility and Aspen would begin vaccine manufacturing for the African continent at Gqeberha and the Biovac Institute in Cape Town would manufacture the Pfizer-BioNTech Covid-19 vaccine for distribution on the continent. On 13 August, the Department of Health affirmed the stable supply, but indicated low demand, to the extent that doses of the Pfizer vaccine were at risk of being destroyed.

1.1.4 Economic and livelihood support

Providing continued social support remained important, although there were signs of an economic recovery. In July, the UIF extended the Covid-19 Temporary Employee-Employer Relief Scheme (TERS) to sectors affected by alert level 4 restrictions to protect over 5 million jobs.[3] The Covid Social Relief of Distress Grant had come to an end in April 2021, but extended for a year (Harrison, 2023).

[1] The Ministerial Advisory Committee defined the threshold for entering a new wave as 30% of the peak incidence of the previous wave.
[2] SAHPRA press release, 17 April 2021. Online at https://www.sahpra.org.za/news-and-updates/sahpra-statementupdate-on-sisonke-phase-3b-implementation-study/
[3] Presidents Message, 11 July 2021. Online at http://www.energy.gov.za/files/docs/Presidents-Message11072021.pdf

The Fourth Wave (Omicron)

The Fourth Wave began in November 2021, in Gauteng testing laboratories with the discovery of a multiplicatively mutated version of the virus (Harrison, 2023) discovered by a technician in the Lancet laboratory in Tshwane (Pretoria). The NICD reported its findings to the World Health Organisation (WHO) on 24 November and 'Omicron' was classified as a 'variant of concern' on 26 November. Countries across the world began to place travel restrictions on SA, including flight bans[4]

An interregnum

The mild nature of the Fourth Wave of the Omicron variant influenced government to maintain South Africa on alert level 1. On 31 January, as the country was exiting the Fourth Wave, Cabinet approved changes to Covid regulations. On 7 February, full-time schooling was resumed and on 15 March, draft regulations for managing Covid were released by the Department of Health but provoked a controversy, with leading academics calling the regulations 'unrealistic and oblivious to the new realities of Covid' (Mendelson, Madhi, Nel, Gray, Osih & Venter, 2022).

A (very mild) fifth wave

Experts warned of a fifth wave during the winter and, by the end of April 2022, there was an increase in Covid-19 infections, driven by a sub-variant of the Omicron but research findings showed that just over 97% had developed some form of immunity because of previous infection or vaccination.[5] The fifth wave was mild, with reduced reported case and hospitalisations.

The protracted end to the regulatory regime

President Ramaphosa announced the lifting of the national State of Disaster with effect from 5 April, but put in place transitional measures, including the wearing of face masks in indoor public spaces, and restrictions on the size of gatherings for a further 30 days. When the regulations expired on 4 May, government was, however concerned, and gazetted a set of new regulations under the Public Health Act, 2003 which effectively extended the 30-day measures. The fifth wave proved to be very mild and was over by early June and on 22 June 2022, government withdrew the Covid-19 regulatory regime.

A period of quiet

The period from July to October 2022 was quiet on the Covid-19 front, with reported infections and hospitalisations low. Daily reporting ended in July, and the health focus shifted to handling potential outbreaks of measles and monkeypox, and the Ebola outbreak in north-central Africa.

New concerns

Despite the quiet, there had been a gradual increase in reported infections since September, and in early November 2022, the Department of Heath indicated that South Africa was technically in a sixth wave of infection, although cases were still generally very mild. The highest proportion of new cases was, however, in the 80 plus age group (23.6%) which was the most vulnerable, and this accounted for the modest increase in hospitalisations. By the end of the month, however, infections and hospitalisations were reported to be decreasing.

[4] A study released in mid-December indicated that 'comparing the Omicron and previous waves, deaths and ICU admissions were 4.5% vs 21.3% and 1% vs 4.3% respectively; length of stay was 4.0 days vs 8.8 days; and mean age was 39 years vs 49.8 years'. A Discovery Health study indicated that children under age 18 have 20% higher risk of admission for complications of COVID-19, when infected with Omicron, but admissions for hospital for complications remains low.
[5] The study was conducted by Stellenbosch University's DST-NRF Centre of Excellence in Epidemiological Modelling and Analysis and the South African National Blood Service and was based on an analysis of 3,395 samples f rom blood donors.

However, there were concerns that new Covid-19 variants and sub-variants would emerge. On 7 January 2023, the Genomic Surveillance Unit at Stellenbosch University announced that it had detected a case of XBB. 1.5 in a sample that had been taken on 27 December 2022 (Harrison, 2023). On 9 January, President Ramaphosa chaired a meeting of the National Coronavirus Command Council (NCCC) to discuss the new threat and a resolution was made not to impose further restrictions, but to focus on improving the rate of testing, increasing surveillance, and reinvigorating the vaccination campaign (Ellis, 2023). South Africa thus began 2023 with a degree of uncertainty over the continued evolution of the pandemic, although there was no apparent immediate risk of a new surge of severe disease.

1.2 Purpose of the Covid-19 Country Report

South Africa's Covid-19 Country Report was conceptualised by the senior management team of the Department of Planning, Monitoring and Evaluation (DPME) under the leadership of the late Minister J. M. Mthembu, who identified the need to document how government, along with its social partners, responded to the unprecedented challenge of the Covid-19 pandemic. The aim of the Country Report is to provide a storyline and record the measures and interventions adopted by government and its social partners to manage the pandemic and its many negative effects, especially on vulnerable groups. It provides an almost realtime assessment of government's response. The intention is for the report to serve as a reference point and to provide lessons for handling significant disasters in future.

A conceptual framework was developed to guide the development of the Country Report, for which advice and guidance were sought from the Forum of South African Directors- General (FOSAD); the Governance, State Capacity and Institutional Development (GSCID) Cluster; the Presidency; the Department of Justice and Constitutional Development; the Department of Women, Youth and Persons with Disabilities; the Western Cape Provincial Government; and various academics (DPME, 2021). The research is multidisciplinary in character, and partnerships were established with the Government Technical Advisory Centre (GTAC) and the National Research Foundation (NRF) to mobilise expert contributions to the report.

To ensure a balanced perspective from multiple angles, the report reflects both the views of government and independent assessments by members of South Africa's research community. Methodologically, it combines desktop analysis, the analysis of primary and secondary data, and interviews with senior officials involved in coordinating and implementing the Covid-19 response. Non-government experts and representatives of communities and vulnerable groups were also asked to share their views and experiences.

The DPME obtained ethical clearance from the Human Sciences Research Council Ethics' Committee (REC 1/23/09/20), following an assessment that the study presented minimal risk from a research ethics point of view. Draft chapters of the report were presented to stakeholders from relevant sectors at a series of virtual validation workshops between October and December 2022. The validation workshops solicited comments and inputs from a wide range of actors. Various subject matter experts from academia and government also reviewed the different chapters. This process helped enhance transparency, reduce bias, and ensure inclusivity.

1.3 Overview of the second edition

The chapters of the second edition Covid-19 Country Report are based on research papers prepared by various experts in their personal capacity. Most chapters were written by more than one author. Writers were mobilised from universities, government research institutions, and other research-oriented institutions.

The second edition Country Report is an update of the first edition and extends the reference period to include April 2021 to March 2023. Although it cannot fully assess the mediumand long-term effects of the pandemic and government's response, the report provides details of the measures taken, how different sectors were affected, and responded to the pandemic. This report covers topics such as governance, legal and regulatory measures and challenges, communication strategies, social and economic measures and impact, civil society contributions, and international relations – and a summary of each chapter is provided below.

Chapter 2: Government Leadership. Governance and Institutional Arrangements

The chapter on leadership, governance and institutional arrangements documents the experiences, successes, challenges and failures in implementing various leadership and governance measures and interventions that unfolded in the second and third year of the Covid-19 pandemic; with a special focus on the vaccine rollout and the extent to which vulnerable groups were considered. The chapter also offers recommendations for improvements in the management of future disasters, such as climate change, energy, food or water supply crises.

The first edition highlighted the coordinated approach adopted and the quality of the political leadership during the early stages of the Covid-19 pandemic. It assessed the Disaster Management Act 57 of 2002 (DMA) as a strong legal framework for managing the pandemic. It also provided insight on the existing and new structures and institutional arrangements that were put in place to respond to the pandemic and why the approach of a lockdown was adopted.

The second edition highlights that, as the pandemic unfolded in the second year, several government role-players became more familiar with the statutory and regulatory aspects of disaster risk reduction as espoused in the DMA, as well as the National Disaster Management Framework (NDMF). Departments realised the value of adopting a greater risk reduction focus in their respective sectors but were confused as to how to incorporate disaster risk reduction in day-to-day operations. It is, however, posited that the confusion could be averted by the adoption of disaster management plans and the implementation of appropriate monitoring systems.

Attention in the second year of the pandemic was directed toward the vaccination campaign and the containment of the Covid-19 virus. The vaccination campaign was assessed as fairly successful in protecting the elderly and the most vulnerable from severe infection yet fell short of global benchmarks in terms of communication and a lack of attention to the realities of everyday life. The vaccination campaign revealed a governance approach that was directive and hierarchical and not adequately embedded in local understanding and processes.

The governance architecture, risk-adjusted strategy, and the regulatory regime, that had been put in place at the inception, largely remained intact until mid-2022. Provinces drew on existing capacities and lessons from previous disasters to coordinate the Covid-19 response. The pandemic brought actors together in new ways and created new relational networks, strengthened the use of ICT in government, and focused attention on the positioning and resourcing of the Disaster Management Centre (DMC). It catapulted the adoption of online platforms and flexible working arrangements which has necessitated a need to formalise such arrangements.

The placement of the National Disaster Management Centre (NDMC) was a concern that was reiterated in the second edition. Not allocating the NDMC as a coordinating institution for the pandemic was argued to have been a missed opportunity to leverage the Covid-19 pandemic response and strengthen disaster risk planning and mitigation. Positioning the Centre in The Presidency was recommended to facilitate quicker and easier cooperation to address concerns regarding cross- and multisectoral coordination. The chapter argues that, had sectoral focal points with appropriate disaster management structures, capacities and budgets been in place at the national and provincial levels before 2020, managing the pandemic would have been more effective.

The Covid-19 pandemic can no longer be understood as a stand-alone crisis that required an abnormal response because realities reveal the multiplicity and overlap with other crises (i.e., violent unrest, energy crisis and severe flooding). The Covid-19 pandemic has, therefore, emphasised a need to mainstream resilient disaster management systems and responses, and adopt an anticipatory governance response. It has created an awareness that, in order to prevent and mitigate disasters, the focus should shift from disaster response and relief to disaster risk reduction and management that has a socially-centred inclination. Lastly, the pandemic has illustrated the importance of pro-actively strengthening partnerships between various governmental clusters and other social partners, such as the economy frontiers, business sector, scientists and social scientists, media, cultural and religious institutions, etc.

Chapter 3: Legal responses and challenges

The Covid-19 pandemic has prompted a series of major shocks to, among others, the legal system, and has provided a window of opportunity to assess the response of the system and contemplate whether any changes needed to be made for the system to better withstand similar disturbances in future. The chapter on legal responses and challenges, therefore, assesses the resilience of the legal system and identified regulatory frameworks that underpinned the South African Covid-19 response. It provides reflections on whether the rule of law, human rights, and the legal system's structuring of power and accountability managed to prevail during the shock and also considers possible fault-lines in the conception and implementation of existing legal and regulatory frameworks. It lastly highlights areas that can be strengthened.

The extensive and unprecedented use of the DMA to govern the national response to the Covid-19 pandemic resulted in extensive litigations that challenged various aspects of the Act, including the constitutionality and legality of the state of disaster, as well as the DMA itself. Many of these cases were presented in the first report. Some of the cases discussed in this report include the directions issued in response to the looting by the Minister of Employment and Labour, which were found to be irregular.

South Africa's constitutional architecture and its legal system were deemed not to have fared too badly in withstanding the significant pressures of the Covid-19 pandemic. The presence of the DMA and its supporting regulatory framework shielded the country from resorting to a national state of emergency, or frantically developing a bespoke legal framework aimed solely at addressing the Covid-19 pandemic. While the Act was arguably not drafted with public health crises in mind, the DMA proved sufficiently flexible to enable a coordinated and consistent response to the pandemic. Weaknesses in employing the DMA and its regulatory framework are highlighted in the report. These included the overextension of the Act, which may suggest that current oversight mechanisms are not sufficiently rigorous and indicate a lack of adaptive capacity of the South African public health law.

Government's consultation and public participation in the law-making processes was significantly tested during the development of Covid-19 regulations because of the restriction on gatherings and short turnaround times. Broader public participation was a concern as the pandemic progressed. The report asserts that executive powers exercised during the state of disaster were deemed valid by the Supreme Court of Appeal, and that mechanisms of accountability are adequate to balance powers in the South African Constitution. A recommendation was, however, provided that parliament include requirements for the periodic and independent scrutiny of power exercised during emergencies.

The DMA was asserted to have failed to provide for the special and urgent needs of vulnerable groups. The NDMF also failed to specifically cater for people with disabilities. It was, therefore, recommended that the NDMF consider the specific needs and circumstances of people with disabilities during disasters, including, communication in all media formats to encompass the diversity of disability types.

There were concerns in terms of balancing public health interests and protecting the privacy of individual citizens, i.e. imposing a blanket vaccination mandate, as well as the legal nature and consequences thereof, that might continue post-pandemic. The chapter suggests that while imposing mandatory vaccines, should only be pursued as a last resort, and should be subjected to democratic principles and public participation, with a diversity of voices represented in decisionmaking. The pandemic, therefore, seemed to illustrate that the right to health, as underlined by public health measures, is not entirely inimical to individual rights.

There were also concerns regarding global access to vaccines and vaccine hoarding. This has raised an increased need for domestic laws that provide for robust mechanisms to enhance South Africa's ability to procure and manufacture necessary vaccines against future pandemics, using tools such as a sovereign patent fund.

Chapter 5.1: Health Sector

The first edition of the Health chapter provided a record of how the public and private sectors, the business and non-governmental sectors, and the academic and research sectors were mobilised during the Covid-19 pandemic and reviewed the national response, and measures put in place by the health system, using the health sector's eight-stage implementation framework. The second edition expands on the work previously reported in the first edition and focuses on the implementation of 'Ongoing Vigilance'; an aspect of the South African response framework to Covid-19. Most attention in this chapter is, therefore, on surveillance of new variants, cases/waves, disease severity measured by hospitalisation and mortality; population antibody levels, immunity and the national Covid-19 vaccine actions' programme; including socio-behavioural aspects of vaccine acceptance and vaccine hesitancy. The chapter further describes how surveillance activities contributed to informing the national pandemic response.

The emergence of a new Omicron variant in the reporting period for this edition was one of the significant moments for the country. South Africa faced the punitive response of curtailment to economic activity, despite excellent science that enabled early detection and reporting of the new Omicron variant. The bans resulted in travellers from South Africa being prohibited from entering countries, particularly in the Global North. The WHO praised South Africa for the rapid identification and transparency in sharing information on the Omicron variant and condemned the implementation of a blanket travel ban; arguing that such methods are not effective in suppressing international spread and discourage transparent and rapid reporting.

Corresponding to the findings in the Communication chapter, this chapter found that the voices of scientists, and particularly the few most visible experts, reached the broader community. Trust in scientists and scientific messaging was deemed generally effective in relieving concerns and dispelling misinformation. The chapter highlights a need for government to collaborate actively with the media, civil society groups, media educators, and social change communication professionals in a collective effort to inform, educate, and ultimately save lives.

A hospital surveillance system for COVID-19; DATCOV, which received data from public and private hospitals in all nine provinces and provided daily and weekly reports on hospitalisation and deaths, was established by the NICD and adopted by the National Department of Health (NDoH) as a national hospital surveillance system. Policy and planning in the country were supported by the South African COVID-19 Modelling Consortium, that produced reports on modelling the emergence of new waves (SACMC reports) and particularly assisted during peaks when hospitals were under pressure; providing projections on hospitalisations which guided the response at provincial and district levels.

The rolling out of vaccinations had its ups and downs. The country experienced vaccine hesitancy and proposals for vaccine mandates. Some of the concerns that led to vaccine hesitancy included misinformation, fear of needles, distrust of government, belief in conspiracy theories and religious reasons. In almost all surveys, young people were the most hesitant. Mandatory vaccination was a controversial policy that received a lot of resistance both in South Africa and across the world. The South African government did not adopt mandatory vaccination.

Chapter 5.2: Education Sector

The chapter on the education sector provides a comparison of Covid-19 education events in South Africa and other countries, covering three essential sectors in education, namely Early Childhood Development, Basic Education and Higher Education.

The second edition, like the first, reiterates that the Covid-19 pandemic plunged South Africa's schools further into crisis, and exposed the legacy of apartheid that continues to shape the education system, where class, context and race are argued as factors shaping a child's experience of education in the country. Even though the first edition reported claims of high drop-out rates, the second edition argues that enrolment data estimates illustrate that school dropout rates were not as severe as initially thought, but were an indication of extended absenteeism. Structural inequalities and poverty, concentrated in rural and informal urban areas, were contributing factors.

The chapter highlights some of the challenges of the pandemic, and the attempts employed to mitigate the negative effects of the pandemic. Challenges included increased workloads, reduced collaborative work among teachers, pressure to cover the curricula for the previous and the current grade, adapting to new online innovative pedagogies, and the data costs to deliver lessons. Resilience and high adaptability were demonstrated by certain educational institutions as blended learning was fast-tracked. Implementation of remote schooling, however, took place in a context of widespread lack of internet access, and had negative impacts, especially for students and learners from rural-based provinces and communities. South Africa observed innovative and collaborative partnerships among civil society, nongovernmental organisations, schools, health providers, governments, and business during the pandemic.

South Africa was found to be among the countries with the highest number of days of school closure, with approximately 41 weeks of closure. Disruption in attendance was not the only concern for schools, as the looting and vandalism that took place during the lockdown, and the violent unrest that took place in July 2021 added a new dimension of disadvantage and setbacks that the country's education system could ill afford. Closure of schools not only had an impact on learning, but also on other linked activities, such as the provision of meals, day care and social networking services. Disruption to routine health care provision and the National School Nutrition programme resulted in greater vulnerability to malnutrition.

In 2021 and 2022, there was increased pressure on schools to reopen. The report provides more detail of some of the prominent debates, including decisions made by government in relation to schooling, such as the timely opening of schools and school readiness to manage Covid-19 protocols. It also shares insight concerning the support to the education sector for the rollout of the vaccination programme, the implementation of the risk-adjusted strategy, and the campaigns aimed at tackling teachers' vaccine hesitancy. It asserts that South Africa compared well to most other countries in the world in prioritising teachers as early recipients of the Covid-19 vaccine. It shares further insight about the decline in routine immunisation in the first quarter, and how immunisation and health catch-up drives were rolled out to reduce the negative impact on children of non-immunisation.

Some of the recommendations provided include a need to upgrade community centres and libraries, ICT and school infrastructures, improve connectivity and mobile hotspots in villages, towns and cities. These also include an improvement of stakeholder communication, continuous teacher professional development,

and a need to address the uneven capacity and capability in educational institutions. The report further suggests that before deciding to close educational institutions and continue with learning at home, spatial, infrastructural, and socio-economic disadvantages need to be considered.

Chapter 5.3: Impact on Vulnerable Groups

The chapter on the impact of the Covid-19 pandemic on vulnerable groups focuses on the continued and longer-term effects of quarantine and economic contraction, especially on the vulnerable. It adopts an intersectional perspective in addressing the issues of those who live precarious lives, and who were marginalised, prior to the pandemic, and at heightened risk of infection and increased poverty. The first edition focused on many of the larger, structural aspects of vulnerability, and this edition is, therefore, an update that has a specific focus on areas of vulnerability that slip through the cracks, or are not easy to quantify, such as homelessness, migrants, the transgendered community, those who live in institutional settings.

The chapter highlights a need for a gendered and intersectional analysis of vulnerability to inform policy and programme design. It utilises nationally representative survey data collected during the pandemic to illustrate how national mechanisms were used to address socio-economic, structural, and infrastructural risk factors, particularly as they affected women, children, elderly and disabled people. It illustrates how people living precariously and/or in structurally vulnerable positions, including migrant populations, people without valid identity cards, and the homeless could not always access government support. The chapter identifies some of the institutions that were more vulnerable, such as aged care residences, orphanages, correctional facilities and mental health institutions. Worldwide data indicates that residents in long-term care facilities were disproportionately affected by the pandemic, with high death rates, particularly among the elderly.

As established in the first report, lockdowns had a disproportionate impact on those who were precariously employed, disadvantaged, disabled, or already experiencing discrimination. Covid-19, like any other disease, exploited and amplified vulnerabilities, and, while state and civil society measures softened its impact, many individuals were still rendered invisible to and marginalised by formal mechanisms of care. People with disabilities require ongoing health care that includes medical supplies, assistive devices, and therapy. During the lockdown such services were disrupted and, in some cases, unavailable, and subsequently, had life-threatening consequences and diminished quality of life. The closure of hospitals and health centre programmes to contain Covid-19 transmissions, had unanticipated negative consequences that affected children with disabilities, people with HIV, and migrants living with chronic health problems; particularly, HIV and TB.

With decreases in economic activities and wage losses, women were more heavily affected than men in the early phase of the pandemic. The lockdown, and subsequent Covid-19-related poverty, had negative effects on the mental health of children and their caregivers. Lockdowns also had negative effects on those living in border communities and those who needed to renew residential permits, thus creating a backlog of applications, and amplifying the vulnerability of migrants and refugees, and subsequently, negatively impacting children's education, households' access to grants, frozen bank accounts, or cessation of disability grants for migrants with disabilities. The Covid-19 pandemic, therefore exacerbated inequalities, and created new ones.

The Social Relief of Distress (SRD) Grant has remained at R350, despite the high rates of inflation. Reports of increased household hunger were reported when the grant was temporarily ceased in 2021. While the SRD grant was deemed less progressive across household income distribution than the Child Support Grant (CSG) top-up, its key advantage was its ability to reach individuals and households that would not have otherwise been covered. The SRD grant has, therefore, contributed to the mitigation of increased household poverty. The report further provides insight on (in)efficiencies in distributing grants and the effects of grants on workers and households, and on income relief and labour market recovery.

Lockdowns negatively affected the informal sector, more than those in formal sector employment. Regulations on informal traders not only impacted the traders, but also farmers selling produce to informal traders, which, in turn, meant a loss of income, and a subsequent negative impact on food and nutrition security. There is, therefore, an increased need to be cognisant of the informal sector and the subsequent effects of ignoring its impact on livelihoods, especially, on those of the most vulnerable.

The chapter recommends monitoring and evaluation systems in various departments that enable disaggregated data and ensures intersectional analysis to highlight the effects of the pandemic and its interventions on different population groups.

Chapter 5.4: Women's Empowerment and Gender Equality

The chapter focuses on themes similar to those in the first edition, namely gender and human settlements, gender and unemployment, maternal health, and gender-based violence. However, new sections focusing on the utilisation of space within the home and what this meant for women and children is introduced. The chapter also includes a section on women's economic empowerment and interrogates whether things could have been done differently to ensure that women emerged economically stronger from the pandemic. The objective of this chapter is to document the impact of COVID-19 on the efforts to achieve women's empowerment and gender equality throughout the pandemic.

The chapter highlights that COVID-19 workplace and social interventions aimed to assist workers were found not to be adequately inclusive and effective in addressing women's needs. Interventions put in place to lighten the burden of the COVID-19 pandemic on households such as the unemployment insurance fund (UIF) were found to have failed to reach women in the informal sector. The Social Relief Distress (SRD) grant was found not to be inclusive, as it could not be held concurrently with the child support grant (CSG), thus it was found to penalise poor, and unemployed women who received the child grant as it does not sufficiently cover food costs per child. The lockdown period also had negative effects on women's access to contraception and an increase in maternal mortality was also observed.

The chapter further illustrates how women, especially of lower income groups, with little to no education and part of the informal job sector, were negatively impacted by the lockdowns. It highlights how women were more impacted by labour market changes and demonstrates how they were more susceptible to job losses and unemployment during the pandemic than their male counterparts, because of their job industries and childcare responsibilities. It further provides women's experiences of empowerment and equality in the form of personal narratives.

The chapter argues that to improve the inclusivity of workplace and social interventions to address women's needs and reduce vulnerability, a national occupational health surveillance system and a budget by government to support women in both formal and informal sectors is required. It further suggests that NGOs be inclusive of the informal sector as this is where most women workers in SA find themselves.

Chapter 5.5 Human Settlements

This chapter reviews both published and grey literature to unravel the effects of the COVID-19 pandemic on human settlements, living conditions, and related dimensions, such as cities, in general. The chapter also examines the performance of relevant policies and programmes during the COVID-19 pandemic to understand their performance during the pandemic. In addition, the chapter draws heavily on empirical evidence derived from 35 key informant interviews conducted among stakeholders in human settlements. Through the integration of the various sources of data and information, the chapter identifies government interventions in human settlements during the COVID-19 lockdown.

The COVID-19 pandemic lockdown encouraged humanity to focus on the home and revisit what it means to have a dwelling place. The legislative instruction was based on the dominant assumption that the majority had a dwelling place and that they would remain confined within that space. Strict observance of lockdown regulations resulted in the confinement of household members to the limited spaces of their homes. The dwelling space became a multifunctional site for work, schooling, and care for the ill and elderly. While multifunctionality was possible for households which lived in large spaces, the confinement took its toll on parenting and caregiving.

Engagements with housing institutions and NGOs revealed that tenants borrowed money to meet their rental obligations, and others did so to buy food and other essential goods. The Rental Relief framework stipulated that the fund could only be paid to landlords on behalf of tenants. This arrangement disqualified tenants who paid rental through loans. In future, policy regulations should examine funding applications holistically.

Findings highlight that the pace at which water and sanitation in informal settlements was provided and managed, should be emulated in upgrading the settlements. The chapter argues that the Department of Human Settlements needs to include in its policies, processes, and procedures, as well as clauses that can be invoked to intervene in emergency situations. Interventions put in place, such as the moratorium on evictions during disasters, must be complied with, and the penalties for non-compliance must be imposed on offenders. The chapter suggests that the post-Covid recovery strategy needs to create and implement a programme of rent guarantees or rent support to save the newly unemployed homeless and proposes that, given the impact of the lockdown on the residential construction sector, the country should never again consider a total shutdown of the economy.

This chapter suggests that while compliance with legislation such as the PFMA is mandatory, this should not take precedence over saving people's lives. Special provisions must be made for expediting funds in emergency situations without compromising accountability measures.

Chapter 6.1: Macroeconomic impact and policy

This chapter discusses key macroeconomic, sectoral, and other socio-economic trends in the 2021/22 review period. It provides a general overview of the macroeconomic environment and provides insight on how employment and incomes were affected as well as a review of the performance of individual sectors in the economy. It also discusses the current economic outlook and challenges facing the South African economy going forward, as well as fiscal and monetary policy developments and responses. It further discusses targeted policy interventions instituted in the wake of the Covid-19 pandemic and their respective impacts.

The chapter argues that fiscal policy played a crucial role in allocating financial resources required during the Covid-19 period. Monetary policy was deemed stable in 2021, but in 2022 the SARB later took a more aggressive approach as inflationary pressures stemming from continued Covid-19 related supplychain bottlenecks and the fallout of the Russia-Ukraine war threatened to spiral out of control. Due to the threat of high inflation, monetary policy could no longer play a short-run expansionary or supportive role in the post-Covid economic recovery phase. Maintaining price stability and anchoring inflation expectations have, however, been deemed crucial elements of the longer-term economic recovery process.

The chapter argues that despite the number of economic relief measures put in place, the pace of South Africa's economic recovery effort lagged behind that of most of its peers and key trading partners. To mitigate against these risks, the chapter suggests that programmes such as the Presidency's Economic Reconstruction and Recovery Plan be implemented to help generate the necessary momentum needed to reboot economic and job growth.

The UIF's Temporary Employer/Employee Relief Scheme (TERS), and SASSA's extended special Covid-19 Social Relief of Distress (SRD) grant scheme, were substantial compensatory income support programmes targeted at employees across a broad spectrum, especially in the services sector, and poor households. The chapter asserts that the most important lesson derived from some of these interventions has been the success of targeted interventions versus the relative failure of general interventions in providing support to the economy. Narrow targeted support programmes such as the SRD and TERS programmes were generally more successful in achieving short-term goals, thus giving policy-makers and the people dependent on such support confidence that well-designed relief measures can indeed make a meaningful difference.

The chapter advocates that the country reduces its vulnerability to future shocks by building more resilience and increasing fiscal space to respond adequately to future crises. This will require collaboration between ordinary citizens and political leaders to join hands in strengthening key institutions, reestablishing the rule of law, promoting investment in productivity-enhancing infrastructure, and creating a thriving business and investor-friendly environment in which jobs can organically and sustainably be created. The chapter concludes by asserting that, whilst government has room to support the economy and improve employment opportunities during times where markets fail to adequately do so, such interventions cannot be viewed as the preferred option or a permanent solution to South Africa's economic and employment crises.

Chapter 6.2 Tourism and leisure

The chapter on hospitality and tourism focuses on the unfolding of the Covid-19 pandemic in these industries in the second year of the pandemic. It reflects how the pandemic impacted the South African tourism and hospitality industry and assesses and examines the efficacy of the measures that were implemented to mitigate the negative impact of the pandemic. It focuses on hospitality, tourism transport, travel services, adventure, and recreation, as well as the Meetings, Incentives, Conferences or Congresses or Conventions and Exhibitions (MICE). Furthermore, it draws lessons and recommendations to guide the country on how to better prepare for similar future events.

The discovery of the Omicron variant in South Africa by the end of November 2021 led to a decline in tourist arrivals during December 2021. Foreign currency inflows due to tourism also declined. Provinces more dependent on tourism, and especially international tourism, suffered greater losses, and those more reliant on domestic tourism, especially the Northern Cape province, recovered earlier. The decline in domestic tourism could be indicative of the economic hardships. Amidst these observations, South African Tourism reported a huge increase in domestic tourist spending. Domestic tourism carried the industry during the pandemic years and remains important for the survival of the South African tourism industry even though it is not sufficient to sustain it. To rekindle the demand in tourism, strategies to encourage and design diversified product offerings that are attractive to the domestic and international market, and also promote South Africa as a safe and touristfriendly destination need to take centre stage.

The tourism industry was severely affected by the lockdown, with job losses and reduced salaries, especially in the labour-intensive hospitality industry which is considered a driver for employment creation. The restrictions imposed resulted in exceptional losses in major hotels due to low occupancy. The extended lock-down was identified as a significant barrier to the recovery of airlines. The absence of flexibility and adequate lead time in implementing measures, such as travel moratoriums, negatively impacted operations. Despite this, the entity had reported growth in August 2021. There is a general consensus that the industry will only recover to pre-pandemic levels by 2024, although additional shocks, such as the Russian-Ukrainian conflict, could prolong the recovery.

The Unemployment Insurance Fund's (UIF) Temporary Employee/employer Relief Scheme (TERS) was recognised as a valuable financial support measure which assisted employees and businesses to stay afloat during the pandemic but was criticised for only catering to formal businesses. TERS was deemed as the most effective measure, and was ranked as one of the most successful financial reliefs given to the industry. Bank guarantee schemes were deemed more effective for large businesses with existing credit facilities at banks, but less effective for SMMEs and were assessed as unsustainable in crises that last as long as the Covid-19 pandemic.

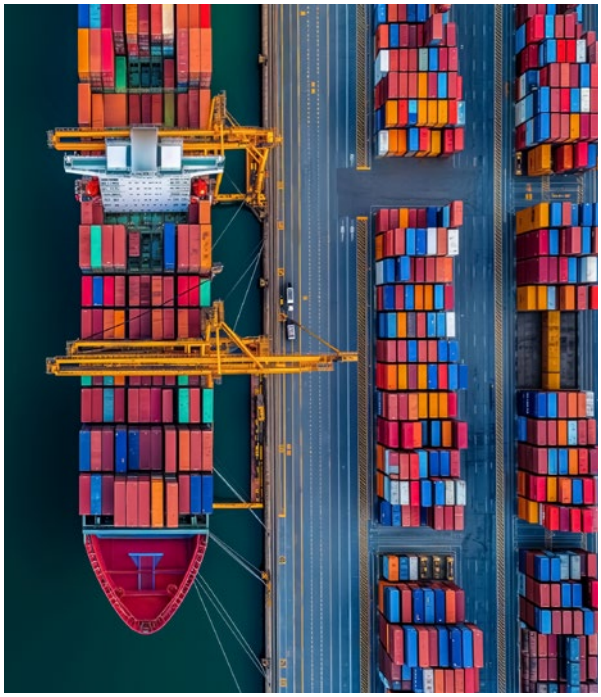
While it is acknowledged that the whole tourism value chain was adversely affected, it was especially the small- and medium-sized businesses that suffered, and it was among these businesses that large-scale closures were experienced. Repurposing emerged as one of the non-fiscal measures employed. Some of the big hotels used some of their properties for quarantine facilities. Health protocols, such as social distancing, together with the vaccine drive were viewed as important measures that fostered confidence in the industry, eased fear of travel and controlled the risks of transmitting the virus.

The ineffectiveness of the measures aimed to shelter the tourism industry also resulted from a lack of co-ordination and communication, which calls for reduced red tape, more collaborative partnerships between government, the private sector and communities, and prioritisation of tourism and its funding, in both national and provincial government agendas going forward.

Chapter 7: International Cooperation and Trade

International cooperation can help states respond to humanitarian crises, such as natural disasters, refugee crises, and conflicts. It allows countries to share resources, expertise, and knowledge to provide aid to affected populations. It is essential for creating and enforcing international law and governance frameworks. The chapter on International Cooperation and Trade therefore seeks to share insight regarding South Africa's response to the Covid-19 pandemic in terms of international cooperation and trade since March 2021. It aims to do this by exploring whether the country was able to draw lessons from the previous year's experience and thus leverage its international cooperative efforts and respond more effectively. It explores the extent to which the country contributed to the continued global response to the pandemic and to identify any possible hurdles. The chapter firstly explains the importance of international cooperation, sharing case studies that illustrate the effect of the pandemic on international relations. Lastly, it considers the circumstances around the procurement of vaccines and the country's advocacy role in global platforms to overcome discrimination.

In the second year of the pandemic, the South African government continued to recognise the necessity for a coordinated response in tackling the disease. The government worked with national and international health officials, scientists, and other stakeholders to develop a comprehensive response plan, which included testing, contact tracing, and treatment. South Africa continued to work closely with other countries and international organisations to share information, resources, and best practices. South Africa was transparent about its scientific findings related to the new Covid-9 variant, Omicron, and alerted the necessary world bodies timeously; actively engaging, through data sharing, with international media, public health institutions in countries, and the WHO. The discovery and reporting of the Omicron variant was received with disdain and, instead of gratitude for transparency, it was followed by the enforcement of oppressive travel restrictions that were later condemned by the WHO and the UN Secretary-General. These restrictions not only affected the South African tourism industry and economy, but also that of other Southern African countries. South Africa also engaged in its fair share of vaccine diplomacy. Yet, unlike some major powers, the country's exercise of vaccine diplomacy, was not in pursuit of self-interest, but rather in safeguarding the lives and livelihoods of the most vulnerable in the country and the African continent, at large. The chapter further explores how SADC member states exploited bilateral and multilateral partnerships and highlights some of the challenges experienced. It also shares insights on how South Africa leveraged its BRICS relations, including sharing experiences and measures adopted to respond to the demographic impacts of the Covid-19 pandemic. The chapter also shares insight about President Ramaphosa's contributions during his term in office as the Chairperson of the AU.



The chapter argues that the greed of the West led to vaccine hogging. It also argues that African states generally paid more for Covid-19 vaccinations than their Western counterparts and provides a snapshot of this trend. South Africa was among those nations that endorsed a common agenda for manufacturing vaccines in Africa. The chapter provides more details about the advocacy, partnerships, areas of collaboration, challenges, sponsorships, and outcomes of these, including insight to the largest Covid-19 vaccine plant in the Eastern Cape, South Africa. It also discusses some of the challenges faced, such as a lack of buy-in from international agencies.

The chapter states that there is a lack of FDI, which suggests that economic prospects for South Africa are hampered. FDI flows to Africa in 2021 were asserted to have exceeded double the value reported in 2020. The chapter argues that South Africa continued to make effective use of its international relations in dealing with the pandemic in the second year, and that a shift toward a greater emphasis on vaccine diplomacy emerged, partly as a result of the President's advocacy on global platforms.

The Covid-19 pandemic has had a significant impact on South Africa's trade and investment. It caused disruptions to global supply chains, which impacted South Africa's exports and imports. The chapter advocates that South Africa remain active in its advocacy roles and in shaping the global agenda through its partnerships. It concludes by asserting that North-South disparities and unequal power structures, especially in global health, remain a challenge that raises a question about how to confront the unequal systems going forward in the face of future pandemics and other global health challenges.

Chapter 8: The impact on the research environment in South Africa

The chapter on the impact of the Covid-19 pandemic on the research environment in South Africa presents analyses and findings from studies carried out in the country on government's response to the Covid-19 pandemic. It specifically explores the role and impact of research on government's responses, decisions, and policy-making and identifies gaps in engagement with research; particularly, the missing voice of the social sciences. It explores enablement and limitations of researching Covid-19 in South African Higher Education Institutions (HEIs) and other statutory research entities. It further highlights the impact of the pandemic on HEIs, research activities in general, researchers, postgraduate students, and the broader academic community, and lastly, highlights gaps and provides recommendations.

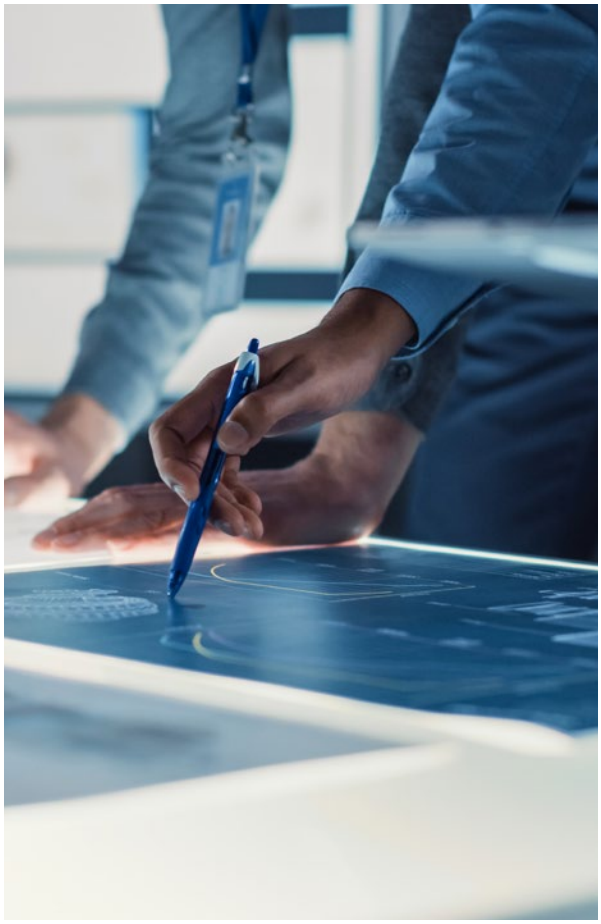
Several studies have begun to highlight the importance of pro-active research and science engagement in pandemic preparedness and the development of more comprehensive and effective responses to such crises. These studies have demonstrated that an important component of pandemic preparedness depends on real engagement with research from the natural sciences, as well as humanities, law, engineering, etc. For this to be successful, collaborations at institutional, local, regional, national, and international levels are required. These investigations reveal that, if a resilient and sustainable future is to be secured, and major crises such as the pandemic are to be handled effectively, the master plan needs to include scientific-based research support and sustained funding for research offered by the Higher Education sector and other public research institutions.

Studies conducted in the first wave focused mainly on understanding the Covid-19 virus, its impacts, and measures taken to combat its spread. Those conducted during the second wave focused on economic recovery after easing the lockdown, vaccine trials and the continued impact of the virus. Third wave studies focused on vaccine roll-out, hesitancy, and myths about vaccines, and fourth and fifth wave studies continued to examine economic impact, and vaccine mandates and hesitancy.

The greatest number of publications was produced by the historically White Universities (HWUs), with an overwhelming representation from the University of Witwatersrand (Wits), Stellenbosch University and the University of Cape Town. In line with international trends, several of the research projects were born out of collaborations between HEIs, civil society organisations and other entities, including global and national universities and research organisations.

It was observed that complementary research between medical/health, natural and social sciences provided a better understanding of the virus, its impact on society, and optimal management. This, therefore, illustrates the need to ensure a representation of various disciplines to capture nuances when developing responses to pandemics, crises, and emergencies. Innovative projects which HEIs worked on included the manufacturing and distributing of Personal Protective Equipment (PPE), sanitisers, ventilators, selfscreening and remote monitoring tools.

The pandemic had a significant impact on research, how it was conducted, and the nature and type of research conducted. Challenges highlighted within the research environment included funding, capacity; technological, depersonalised research processes, and a devaluation of research contributions from social sciences, arts and humanities disciplines. The lockdown measures had a significant adverse impact on the research projects and careers of academics, particularly those in contract and precarious positions.



The pandemic enabled an unprecedented scope and pace of research and interdisciplinary and international collaborations. These occurred, however, at the expense of blurred boundaries on working hours, which had negative effects on the overall wellbeing of academics, especially women. These thus emphasise the vital importance of having conducive environments for successfully working from home, during, and beyond a crisis. Opportunities for increased engagements between researchers and policy-makers and improved uptake of research findings to inform government measures and policy-making processes were enhanced. These, therefore, revealed the important role of research in the policy space during emergencies and crisis, and the increased need for collaborative efforts between research institutions and government departments, as well as a need to institutionalise science/policy advisory structures.

Despite its positive impact of ensuring continuity, digitalisation of academic activities, at times, widened inequalities, marginalisation, and disadvantage, especially for undergraduate students. To mitigate this challenge, some South African universities provided, or loaned devices to disadvantaged students, negotiated with several cellular networks to make data available, reshuffled their financial budgets and/or sought public donations to discretionary funds. The insight from these experiences illustrates the increased need to reduce digital inequalities to guarantee equal and fair access.

1.4 Conclusion

The second edition Covid-19 Country Report builds on the first edition report which covered the evolution of the Covid-19 pandemic in South Africa since the first case was reported on 5 March 2020, until March 2021. The introduction chapter covered the Covid-19 timeline data from April 2021 until March 2023. In the next chapters, detailed elaboration of the different themes is presented.

References

Abdullah, F., Myers, J., Basu, D., Tintinger, G., Ueckermann, V., Mathebula, M...Jassat, W., 2021. Decreased severity of disease during the first global omnicron variant Covid-19 outbreak in a large hospital in Tshwane, South Africa. International Journal of Infectious Diseases Vol 116, March 2022: 38-42. https://www.ijidonline.com/article/S1201-9712(21)01256-X/fulltext.

Albeck-Ripka, L., 2022. South Africa was hit by a wave of coronavirus infections, despite most people having antibodies. New York Times, 1 June. https://www.nytimes.com/2022/06/01/world/africa/omicron-southafrica-antibodies.html/

Bateman, C., 2022. 'It's such a botch':SA's vaccine delays and Covid lockdown proved deadly – Prof Alex van den Heever. Daily Maverick, 28 March. https://www.dailymaverick.co.za/article/2021-03-28-itssuch-a-botch-sas-vaccine-delays-and-covidlockdown-proved-deadly-prof-alex-van-denheever/

Bohlmann, H., Donaldson, A., Philip, K & Kershoff, G., 2023. Chapter 6.1: Macroeconomic impact and policy. South Africa Covid-19 Country Report [Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria.

Della Togna, M., Garman, A., Burton, S., Jacobs, J., Kleyn, L., Sithole, H., 2023. Chapter 4. Communication. South Africa Covid-19 Report [Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Governing Technical Advisory Centre) & NRF (National Research Foundation), Pretoria.

Du Plessis, E., Botes, M., Bohler-Muller, N., Thaldar, D., Pieterse, M & Strydom, H., 2023. Chapter 3. Legal responses and challenges. South Africa Covid-19 Country Report [Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria.

Ellis, E., 2022. Nelson Mandela Bay state hospitals face collapse – doctors resign on 'unprecedented' scale, Daily Maverick, 18 August 2022. https://www.dailymaverick.co.za/article/2022-08-18-nelson-mandelabay-state-hospitals-face-collapse-doctorsresign-on-unprecedented-scale/

Government Gazette, 2021. Government Gazette No. 44838, Disaster Management Act, 2002, Amendment of Regulations issued in terms of Section 27(2). 11 July. http://www.energy.gov.za/files/docs/44838CoopGov.pdf.

Graham, S., Graham, V., Zondi, S., Phetha, R & Sekgololo, M.J., 2023. Chapter 7: International Cooperation and Trade. South Africa Covid-19 Country Report [Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria.

Harrison, P., 2023. Covid-19 Timeline data from January 2022 to January 2023. University of Witwatersrand, Johannesburg.

Idahosa, E.G., Christiaan B. Brink, B.C & Sibanda, A., 2023. Chapter 8.1: The impact on the research environment in South Africa. South Africa Covid-19 Country Report [Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria.

John, S.F., Maama, H., Ojogiwa, O.T. & Mubangizi, B.C. (2022). Government communication in times of crisis: The priorities and trends in South Africa's response to COVID-19. Journal for Transdisciplinary Research in Southern Africa, vol.18, n.1, pp.1-10. ISSN 2415-2005. http://dx.doi.org/10.4102/td.v18i1.1146.

Madhi, S., Kwatra, G., Myers, J. E., Jassat, W., Dhar, N., Mukendi, C. K., ... & Mutevedzi, P. C., 2021. South African population immunity and severe Covid-19 with omicron variant. MedRxiv. https://www.medrxiv.org/content/10.1101/2021.12.20.21268096v1.

Manderson, L., Adebayo, P., Köhler, T., Maree, G., Mohamed, K., Ndinda, C., Stanwix., B & Sodi, T., 2023. Chapter 5.3. Impact on vulnerable groups. South Africa Covid-19 Country Report [Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria.

Mendelson, M., Madhi, S., Nel, J., Gray, G., Osih, R & Venter, F., 2022. The incoherent and illogical new government Covid-19 regulations are the real state of disaster, Daily Maverick, 22 March, https://www.dailymaverick.co.za/article/2022-03-22-the-incoherent-and-illogical-newgovernment-covid-19-regulations-are-thereal-state-of-disaster/.

Moshabela, M., Pohl-Albertyn, C., Essack, S & Jassat, W., 2023. Chapter 5.1. Health Sector. South Africa Covid-19 Country Report [Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria.

Mudaly, V & Mudaly, R., 2023. Chapter 5.2. Education Sector. South Africa Covid-19 Country Report [Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria.

National Institute for Communicable Diseases (NCID), 2023. COVID-19 UPDATE: XBB.1.5 VARIANT. https://www.nicd.ac.za/covid-19-update-xbb-1-5-variant/. 11 January.

Ndinda, C., Adebayo, P., Mazamane, Z., Mngomezulu, Kherekar, A., 2023. Chapter 5.4. Gender equality. South Africa Covid-19 Country Report [Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria.

Ndinda, C., Adebayo, P., Mazamane, Z., Mngomezulu, K., Ojo-Aromokudu, T.J & Mazamane, Z., 2023. Chapter 5.5 Human Settlements. South Africa Covid-19 Country Report [Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria.

Presidency of South Africa. 2021. Statement by President Cyril Ramaphosa on progress in the National Effort to contain the Covid-19 Pandemic, 15 June. http://www.energy.gov.za/files/docs/Presidents-Message15062021.pdf.

President's Message, 2021. Statement by President Cyril Ramaphosa on progress in the National Effort to contain the Covid-19 Pandemic, 11 July. http://www.energy.gov.za/files/docs/Presidents-Message11072021.pdf.

Presidency of South Africa, 2021. Development of a Country Report on the Measures implemented to combat the of Covid-19 in South Africa. South

Africa Covid-19 Country Report (First Edition). DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria: June.

Proos, E., Saayman, A., Tseane-Gumbi, L., Slabbert, E., Dube-Xaba, Z & Matiza, T., 2023. Chapter 6.2 Hospitality and Tourism. South Africa Covid-19 Country Report [Second edition]. DPMW (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria.

Rosenkranz. B., Brink, B.C., Harrison, P., Rabie, B., van Niekerk, D & Wiysonge, S.C., 2023. Chapter 2. Government leadership, governance, and institutional arrangements.

South Africa Covid-19 Country Report [Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria.

SAHPRA press release, 2021. SAHPRA Statement – Update on Sisonke Phase 3B Implementation Study https://www.sahpra.org.za/news-and-updates/sahprastatement-update-on-sisonke-phase-3bimplementation-study. 17 April.

SAHPRA Press Release, 2021. SAHPRA's Response to the Economic Freedom Fighters (EFF) March. https://www.sahpra.org.za/pressreleases/sahpras-response-to-the-economicfreedom-fighters-eff-march/. 25 June.

Sguazzin, A. 2022. South Africa had fifth Covid wave despite 97% antibody protection. Bloomberg. https://www.bloomberg.com/news/articles/2022-05-30/s-africa-had-fifthcovid-wave-despite-97-antibody-protection/. 30 May.

South African Medical Research Council, 2019. Report on weekly deaths in South Africa: 29 December 2019 to 13 August 2022. https://www.samrc.ac.za/reports/report-weeklydeaths-south-africa/

Zali, M., Gwala, N. & Mukwevho, N., 2021. COVID-19 third wave: How ready is the infection epicentre Gauteng? Health E-News. https://health-e.org.za/2021/06/18/covid-19-third-wave-how-ready-is-the-infectionepicentre-gauteng, 18 June.

CHAPTER 2

GOVERNMENT LEADERSHIP, GOVERNANCE, AND INSTITUTIONAL ARRANGEMENTS

ABSTRACT

Chapter 2 of the Second edition documents learning experiences from the pandemic, successes, challenges, and failures, as well as its lasting effects on economic recovery and livelihoods after the first year of the pandemic, covering the period following the first year of the pandemic, until the first quarter of 2023. The scientifically driven situation analysis approach included primary data-gathering methods, interviews with key stakeholders, and review of scientific literature and other reports.

Successful aspects of management of the pandemic response will be relevant for future similar respiratory pandemics, but also for other disasters. Problematic areas of concern included poor coordination between different sectors, a lack of transparency of decisions and no comprehensive databases and systems, insufficient financial support to affected or vulnerable groups and to certain economic sectors, and failures in governance, This Chapter identified concerns around the health sector response, delays with government procurement processes, and poor planning of management of widespread misinformation which hampered the response to the pandemic.

Altogether, the pandemic provided an example for a complex evolving emergency in which multiple hazard stressors contributed to the overall effects on lives and livelihoods. The Chapter provides recommendations for building of strengthened capacity for a resilient disaster risk governance and delivery system, not limited to health-related concerns. This requires a national resilience framework and a clear and strong commitment by all government leaders.

In conclusion, lessons learnt from the pandemic provide an important resource for informing the development of a more robust, resilient, and sustainable disaster risk management strategy in South Africa.

EXECUTIVE SUMMARY

Based on the learning experiences and considering the components of resilient systems and anticipatory governance for disaster risk reduction, recommendations are proposed for an improved disaster risk management (DRM) strategy and system.

Management of the pandemic response was successful in many aspects, for example, in establishing awareness and legal expertise for disaster management plans; in enhancing the coordination between sectors and spheres of national government, and between public and private sector partners; in the development and roll-out of dedicated IT platforms, digitisation and databases; and in creating effective, flexible (virtual/hybrid) working environments. The country strongly benefitted from its excellent biomedical research capacity, medicines' regulatory expertise, drug (vaccine) research and manufacturing capabilities, as well as from the mass vaccination of high-risk groups (digital vaccination certificate), and from establishment of protocols which will be relevant for future similar respiratory pandemics.

Although there was increased appreciation and capacity for disaster risk management, institutionalisation of a coordinated response and multi-sectoral planning remained problematic. Electronic platforms and inclusive databases were increasingly adopted, but there was a lack of transparency of decisions and no comprehensive databases and systems to track the effects of the lockdown on vulnerable groups. Although emphasis in the second/third wave was better focused on humanitarian actions, social behaviour and economic recovery, there was insufficient financial support to affected or vulnerable groups and to certain economic sectors (tourism, small businesses). Across the economy, considerable variations were

observed between hard-hit vs betteroff sectors in the disaster response. In the academic sector, student support became adapted to the situation, but there was a diverse impact on less-resourced universities and students.

Failures in governance, such as the insufficient establishment of disaster risk management sectoral focal points and structure, the inadequate staffing of the NDMC and other sub-national disaster management structures, as also the concerning involvement of the security cluster in non-security-related responses, became apparent. There was also insufficient coordination between sectors and spheres of government, with differences in effectiveness between provinces due, in part, to variations in the ability of provinces to coordinate across departments and Joint Operation Centres (JOCs). Backlogs of inperson services by government departments, as a result of the national lockdown in 2020, led to delays and unavailability of important services, and delays with government procurement processes. Management of widespread misinformation (social media platforms) was poorly planned.

The health sector response to the pandemic was hampered by the changes in the Ministry of Health, insufficient resources at senior staff level, high staff absenteeism, and an insufficient number of infection control and information specialists. The initial vaccine roll-out was hindered by inadequate government leadership decisions on vaccine procurement and policies, by the slow start of the vaccination campaign, and by lack of funds for the transport of vaccines and for personnel for implementation of the relevant IT systems. The vaccine hesitancy (18% - 51%) reduced the optimal uptake; in particular, the vaccine momentum decreased in KZN following the July 2021 unrest. Public trust was undermined by various factors, such as a lack of transparency, an insufficient communication of decisions, an unclear separation line between administrative and political governance, and the PPE procurement corruption.

Altogether, the pandemic provided an example for a complex evolving emergency in which multiple hazard stressors contributed to the overall effects on lives and livelihoods. For instance, the indirect effects of a struggling economy, poverty, as well as corruption, worsened the direct Covid-19 effects. Legal and financial resilience require fiscal consolidation, economic growth, stability, and support for vulnerable parts of the population. Establishment of strengthened and appropriate data systems require investments and competent partners. A resilient approach must be built on trust which requires adequate communication between government departments, civil society, vulnerable groups, and other stakeholders through a networked governance approach. Strong international relationships are useful for benchmarking, mutual information exchange and exploitation of cross-border synergies.

Building strengthened capacity for successful disaster risk governance and delivery is only possible if there is a clear and strong commitment by all government leaders to a holistic and innovative disaster risk reduction and disaster response, accompanied by responsible action within their approved mandates. Appropriate legislative responses need to be balanced between individual autonomy and significance of the common good. A national resilience framework is required to guide the adoption of disaster risk management plans by all organs of state. On a practical level, the nationally coordinated response should be driven by adequately staffed and equipped Disaster Management Centres at all levels. These must be equipped with authority, competent staff, resources, as well as responsive and up-to-date data acquisition and information management

systems. Establishment of a disaster risk management strategy and the response to disasters must involve all stakeholders considering the interconnectedness between various sectors in case of complex disasters (e.g., a pandemic is not limited to health-related concerns). Resilience in the macroeconomic framework of government requires a proactive response to disaster risk reduction, rather than a reactive disaster management response, to ensure business continuity, fairness, equity, and good governance. Resilient communication platforms, within government and to the private sector, civil society, and the general public, are necessary to provide clear and concise information complemented by a specific strategy to manage misinformation, disinformation, and fake news. Identification of vulnerable – less resilient – populations is necessary to tailor communication, support, and responses to these groups. Predetermined response processes (including procurement) must be established, limiting the opportunity to exploit any disaster or to advance specific agendas by some individuals or groups. Altogether, these strategies offer a strong basis for development of a robust trust relationship between the public and the state which is essential for an effective disaster risk management system.

Finally, each disaster should be considered as an opportunity to transform and encourage changes with potentially positive effects, for example, strengthening of international relationships, data systems, research collaboration, alternative delivery mechanisms such as e-learning and electronic meetings, or flexible working arrangements in the case of the Covid-19 pandemic.

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Abbreviations and Acronyms

AU African Union
CCMA Commission for Conciliation, Mediation and Arbitration
COGTA Cooperative Government and Traditional Affairs
DDM District Development Model
DIRCO Department of International Relations / Foreign Affairs
DLRRD Department of Land Reform and Rural Development
DM Disaster Management
DMA Disaster Management Act
DPME Department of Planning, Monitoring and Evaluation
DRM Disaster risk management
DRR Disaster risk reduction
DSAC Department of Sports, Arts and Culture
EVDS Electronic vaccination data system
GTAC Government Technical Advisory Centre
HOD Head of Department
ICT Information and communications technology
INB Intergovernmental Negotiating Body on Pandemic Prevention
IT Information technology

JOC	Joint Operation Centre
KZN	KwaZuluNatal
MAC	Ministerial Advisory Committee
MTSF	Medium-Term Strategic Framework
NATJOINTS	National Joint Operational and Intelligence Structure
NC	Northern Cape
NCCC	National Coronavirus Command Council
NDMC	National Disaster Management Centre
NDMF	National Disaster Management Framework
NDoH	National Department of Health
Nedlac	National Economic Development and Labour Council
NHI	National Health Insurance
NICD	National Institute for Communicable Diseases
NIDS-CRAM	National Income Dynamics Study Coronavirus Rapid Mobile Survey
NRF	National Research Foundation
OSS	Operation Sukuma Sakhe
PEPFAR U.S.	President's Emergency Plan for AIDS Relief
PPE	Personal protective equipment
ProvJoints	Provincial Joint Operational and Intelligence Structure
SAPS	South African Police Service
StatsSA	Statistics South Africa
WHO	World Health Organisation

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Chapter objective

Chapter 2 of the First Edition Covid-19 Country Report focused on government leadership, governance and institutional arrangements in the first year (March 2020 to March 2021) of the Covid-19 pandemic. The pandemic tested the capacity of existing institutional arrangements and the Disaster Management Act. The Country Report identified limitations in the existing established institutionalised capacity for effective and accountable disaster management. While the legal framework (discussed in Chapter 3) and institutional coordination capacity were rapidly strengthened at the onset of the pandemic and played an important role in saving lives, the lasting effects of the pandemic on economic recovery and livelihoods were evident as the pandemic and lockdown arrangements continued.

In addition to documenting the second year of the pandemic and the interventions implemented by sectors in response to the pandemic, Chapter 2 of the Second Edition Covid-19 Country Report takes a forward-looking approach. Together with Chapter 3, this Chapter gives an overview of important lessons learnt from the pandemic and recommendations. Specific sectors are discussed in detail in the subsequent chapters; a narrative of the events which characterised the unfolding of the pandemic is presented in Chapter 1. The current Chapter 2 documents learning experiences, successes, challenges and failures in implementing various interventions from a leadership and governance perspective as the pandemic unfolded after the first year. A special focus is on the vaccine rollout (including vaccine hesitancy) from a governance and leadership perspective, including a reflection on the extent to which the vaccine rollout programme implemented by various sectors and spheres of government, considered vulnerable groups. The report draws on lessons from the Covid-19 experience to offer recommendations for improved management of future disasters, not limited to health-related conditions, but also to other events, such as climate change, energy, food or water supply crises.

Introduction

The timeline of events presented in Chapter 1 reveals a dynamic trajectory including the devastation of the third wave of infection (also known as the 'Delta wave') from May to July 2021; the shock onset of the fourth wave (the 'Omicron wave') in November 2021; the rollout of the vaccination campaign from early 2021, onwards; the protracted end to the regulatory regime which governed the Covid 19 pandemic through the course of 2022; and a scare in early 2023 with new outbreaks of Covid 19 globally, most notably in China. The nature of the pandemic changed constantly, requiring agility in governance response.

The governance architecture, the risk-adjusted strategy, and the regulatory regime set in place in March/April 2020, remained largely in place until mid-2022, although there were modifications over time. And, of course, from early 2021, attention was directed from containing the spread of the virus to the vaccination campaign. The question remains, however, whether the earlier approaches to the pandemic which persisted through the long track of the pandemic remained as appropriate responses. From early 2022, for example, there was debate over the continued justification for maintaining the regulatory regime in the context of a pandemic driven by the highly transmissible, but generally mild, Omicron variant of the virus.

As the pandemic abated, questions emerged over its longer-term impact on the systems and structures of governance. Was the pandemic a temporary eruption which provoked emergency responses which disappeared when it ended, or has it left an imprint on the forms and systems of governance in South Africa, and in terms of embedded institutional learning?

The impact will only be understood over time, and there is a need for further study of the unfolding legacies of the pandemic in terms of aspects such as intergovernmental relations; the flow and use of data; relationships between state and civil society; and levels of trust between state and society. This chapter focuses attention on one important legacy – greater attention to Disaster Risk Management (DRM) – but it begins by considering the possible legacy of the pandemic.

The period of study has seen a heightened interest in DRM across all sectors at a national and provincial level. The National Disaster Management Centre (NDMC) has been trying to inculcate a resilience-building focus in the actions and planning across spheres of government. The NDMC was not the coordinating institution for the Covid-19 response, as the Disaster Management Act 57 of 2002 (as amended) assigns this responsibility to the relevant sector department. Clear division of responsibilities, however, becomes complicated in the face of multi-sectoral disasters, and may benefit from a central coordinating centre. The ability to leverage the Covid-19 pandemic as an opportunity to strengthen disaster risk planning and mitigation may have benefited from closer interaction between the NDMC and various government departments. Although the NDMC offered disaster management support to all departments, only a few accepted guidance.

As the pandemic unfolded in the second year, several government role-players became more familiar with the statutory and regulatory aspects of disaster risk reduction as espoused in the Disaster Management Act 57 of 2002 (as amended) (DMA) as well as the National Disaster Management Framework (NDMF). This was driven mainly by the continued national State of Disaster and several additional significant natural hazards affecting several provinces. Departments realised the value of adopting a greater risk reduction focus in their respective pandemic management. However, beside the guidance provided by the NDMC in terms of contingency and disaster preparedness planning, there remains confusion as to how disaster risk reduction can and should be incorporated in the day-to-day functioning of these sectors. Therefore, a disaster response focus still permeates most public sector perceptions and thinking of DRM. Sectors and departments are not applying an anticipatory governance perspective to possible other hazards and the entire risk profile of the country.

Methodology

The scientifically-driven situation analysis approach adopted in the First edition Report (The Presidency, 2021) was also applied in the Second Edition. Where possible, primary data-gathering methods were used, which included virtual interviews with key stakeholders, such as established Covid-19 committees and structures, departments, social partners and community-based organisations and representatives that could provide citizens' views. Secondary data, in the form of desktop analysis, such as a literature review of Covid-19 related local and international reports that could be benchmarked with the South African experience, formed part of this research. Additional information on national and provincial effects of, and responses to, the

pandemic, was elicited from a media scan, and government and academic reports. The Second edition broadened the literature review to include the principles of risk reduction that enable more resilient and adaptive governance systems to support successful disaster risk management.

Capturing government interventions involved interviews with senior managers (e.g., Heads of Department (HODs), Chief Directors, or the heads of risk management) across the sectors and spheres of government to capture the lessons learned in the successes and challenges of implementing the response[1]. The Department of Planning, Monitoring and Evaluation (DPME) provided the logistical and technical support to engage stakeholders and record the interviews.

Individual and group interviews were conducted via TEAMS between November 2021 and May 2022 to solicit inputs on various sections of the report. Quality was ensured through the sharing of draft questions before the interview, recording and transcribing the interviews and sharing the captured responses with the interviewees for verification of accuracy. Some sections relied on a generic set of interview questions for comparability, which was systematically analysed using ATLAS-ti.

The Governance Impacts of the Pandemic

It is not possible to conclude definitively on the unfolding impacts of the pandemic, but there are areas of possible impact and learning that require study and consideration. The lessons learnt for governance in the First edition Covid-19 Country Report, and the subsequent developments covered in this Second edition, inform several conclusions and recommendations to strengthen the country's capacity to identify, mitigate and respond to future disasters. Positively, the first edition report reflected that the pandemic led to new forms and practices of coordination across government on different scales; provided an energising sense of social purpose; strengthened the relationship between government and the non-governmental sector; increased the use of expert advice; and encouraged the greater digitalisation of governance processes. But, the First edition report also raised multiple concerns including the shortcomings in the institutionalised capacity for disaster management; the quite hierarchical structure of pandemic governance with its weak reach into local government and communities; inequalities in access to healthcare; inadequate political oversight; the damaging effect of corrupt practices; over-reliance on law-enforcement and coercion; the suboptimal outcomes of a national approach with poor responsiveness to regional difference; institutional blockages in the sharing of information and the flow of data; the importance of 'trust equity'; and the lack of attention to the importance of incentivising behavioural change. The First edition report offered several recommendations which are pertinent to the current review of the country's disaster management system and dedicated capacity as requested by Cabinet.

[1] At the time of this report, the following departments participated in the interviews and informed the data presented in this section: National Department of Health, National Treasury, the National Disaster Management Centre within the Department of Cooperative Government and Traditional Affairs (COGTA), the Department of Labour, Department of International Relations, South Af rican Product Regulatory Authority (SAHPRA)

These observations remained pertinent throughout the period covered in the Second edition, but changes in the nature of the pandemic underscored particular concerns. The pandemic was long-lasting and required institutional robustness, as well as agility of response during periods of crisis. The extreme measures introduced in the early phases of the pandemic were not sustainable or appropriate over the longer course of the pandemic which required more attention to behavioural change, building social compacts, strengthening trust, effective communication, and leveraging the pandemic to build capacities in critical areas of concern highlighted through the crisis. Regretfully, this happened unevenly.

There are instances where, for example, inter-governmental relationships have improved because of the crisis; partnerships have endured (for example, between public and private health providers); systems have strengthened to counter corruption (for example, in emergency procurement); and investment in IT systems has improved the effectiveness of government. However, there are many other examples where the prepandemic pathologies of governance have resurfaced or have even been accentuated. In some provinces, health care systems remain in a dire state, with serious allegations of corruption and dysfunctionality. Emergent collaborations between state and civil society have frayed, with interviewees from civil society complaining that the government remains directive and controlling rather than developing a genuine partnership. The persistence of the national State of Disaster and transitional regulations beyond the period of high impact infection also created tensions in inter-governmental relations, and between scientists and government.

The vaccination campaign was highly revealing, indicating the consequences of a governance approach which was largely directive and hierarchical, rather than embedded in local understanding and processes. Although the campaign was fairly successful in protecting the elderly, the most vulnerable to severe infection, it fell far short of global benchmarks. The declining trust in government through the protracted pandemic, shortfalls in communication, and a lack of attention to the realities of everyday life which inhibited vaccination uptake, were contributing factors.

Perhaps most potently, the period discussed in this Second edition reveals the reality of multiple, overlapping and succeeding crises. The Covid-19 pandemic can no longer be understood as a stand-alone crisis that required an abnormal response. Even during the crisis there were moments when attention was diverted to deal with violent unrest and severe flooding, while the pandemic was succeeded by a national energy crisis as a focus of concern. All of the above strained the ability of the NDMC and other key agencies of government to respond to multiple crises.

Crisis, or disaster, is an ongoing state that requires the systematic development and mainstreaming of resilient disaster management systems and responses. The discussion now turns to this challenge.

Good Governance and Leadership Practice for Disaster Risk Management

Resilience, disaster risk reduction and complexity

Literature indicates that the term resilience has well over 100 different definitions (Manyena et al., 2011), and means different things to different people (Manyena, 2006). The concept of resilience centres on the ability of both individuals and the systems they rely on to maintain their capacity for learning, self-organisation, and agency. In this context, agency refers to an individual's capacity to act independently and make choices based on his/her own will (Béné et al., 2012), and to "develop in dynamic environments faced with true uncertainty and the unexpected, like steering a vessel in turbulent waters" (Folke et al., 2016). This contrasts somewhat with the notion that resilience only means bouncing back from adverse circumstances.

Manyena et al. (2011) proclaim that resilience means bouncing forward. This definition makes provision for two very important aspects of resilience: the system's ability to adapt and change before being exposed to shocks and stressors due to foresight and anticipative ability (Poli, 2010; Poli, 2014), and also to recognise that people must be the centre of resilience-building, recognising their agency.

Van Niekerk (in Alcántara-Ayala et al., 2022) highlights several characteristics of resilient systems. They are:

- Reflective, anticipative and resilient: Resilient systems must learn from their past experiences to prepare for the future (Béné et al., 2012). These experiences may include negative events, such as a catastrophic drought, or, more recently, civil unrest and extended electricity and water failure for which institutions and communities were not adequately prepared, from which valuable lessons can be learned. Such past experiences also provide opportunities to implement improvements, in anticipation of similar shocks that may occur in the future, at both the individual and regional level. An anticipative system can take proactive measures to achieve its intended goals regardless of shocks to the system (Van Niekerk & Terblanché-Greeff, 2017). Resilient systems can effectively adapt and adjust to changes in the social, economic, and environmental contexts.
- Adaptive and transformative: Adaptive capacity refers to a system's ability to modify its structures to prevent future disasters. People's agency, or their ability to make informed decisions and effectively carry out their plans (where these are present), forms the foundation of a system's adaptive capacity (Levine et al., 2011). Complex adaptive systems may require structural modifications, reorganisation, or even complete reinvention, transforming traditional system elements into innovative approaches that can differ vastly from their predecessors. When a complex adaptive system engages in self-organisation, it generates novel structures and approaches to achieve its goals. Transformability refers to a system's capability to develop an entirely new framework when ecological, economic, or social structures render the current system no longer viable (Walker et al., 2004).
- Resistant, absorptive and robust: A system that demonstrates resistance can endure stressors, shocks, or impacts without experiencing any damage or alteration (Lake, 2012), thereby remaining unchanged. The absorptive trait of a system refers to its ability to endure and recover from adverse events while preserving its underlying structure and essential functions. Planning for multiple options to achieve the desired goals or functions and constructing and

managing the system to withstand shocks and hazards (Jeans et al., 2017; Walker & Salt, 2006) helps to keep failure predictable, safe, and not disproportionate to the cause.

- Resourceful: In an environment where resources, including time, human, financial, technological, and natural resources, are scarce, resilient systems must be resourceful. In this context, it is crucial to allocate and utilise the limited available resources effectively and identify and pursue the best alternative resource pathways where feasible (Kerner & Thomas, 2014).
- Inclusive, integrated and connected: Inclusivity is an essential aspect of resilient systems, recognising that although approaches and strategies may be formulated and distributed through a top-down approach, there must be a provision for bottom-up consultative processes to inform the planning, decision-making, and strategies for building resilience. Given the intricacies and complexities of shocks and stressors, their effects may reinforce or complicate each other. Therefore, to build resilient systems, it is essential for diverse actors from different geographic locations and disciplines to collaborate and integrate their efforts through relationships. This integration allows for the resolution of multiple problems by multiple actors.

A resilient system is able to learn from experience, can maintain progress against adopted goals in the face of risks and challenges, and is able to transform the system to reduce the impact of future disasters through an inclusive and resourceful approach. Anticipatory governance for disaster risk reduction is a key feature of a resilient disaster risk reduction system.

Anticipatory governance for disaster risk reduction

In the last few decades, the field of disaster risk studies has grown and changed its focus from solely studying natural hazards, to include a more socially-centred approach. The understanding has slowly emerged that simply managing the disaster itself is not enough to save lives, protect the environment, and maintain the complex systems that support humans. Rather, to prevent and mitigate disasters, the focus should shift from disaster response and relief to disaster risk reduction and management.

The disaster risk reduction principles (as espoused in the Sendai Framework for Disaster Risk reduction 2015-2030 (UN:2015)) refer to a set of guidelines aimed at reducing the negative impacts of natural and anthropogenic hazards on communities and the environment. The principles include:

- Understanding risk and its management: Understanding and managing the nature and causes of disasters and their impact on people, the environment and assets. This can be achieved through various risk management principles such as risktransfer, -avoidance, -acceptance and -elimination.

- Holistic approach: Addressing disaster risk through a multi-sectoral and integrated approach, encompassing social, economic, environmental, and technological aspects, including climate change adaptation[2].
- Involvement of all stakeholders: Involving all relevant stakeholders, including communities, local authorities, and civil society, in the disaster risk management processes.
- Risk-informed decision-making and riskinformed development: Using a riskinformed approach in decision-making and development planning processes at all levels, to prioritise and allocate resources effectively.
- Gender and intersectionality: Integrating the needs and perspectives of vulnerable population groups, such as the elderly, women, children, and persons with disabilities (see detailed discussion on vulnerable groups in Chapter 5.3 and on gender equity in Chapter 5.4) into disaster risk management policies and practices.
- Sustainable development: Supporting sustainable development and reducing disaster risk by addressing underlying drivers of vulnerability, such as poverty and inequality.
- Disaster preparedness: Promoting disaster preparedness and resilience at all levels, including the development of early warning systems and emergency plans.
- Building back better: Promoting recovery and reconstruction in a way that reduces future disaster risk and builds long-term resilience.

Disasters occur in complex, interconnected systems, and effective disaster risk reduction requires an understanding of these complex interrelationships. For example, during the Covid-19 pandemic, the physical vulnerability of communities was compounded by social, economic, and political factors, such as poverty, inequality, and poor service delivery. To reduce the risk of disaster, disaster risk reduction strategies must address these underlying factors and their interactions. Furthermore, disaster risk reduction is not a one-time process, but a continual process of learning and adaptation. This is particularly important in complex adaptive systems, as the behaviour of these systems can change rapidly and unpredictably. Disaster risk reduction strategies should ideally be mainstreamed in the Medium-Term Strategic Framework (MTSF) of each department. Such strategies must be flexible and adaptable, constantly evolving as the risk landscape changes, and must have the ability to build resilience to future shocks. In addition to accepting the risk, disaster risk reduction strategies may also provide for disaster risk transfer and disaster risk avoidance. Complex disasters require actors to work together in the drafting and implementation of disaster management plans.

Disaster Risk Reduction: South Africa's Governance Response to Covid-19

The Disaster Management Act, 2002, specifically defines disaster management as a multisectoral, multi-disciplinary approach. Thus, each ministry and state entity must provide for disaster management functions in their normal

[2] See Rising et al., 2022. The Missing Risks of Climate Change. Nature 610: 643-651 https://www.nature.com/articles/s41586-022-05243-6

functioning, focusing on the particular hazards and vulnerabilities prevalent in achieving their mandate (e.g., flooding within agriculture and environmental affairs and pandemics within health). Disaster management capability must encompass (a) preventing or reducing the risk of disaster; (b) mitigating the severity of disasters; (c) preparedness; (d) response; and (e) recovery and rehabilitation. It should be acknowledged that hazards and vulnerabilities can also be created through the execution of an entity's mandate, e.g., environmental impact due to urban development and service provision.

A key aspect of disaster risk reduction (DRR) is considering the complexity of the systems, root causes and processes that contribute to the progression of the disaster, and an assessment of the available capacity to respond[3]. This includes social, economic, political, legal, environmental, and technological systems, as well as the interactions between these systems to either create or reduce vulnerabilities. One also needs to understand the various role players within the systems, their particular mandates and agendas.

The consensus is that governments bear the responsibility of ensuring disaster risk reduction, taking into account relevant expert advice, although the roles and interactions between experts and government officials are not always clearly defined.[4] Efficient disaster risk reduction requires the establishment of specialised public institutions at the state level, which can effectively lead and coordinate inter-sectoral actions to tackle disaster risks. Since certain skills and capacities essential to disaster risk reduction cannot be provided by individuals alone, the collaboration between public and private entities is crucial. For instance, the optimal functioning of a multi-hazard warning system requires the involvement of various stakeholders f rom different sectors. Considering the significance of disaster risk reduction as a global issue, it demands attention from diverse stakeholders at various levels of governance. Despite its widespread recognition, disaster risk reduction is still a relatively new term and an evolving academic discipline.

Sector-specific responses by national government departments

The National Department of Health (NDoH) was at the coalface of managing the direct effects of the Covid-19 pandemic. The health sector responses are presented in detail in Chapter 5.1, with a special focus on the three main factors influencing the severity of the pandemic after the first year, new variants which imposed the most significant impact on the country's experience of the Covid-19 pandemic, immunity and socio-behavioural conduct, mediated largely through masking, vaccine hesitancy, misinformation/ disinformation and mandatory vaccination.

The first year of the pandemic focused on developing the clinical response to the virus, formalising protocols, and developing and implementing management systems that enabled the sharing of information (e.g., through the electronic vaccination data system, EVDS) and resources (e.g., hospital beds) between the public and private health sector. This supported more efficient management of the health response during the second and subsequent waves of the pandemic. The focus of the efforts of the National Department of Health (NDoH) broadened once vaccines became available. The

[3] https://www.futurelearn.com/info/courses/humanitarian-action-response-relief/0/steps/60981 for context and background
[4] Lavassa & Farina, The role of experts in the Covid-19 pandemic and the limits of their epistemic authority in democracy.https://www.frontiersin.org/articles/10.3389/fpubh.2020.00356/full

global fight to secure vaccines was characterised by pre-orders by nations with stronger fiscal ability, blocking sales to other countries. South Africa was in a precarious position as it was unable to order vaccines through the normal production pipeline due to pre-orders by other nations and was not earmarked as a country that required assistance in procuring vaccines (for further details, see Chapters 3 and 7). The implementation of a mass vaccination programme necessitated difficult decisions to balance the demands and needs of various stakeholders with available storage, distribution, capacity and financial resources of the department. Some functions performed by the NDoH could have shifted to other departments to free up capacity, e.g., the transport of vaccines. The vast share of the National Health Insurance (NHI) initiative was committed to the Covid-19 response, rendering some sustainable foundations for the NHI, including the integrated electronic patient record database and a precedent for sharing and integrating public and private health sector resources.

The responses from other sectors reveal three trends. First, the continued support to the sector to mitigate and recover from the financial shock caused by various lockdowns. Relief funds focused on those most vulnerable, e.g., small-scale farmers, employees with reduced working hours, and emerging artists, and while the support was appreciated, respondents indicated that in most cases, the available financial support was insufficient to compensate for the loss suffered. "The funds were quickly disbursed, and this was not enough to recover. It provides only a short-term buffer to keep the door open, but money keeps flowing out of the business and it needs a sustained income."5 Rather, "what worked was when we realised that putting money into the sector will not save the sector, rather finding ways to operate within the midst of the pandemic [by putting] in place the relevant protocols."6 (Tharage, 2021). This presents the basis for more effective disaster mitigation in future shocks. A second trend is a returned focus on pre-Covid-19 priorities and existing programmes of the departments that were either halted due to the lockdown in 2020 and the shift to online working arrangements or placed on the backburner to redirect resources to manage critical implications of the Covid-19 pandemic. Some departments indicated that the return to prior programmes was strengthened by the improvement in databases and communication with the sector, but that these systems require further development to facilitate communication and adaptive support to the sector in the case of another disaster.

Thirdly, the degree to which sectors investigated and captured the lessons learned from the pandemic varied across departments. While some commissioned reports to investigate the effect of the Covid-19 response and mitigating measures on the sector, others indicated that they have not assessed the effect of providing support on the capacity to cope and recover from the pandemic.

With the return to "business as usual" there seems to be a lost opportunity to reflect on the implemented measures that restricted or supported each respective sector, and a focus on strengthening building-blocks that will improve the capacity to respond to future shocks through improved risk planning, adaptive management, and rapid implementation of appropriate responses.

Patterns of spread

While the account in Chapter 1 broadly covered the unfolding of the pandemic nationally, there are significant intra-national variations, at provincial, municipal and, even neighbourhood level. One of the difficulties in determining this variation exists in the widely different levels of testing and reporting. Official figures may indicate higher levels of infection and hospitalisation in the more affluent areas, but this is likely to be the result of higher levels of testing and more access to health care in these areas.

Table 2.1: Estimated number of excess natural deaths and death rates by province

Region	Excess deaths 3 May 2020 - 2 Jan 2023	Excess deaths per 100,000 population	Age-standardised excess death rate per 100,000 population
South Africa	341,123	573	573
Province			
Eastern Cape	59,486	904	728
Free State	19,599	673	673
Gauteng	66,787	428	471
KwaZulu-Natal	70,668	617	710
Limpopo	38,386	650	569
Mpumalanga	26,121	543	585
Northern Cape	10,376	886	829
North West	18,390	457	469
Western Cape	31,310	444	391

Source: South African Medical Research Council[7]

[7] See South Af rican Medical Research Council, 2023. Report on Weekly Deaths in South Af rica. Report on Weekly Deaths in South Africa

As indicated in Table 1, excess deaths per 100,000 population, vary considerably from 428 in Gauteng to 904 in Eastern Cape, but the age profile of the population does play a significant role in the variation, with older people more likely to die from Covid-19. The age-standardised excess death rates range from 391 per 100,000 in the Western Cape, to 829 in the Northern Cape, with high levels also in the Eastern Cape and KwaZulu-Natal. The reason for this variation is complex andmulti-variate, but access to adequate health care and levels of vaccination are clearly part of the mix.

To complicate matters, each wave of infection had its own geography, partly shaped by levels of prior infection. The third wave, for example, started in Gauteng and spread relatively slowly to neighbouring provinces, and then to the coastal provinces. The dates of the peaks of the wave ranged from 2 July 2021 in Gauteng, to 3 September 2021 in the Eastern Cape. The fourth wave also started in Gauteng but spread far more quickly to the coastal regions as this was the December holiday season and there were high levels of mobility across the country (and, possibly also, because of Omicron's high levels of transmissibility). The fourth wave peaked in the northern provinces of Gauteng, Limpopo, Mpumalanga and North West around 12 December 2021, a few days later in the Free State, and then around 24 December in the Eastern Cape, Western Cape, and Northern Cape. These patterns were different from the first and second waves which began in the Western Cape and then spread to the other provinces. The difference in pattern, in part, accounts for variations in the provincial response to the pandemic.

Provincial response

The First edition report on the pandemic (The Presidency, 2021) has detailed the provincial and municipal responses to the pandemic. Interviews after the third wave indicated that there had been no substantive changes to the management of the pandemic within provinces, and there are also no indications of a significant shift into the fourth wave. The institutional architecture from the previous waves has remained largely intact, with national uniformity (e.g., in the determination of alert levels), rather than provincial differentiation, continuing to apply. Provincial respondents did, however, indicate that national regulations were more targeted than before and had less negative impact on economic activity and livelihoods.

There has, however, been adaptation and fine-tuning of approaches, with all provincial respondents indicating that they were better placed to manage the third wave than the first two because of experience and learning, despite its generally greater severity. There was, however, quite considerable variation in circumstances, and some continued difference in provincial orientation.

Gauteng was in the eye of the storm in the third and fourth waves and faced media criticism for a lack of preparedness. During May there was a "hospital bed alert in Gauteng"[8], and warnings of a "very severe third wave in Gauteng"[9] with modelling commissioned by the NICD projecting significantly higher infections than the second wave. Gauteng did indeed experience the most severe impacts. Nevertheless, on 9 July

[8] Shoba and Mthethwa, 2021, Hospital bed space alert in Gauteng as third wave of Covid-19 takes hold, 23 May, Maverick Citizen. https://www.dailymaverick.co.za/article/2021-05-23-hospital-bed-space-alert-in-gauteng-as-thirdwave-of-covid-19-takes-hold/
[9] Professor Francois Venter, head of the research group Ezintsha at the University of the Witwatersrand, cited in Pitt, R. (2021) 'Wits research professor warns of 'a very severe third wave in Gauteng', 30 May, Daily Maverick, https://www.dailymaverick.co.za/article/2021-05-30-wits-research-professor-warns-of-a-very-severe-third-wave-ingauteng/

2021, international media reported doctors in Johannesburg describing the system as 'beyond its breaking point', with insufficient beds and barely enough oxygen.[10]

The provincial Health Department wascriticised for entering the pandemic with its largest Covid-19 facility closed due to the fire at the Charlotte Maxeke Hospital, andfor having closed the Nasrec Covid-19 fieldhospital facility which had been underutilisedin the first two waves. The Departmentcountered the criticism by arguing that ithad more beds available during the thirdwave than during the first and second, with significantly expanded capacity in the Chris Hani Baragwanath Academic Hospital, and in smaller facilities.[11] Officials argued that they managed better than indicated in the press and that their failure was inadequate communication. Nevertheless, at the peak of the third wave, Gauteng hospitals were under severe pressure with bed shortages and patients transferred to hospitals outside the province.

The Western Cape had a less severe third wave. It fine-tuned its data-based and modellingdriven approach and its well-established hotspot management, with continued deployment of area-based coordination teams, despite the more general spread of the virus. These efforts were supported by improved data availability and quicker response capacities. Overall, the Western Cape managed in terms of bed- and staffcapacity through its integrated system across public and private hospitals which allowed for a daily reallocation of resources during the peak of the third wave. However, the province did experience a periodic shortage of oxygen because of the high demand in other provinces, especially Gauteng. The Western Cape has argued strongly for greater regional targeting in response, referring to the increased variation in the patterning of the pandemic during the third and fourth waves. KwaZulu-Natal entered the pandemic with a community-based approach to health management called Operation Sukuma Sakhe (OSS) which had been deployed with some success during the peak of the HIVAids pandemic. This bottom-up, ward-based approach was at apparent odds with the more top-down directive approach to handling the Covid-19 pandemic. Although the national approach does cascade down from the NCCC, the main levels of response subnationally are provincial and district (which connects also to the government's District Development Model – DDM). Towards the end of the second wave, some provinces had recognised the need to develop pandemic response structures down to the ward level, with KwaZulu-Natal having a seeming advantage with the OSS already in place. An analysis of the effectiveness of the OSS during Covid-19 would require a detailed onthe-ground investigation. Provincial officials have affirmed the value of the OSS, although indicating uneven performance across the province. During the third wave, the provincial government worked to integrate the processes of the DDM and OSS.

With the civil unrest during the second and third weeks of July, KwaZulu-Natal faced a compound crisis. Containing the unrest, and dealing with the aftermath, diverted attention away from addressing the pandemic. This is indicated in the decline in the vaccination rate during the unrest, but KwaZulu-Natal was fortunate to have a mild third wave (probably due to the high seropositivity as a legacy of the second wave). Provincial officials reported that the third wave was 'manageable', although it took its toll on officials across all levels because

[10] McKenzie, David, 2021. Southern Af rica hoped it was through the worst of Covid-19. Then the Delta variant arrived". CNN, 9 July.
[11] The additional capacity included a 500-bed facility at Chris Hani Baragwanath, 183 bed at a facility in Carletonville, 300 beds at the George Mukhari Hospital, 300 at Jubilee Mall (Hammansk raal), and 150 at Bronkhorstspruit (Zali et al. 2020).

of the material and psychological impacts of the coinciding civil unrest. Despite specific concerns in individual provinces, the third wave was reportedly managed better, with more targeted action, improved coordination, and more efficient processes. It was a case of learning by doing. The fourth wave came as a considerable shock, nationally, with considerable disruptions to international travel and the summer season tourist trade. Its public health impacts were, however, muted and there were no reports of major pressure on health facilities. The framework for managing the pandemic remained in place, across all levels. The fifth wave was milder still, and there was no indication of significant pressure on provincial health systems. The longerterm issue, however, is whether provincial health systems emerged stronger or weaker from the pandemic. This question requires targeted research for an answer, but in July and August 2022, in the wake of the Covid-19 regulatory regime, there were reports of collapsing health care in parts of the Eastern Cape[12], and extreme levels of corruption in Gauteng hospitals[13].

By early 2022, the main focus changed from pandemic management to the vaccination campaign. Significant degrees of variation in provincial vaccination levels require explanation. By the end of March 2023, the variation in vaccination coverage among the adult population was from around 45.1% for KwaZulu-Natal to 60.5% for the Free State (see Table 2).

[12] Ellis, E. (2022) Nelson Mandela Bay state hospitals face collapse – doctors resign on 'unprecedented' scale, Daily Maverick, 18 August 2022. https://www.dailymaverick.co.za/article/2022-08-18-nelson-mandela-bay-state-hospitalsface-collapse-doctors-resign-on-unprecedented-scale/

[13] Van der Heever, A. (2022) How do you stop a hospital heist? Appoint a plunder-proof board. 18 August 2022. https://www.news24.com/news24/analysis/analysis-alex-van-der-heever-how-do-you-stop-a-hospital-heistappoint-a-plunder-proof-board-20220818

Table 2.2: Provincial variation in vaccination levels

Free State – 60.5%	Western Cape – 50.0%	Limpopo – 57.8%
Eastern Cape – 55.6%	Northern Cape – 53.4%	North West – 49.8%
Gauteng – 48.9%	Mpumalanga – 46.8%	KwaZulu-Natal – 45.1%

Source: Author's own (CW), see https://sacoronavirus.co.za/latest-vaccine-statistics/

The question is whether the differences can be explained in terms of the supply side (that is, the efficacy of provincial-level vaccination programmes) or in terms of the demand side, which may be shaped by a variety of contextual factors. It is difficult to disentangle the factors but there are indications.

In terms of the supply side, data shows that, after the third wave, there was a sharp decline in some provinces in the number of sites at which vaccinations were supplied, most notably the Eastern Cape and KwaZulu-Natal. When the arrival of the Omicron variant was announced, there was a surge in demand for vaccines, and these provinces struggled to respond. The Vooma weekend, when government incentivised vaccinations through providing free transport to vaccination sites, also provided an indication of the differences in provincial capacity, with specific problems indicated in Gauteng, North West and KwaZulu-Natal, and in the Eastern Cape, where a significant increase in the number of vaccination sites for the weekend did not stimulate a proportionate increase in vaccinations.

KwaZulu-Natal is the province where there was the most variation across time. The province did well in the early stages of the vaccination campaign, but lost impetus during the July 2021 unrest and fell behind the other provinces, rating as the worst performing province by January 2022.

Demand side factors, including vaccine hesitancy, may explain a greater proportion of the variation. Data at a sub-district level suggest very low levels of vaccination in urban informal settlements, and that places with a higher proportion of residents within informal settlements have lower levels of vaccination (for detailed discussion, see Chapter 4). This may partly explain the relatively low rates of vaccination in Gauteng's metropolitan cities. An age breakdown of vaccination rates suggests that disaffected young people in Gauteng and KwaZulu-Natal may have affected overall levels of vaccination. More analysis is, however, required.

Lessons from the Covid-19 Pandemic for Disaster Risk Management

The pandemic has provided a window into the strengths and shortcomings of governance across all spheres of government in South Africa, and into the capacities of civil society and its partnerships with government. It has, however, also been an active agent in the reshaping of governance, and a critical question to be asked is whether governance response to the pandemic represents a temporary mobilisation of capacity in the state and civil society, or whether the pandemic has left a transformation legacy. Has there been reflexive learning through the crisis that has enhanced the adaptive capacities of our governance system? Or was the learning and response time-bound, with a return to business as usual as the crisis recedes?

This is a difficult question characterised by variances in practice which requires further dedicated research to respond to in full. However, there are initial indications from the interviews and research to date. Chatterji et al. (2022) compare the adaptive responses to the pandemic in the Province of Gauteng in South Africa and the State of Kerala in India.[14] They conclude that, unlike Kerala, Gauteng was unable to consolidate adaptive changes during the pandemic into enduring transformative outcomes. The province entered the crisis with serious challenges in the health care sector, and, while Gauteng's government showed agility and a willingness to adapt as the crisis struck, early responses frayed over time, older pathologies resurfaced, and public trust in the state waned. This is likely to apply to other provinces as well, although to varying degrees.

Interviewees have indicated that the pandemic has brought actors together in ways that have never happened before, creating new relational networks (including inter-governmental); strengthened the use of information and communications technology (ICT) in government; focussed attention on the position and resourcing of disaster management; and strengthened the knowledge basis of governmental interventions. Subsequent waves of the Covid-19 pandemic benefited from the processes, protocols and lessons learned in the first waves.

However, the ability to manage economic recovery and social resilience, especially for groups most vulnerable and dependent on support, requires a "whole of system" approach and understanding that is still nascent. Corruption, inadequate data systems, cumbersome administrative processes and ineffective interdepartmental and external stakeholder coordination and communication systems still undermine the government's capacity to mitigate the Covid-19 and future disasters effectively.

[14] Chatterji, T., Götz, G., Harrison, P., Moore, R., & Roy, S. (2022). Capacity in motion: comparative Covid-19 governance in India and South Africa. Territory, Politics, Governance, 1-21. Online at https://www.tandfonline.com/doi/full/10.1080/21622671.2022.2154829

Disaster Risk Management capacity and commitment

Covid-19 raised awareness and consciousness of the importance of disaster management and strengthened the legal expertise in many departments to efficiently draft regulations. The NDMC has noticed an increased engagement of departments with the requirements of the Disaster Management Act, and, in November 2021 the NDMC reported that 100% of all municipalities, 41% of provincial departments and 60% of all national sectors had DRM plans (147 in total).[15] In the absence of disaster management plans and contingency arrangements, people tend to rely on addressing issues identifiable at that point, rather than anticipated issues. If there is no consensus on the way forward, actors who do not have detailed disaster management expertise may be tasked to lead a response that is not based on a sound risk analysis. Disaster management plans should cover a spectrum of disaster risks, should separate security versus non-security incidents, and should provide appropriate coordinating mechanisms responding to the different types of incidents that may cause a disaster. The current capacity available in the NDMC and in sectors should be critically analysed and, where needed, further financial investment should be supplied to strengthen the disaster management capacity.

The NDMC reported heightened political interest and buy-in in DRM due to the sustained cooperation between departments during the Covid-19 pandemic.

The collaboration established due to the pandemic thus positively impacted the management of other hazards and disasters, which continued into 2022.

A unified national resilience framework is still lacking. Such a framework will mainstream resilience and disaster risk reduction into various sectors through a developmental perspective. The NDMC further capitalised on the pandemic and consolidated its staffing position, which was under strain for several years, but may still benefit from further investment in human resource capacity.

While the shorter-term focus is on the drafting of recovery plans for the Covid-19 pandemic, the focus in the longer term should be on the adoption of risk management plans for every sector, government entity and parastatal to increase their readiness to mitigate risks and manage disasters and the subsequent recovery as these emerge.

Covid-19 presented an important learning opportunity relating to managing national disasters. Without adequate institutionalisation of the disaster management function across all sectors, coordinated disaster responses remain problematic. The first Covid-19 Country Report highlighted the need to reconsider the location of the NDMC within the Government structures. The consensus by DRM roleplayers and other departments and sectors in Government is that the NDMC is best placed under the highest political authority, (i.e., in the Office of the Presidency), so that disaster risk management coordination is coordinated from the highest office. Such a placement will address the concerns with cross- and multisectoral coordination and facilitate quicker and easier cooperation. It will also guide the consistent and correct placing of the various DRM Centres within the other spheres of Government (e.g., provincial and municipal levels).

[15] Group interview with the Deputy Director-General and various members of the National Disaster Management Centre. 10 November 2021.

Successful coordination of the disaster risk management response

While regulations were uniform nationally, there were significant provincial and local variations in the severity of the pandemic, and in terms of the efficacy of disaster management. The third wave (Delta) struck Gauteng the hardest, with hospitals battling to cope. KwaZulu-Natal had a less severe wave, but the disaster was compounded by social unrest. The fourth wave (Omicron) started in Gauteng, but because of its speed of transmission, there was less spatial variability in its patterning. In terms of pandemic management, the earlier institutional architecture remained in place, but there was some fine-tuning and improvement in responses. Although the vaccination campaign was driven nationally, there was provincial involvement, and varying provincial capacities made a difference to the rollout, although there were other contextual factors involved.

There was an improvement in the DRM response to the subsequent waves throughout Government, including decentralised structures. The coordination of the Covid-19 pandemic by the National Joint Operational and Intelligence System (NATJOINTS) heightened the awareness of DRM and allowed the NDMC to improve horizontal and vertical integration of DRM across various sectors and government spheres. The NDMC played an important role in collecting and collating information as part of the NATJOINT work streams, though the reports were seldom tabled at the NATJOINTS. Cooperation with other departments, notably health, human settlements, social development and transport improved during the implementation process and changing the Covid-19 coordination structures "midflight" would not have yielded better results. However, the role of the security cluster in coordinating the response to different types of disasters, including non-security hazards, needs to be reassessed.

The NDMF requires each sector and organ of state to identify a DRM focal point which must coordinate with the DRM structures created by the DMA. In most sectors and spheres of Government, there is an apparent lack of such sectoral focal points. Where these are available, they are often under-resourced in terms of human capacity and operating expenditure, and their ability to influence the strategic planning decisions is limited. The management of the Covid-19 pandemic would have been much more effective if sectoral focal points with appropriate disaster management structures, capacities, and budgets, at the national and provincial levels, had been in place before 2020. Similarly, clear lines between political and administrative accountability should be maintained at all times.

Provinces adopted different mechanisms and responsibilities to coordinate the Covid-19 response, drawing on the existing capacities available in each province due to prior disasters, and not always in consultation with the provincial disaster management centre. The National COGTA played a central role in the provincial response, but the pandemic and other compounding hazards showed that enhanced coordination between sectors is needed. For example, food security and agricultural issues were not efficiently dealt with by COGTA due to a lack of technical expertise. Coordination could have been improved through better alignment of multisectoral actions.

In KwaZulu-Natal Province (KZN), there has been no strategic intent to fulfil the requirements of the DMA. The compounded effect and additional stress on all government systems in KZN due to the civil unrest, violence and looting in July 2021 highlighted the inadequate response capacities in this province. The unrest removed the focus from the Covid-19 response, and the province struggled to ensure a coordinated response. This situation was echoed in the April 2022 floods, which once again exposed the need for enhanced DRM capabilities at the highest level of decision-making in the province. The province reported issues with the use of ICT and had challenges in translating the use of their data into adequate responses at the local level. Coordination with communitybased structures was improved during the second and third waves of the pandemic. Traditional, community and faith-based leaders played a crucial role in advocating for vaccinations and addressing misinformation linked to vaccine hesitancy (Mpumlwana, M., Molo, M., Baloyi, P., 2022).

Similarly, in the Northern Cape Province (NC), reporting and management of the pandemic were heavily weighted toward securityrelated issues (such as policing maskwearing, border controls, and implementing the DMA regulations). Disaster Management (DM) capacity in the province is severely constrained[16]. In turn, the province lost sight of other essential aspects, such as social support and economic recovery. The NC learned significant lessons from the first year of the pandemic, and their coordinating structures and actions were better than in 2020. The provincial department of health fared better.

The Western Cape, Gauteng and Northern Cape provinces emphasised the value of the well-coordinated response by district and metropolitan Joint Operation Centres (JOCs) linked to the support provided by the provincial JOC. A dedicated health professional in the Western Cape disaster operation centre was valuable in the interpreting of health-related data and subsequent decision-making. The Western Cape improved their geographical response to the pandemic by using a "hotspot" system based on the data from the Department of Health. This geographical focus improved overall response and allocation of resources (such as the distribution of oxygen to hospitals and clinics). The province was also able to capitalise on other initiatives to improve its response capacities. For example, the province used the "Red Dot" transportation system in conjunction with the Department of Transport to contract legal taxi operators to transport nurses, patients and other essential services to health facilities.

The Northern Cape SAPS ProvJoints had to play a more leading role than in the Western Cape and Gauteng, which had a much more established DRM coordination structure up to the local municipal level. This is mainly due to the years of a joint response to several hazards, noticeably veld fires, floods, and storms in these provinces. The Northern Cape experiences less frequent and intense hazards (e.g., droughts) and has fewer response capacities within municipalities.

[16] Capacity is limited to 3 officials, and operational budget of less than R2 00,000, with the Head at the level of a deputy director.

To this end, the Northern Cape relied heavily on the coordinating structures from the security cluster (ProvJoints). The Northern Cape provincial disaster management centre played more of a support than a coordinating role in the JOC (ProvJoints) compared to the Western Cape and Gauteng.

The different experiences and capacities of the various provinces provide a rich ground for developing a resilient, multi-sectoral and multi-sphere disaster risk management response that ensures a whole-of-government approach to reducing the likelihood and effect of disasters. Some evidence of a strengthened disaster management response is starting to emerge. For example, with the onset of Tropical Cyclone Eloise in early 2021, several departments mobilised assistance through the NDMC. There was an improved financial commitment by sectors, with almost R440 million reprioritised for disaster response and recovery from the ensuing floods in Mpumalanga, KZN, Northern Cape and Limpopo provinces.

Data, information and managing misinformation
The pandemic fast-tracked the development and rollout of electronic platforms, more inclusive databases, internal and external communication systems and other relevant information technology systems to support the work of the sector (for detailed discussion, see Chapter 4). Information provided by the National Department of Health to all provinces improved the response to and management of the pandemic. Regardless of the nature of a future pandemic, reliable and efficient information systems will be critical to provide decision-makers with information that can help mitigate the effect of the disaster by identifying where support is most needed and to inform an efficient, appropriate and humanitarian response. The implementation of these systems and the fast-tracking of e-service portals places the government in a better position to obtain upto-date information relating to the sector, to identify ongoing and emerging trends, and to adopt policies or programmes that provide targeted support to encourage development in particular areas.

There is a need for data that highlight the effects of the pandemic and its interventions for different population groups so that resources can be distributed adequately as discussed in Chapter 5.3. While data on vulnerable groups should be collected by front service line departments, many do not have appropriate data collection mechanisms in place. There was general agreement that the lack of comprehensive databases and systems to track the effect of lockdown and service the information needs of departments presented a huge challenge, with most departments taking time to get their systems in place. During the pandemic, information management of the pandemic data improved rapidly. Data from provinces could quickly be collated for improved decision-making at the national level. The private sector also played an essential role in assisting with the creation of virtual environments for data and information management and rendering other IT services to COGTA.

Public trust is undermined when there is a lack of transparency. Clear communication of the reasons for difficult decisions to balance lives and livelihoods, supported by Ministerial Advisory Committee (MAC) reports and further relevant information would have improved public trust. It is important to consult with social partners to facilitate buy-in to critical decisions and support the 54 successful adoption and implementation of interventions. The Covid-19 pandemic provided a common ground for discussions, negotiations, and collaborations between government departments and across the public and private sectors. Respondents indicated that the “ministerial advisory teams in the work streams were helpful in engaging

with national treasury on issues that affected the sector, dealing with sister departments and making them aware of challenges in the sector and how to support, engage with the banks".[17] Engagement with business and civil society was important to appreciate the effect of lockdown measures and to identify possible areas neglected or omitted from government support measures while existing platforms like the National Economic Development and Labour Council (Nedlac) played a critical role in facilitating these discussions. In the health sector, negotiations around the procurement of private facilities required timeous individual negotiations with every provider and doctor to agree on procurement prices to adhere to anti-trust and competition legislation. Some respondents also expressed appreciation for communication and technical support from the media and telecommunication sectors. One of the critical failures was the management of misinformation. There was no formal plan to address the widespread disinformation on social media platforms, by providing evidence to counter false or misleading news or information.

Responding to the pandemic

Effective disaster management builds on the established capacity in the sector. The initial process to procure vaccines was slow, and the private sector became exasperated that the government was formally responsible for vaccine procurement and policies, but not taking leadership decisions. On the positive side, a strong biomedical research capacity, medicines' regulatory expertise (Makokotlela, 2021), as well as establishment of drug (vaccine) research and manufacturing capabilities, supported the health response to the pandemic, as discussed in detail in Chapter 5.1.

The health sector's capacity to respond effectively to the Covid-19 pandemic was negatively influenced by a lack of permanently appointed infection control specialists and information management specialists. While temporary appointments in technical positions may help to implement routine programmes, the lack of capacity leaves an acute gap during a disaster, when that capacity is most needed. There is a need to ensure that technical positions provided for across departments and sectors are filled to secure the government the capacity it needs both during and between crises.

The Personal Protective Equipment (PPE) disaster was a huge disappointment, and it was difficult to manage the public relations' repercussions. Subsequent changes in the Ministry of Health deterred progress with regard to the need to re-brief and rebuild relationships between the political and executive arms of the department. The suspension of senior colleagues and freezing of permanent appointments at senior-level posts placed the health department under additional strain to manage the pandemic, ongoing health concerns (e.g., tuberculosis), high staff absenteeism due to sickness, and the implications of a 6.5% budget cut.

After a slow start, the phased-in mass vaccination programme was groundbreaking and reached a good percentage of people in high-risk groups with the National Department of Health (NDoH) Electronic Vaccination Data System reflecting 66.73% single dose and 66% full vaccination for those older than 60 as of 13 March 2023. Table 3 shows a fair uptake across all age groups as well, especially when the relative risk of death and hospitalisation for younger groups is considered.

[17] Group interview with the DDG and various Chief Directors f rom the Department of Sports, Art and Culture. 21 April 2022.

The mass vaccination campaign was further bolstered through the implementation of a digital vaccination certificate, a loss of only 2% of vaccines due to mismanagement during roll-out, and South Africa's critical role in waiving intellectual property on vaccines to obtain more vaccines for Africa and South Africa. The electronic information system was developed mostly from the existing departmental budget and may not yet be optimal. Additional support from various non-governmental organisations (e.g., the US President's Emergency Plan for Aids Relief (PEPFAR), Right to Care, Wits Health Consortium, DG Murray Trust) was critical to enable the development of the system. Investment in data and information systems is vital to ensure access to information and facilitate efficient responses to emergencies.

Table 2.3: Vaccination coverage (13 March 2023)

	Population	At least one dose	%	Fully vaccinated	%	Booster doses
12+	46,027,271	22,647,435	49.20%	19,417,342	42.2%	4,282,596
Adult pop (18+)	39,787,477	20,460,816	51.43%	18,520,699	46.5%	
60+	5,501,299	3,671,204	66.73%	3,635,615	66.0%	
50-59 yrs	4,815,992	3,161,730	65.65%	3,076,717	63.9%	
35-49 yrs	11,684,518	6,448,850	55.19%	6,014,634	51.5%	
18-34 yrs	17,785,668	7,173,813	40.33%	5,792,375	32.6%	
12-17 yrs	6,239,794	2,186,219	35.04%	751,453		

Source: National Department of Health (NDoH) Electronic Vaccination Data System (EVDS) (https://sacoronavirus.co.za/latest-vaccine-statistics/)

While additional funds were made available for the procurement of vaccines, no funds were provided for the transport of vaccines, and personnel or the implementation of the electronic system as a backbone to the system. Additional support from other departments could have been helpful in some aspects but in other cases, the involvement of multiple stakeholders increased the complexity of the work.

The July 2021 unrest led to a loss in vaccination momentum throughout the entire KwaZulu-Natal province. Staff were unable to go to work or transport the vaccines and the warehouse that stored provincial supplies of chronic medicines was ransacked, as well as some of the pharmacies operating as vaccination sites. The inability to manage multiple disasters and risks emphasised the need to strengthen the disaster management capacity in all DMCs and sector departments, and the overall capacity of the disaster management system.

Vaccine hesitancy

Studies have shown vaccine hesitancy, the motivational state of being conflicted about or opposed to vaccination, to be a challenge to the optimal uptake of Covid-19 vaccines in South Africa (Katoto et al., 2022). The proportion of vaccine hesitant individuals across different studies varies from 18% to 51% (Cooper et al., 2021; Katoto et al., 2022). Vaccine hesitancy is a complex social phenomenon, influenced by social factors such as age, race, education, politics, geographical location, and employment (Cooper et al., 2021). Cooper et al. have found that there are multiple socio-economic and political root causes of Covid-19 vaccine hesitancy in South Africa; including fear and uncertainty, practical challenges around access, experiences of social exclusion and marginalisation, and geopolitics surrounding the pandemic (Cooper et al., 2021). One of the most consistent research findings across South Africa is an ongoing fear and uncertainty that people have about the safety and efficacy of Covid-19 vaccines which worsened with the uncontested information peddled in the social media. Other factors include a decline in people's trust in government and the medical establishment, as well as an explosion of misinformation, with Covid-19 vaccines being drawn into a whirlpool of confusing and contradictory messages (Cooper et al., 2022). The speed of global information exchange has been significantly boosted by social media, leading to viral sharing of fringe opinions and disinformation. It is thus hard for the public to tell whether something is an established fact and truth becomes lost in noise. The creation of uncertainty is particularly harmful when it comes to vaccination because doubt causes vaccine hesitancy (Wiysonge et al., 2022). There is thus a dire need for meaningful society-wide communication strategies to address people's concerns. Equally important is the necessity of building trust. Identifying and using trusted messengers and communication mediums to deliver vaccine messages in people's local languages is important. So, too, is honesty about uncertainties. This implies providing balanced and transparent information about Covid-19 vaccines, including data about adverse events, benefit-risk considerations, evidence gaps, and legitimate uncertainties surrounding Covid-19 vaccines (Cooper et al., 2022).

Mitigating the impact of the DRM response

Sectors that were not subjected to hard lockdown for a prolonged period (e.g., Agriculture and Mining) were relatively better off in mitigating and recovering from the economic effects of the pandemic. Similarly, diplomatic relations were improved as a result of ongoing discussions to manage the pandemic, and it is important to nurture these relationships beyond the state of disaster.

Nuances emerged in hard-hit sectors: for example, in the tourism sector, where smaller, rural travel destinations which received fewer support grants adapted easier to the crisis than city hotels and mass events which require large numbers to attain economic sustainability. The extended closure of international borders remained problematic in the tourism sector. A more targeted lockdown strategy with a focus on restricting movement may have lessened the impact and reduced recovery time for sectors affected by the hard lockdown. As the country emerges from the pandemic, private sector insurers have significantly reduced or removed business interruption cover, creating a higher risk impact for the private sector in the case of future disasters. Better preparedness for business continuity in the face of future adverse events would require careful scenario planning, a clear risk/crisis management strategy, a clear communication strategy, prioritising business continuity within all sectors to ensure that policies do not wipe out the industry, improved collaboration between all parties and access to emergency funding. As outlined in Chapter 6.2, a more diversified tourism strategy will also benefit this vulnerable sector.

The pandemic had disproportionate effects and impacts on different sections of the population. It was felt more by vulnerable groups such as women, youth, persons with disabilities and those employed in the informal sector who were not always able to access the support that they required[18]. The number of people who are hungry increased, exasperated by the closing of school feeding schemes. Furthermore, the effects of the lockdown on households living in congested housing conditions, informal settlements, or who were homeless, were not sufficiently considered (Chapters 3 and 5.5).

The loss in learning and drop-outs caused by extended school closures may be impossible to reverse (for detailed discussion, see Chapter 5.2). High population density impedes the adoption of social distancing and hinders the provision of safe shelter for all. The National Income Dynamics Study Coronavirus Rapid Mobile Survey (NIDS-CRAM) study reveals the high effect of the pandemic on women, but identifying the needs of vulnerable groups was hindered by a lack of data. The shift to online discussions and services makes it more difficult to reach vulnerable groups that do not have access to devices or data. Some success was attained by the Department: Communication and Digital Technologies to enable zero-rated websites and this could be further leveraged in future disasters to enable zero-rated messaging that enables early warning messages to vulnerable groups and locations.

The continued medical response to the pandemic without due acknowledgement of the increased vulnerabilities in communities (i.e., increasing economic hardship, mental health issues and social ills) as a result of the disaster management measures, needs to be addressed. The dichotomy between saving lives and saving livelihoods under the State of Disaster and subsequent regulations was stark. The initial response to the Covid-19 pandemic in 2020 was a huge learning curve for many sectors and departments, which enhanced the responses in 2021. The implementation lines between disaster risk management and humanitarian response in the second wave became blurred. The emphasis in the second/third wave was more focused on humanitarian actions, addressing social behaviour, economic recovery, and improving vaccinations.

[18] Group interview with various Heads in the Department of Women, Youth and Persons with Disabilities. 14 March 2022.

A detailed overview of financial support to affected or vulnerable groups by grants and other relief schemes is provided in Chapter 5.3. Altogether, the support provided was insufficient to compensate for the financial loss of the pandemic. While the relief funds buffered some of the shocks, the funds were quickly disbursed, and the support was not enough to facilitate recovery. Promises of support raised expectations that government could assist but, in reality, the available support was far too little for the extended periods of reduced economic activity. In the tourism sector, the pandemic influenced all provinces with a knock-on effect on production value chains, considering that a small loss in the Northern Cape may be similar to a larger loss in Cape Town when factoring in the relative size of the affected population and the economy of the province. In rural Limpopo, faith/church events that introduce huge spending into the province from Zambia, Zimbabwe, Botswana and Malawi were suspended with a knock-on effect on vendors and jobs that supply accommodation, food and fuel sales to visitors. In bigger cities, mass events were put on hold and the value chains connected to such events were also affected.19

Relief funds provide a short-term buffer to keep the door open, but money keeps flowing out of the business, including obligations toward municipal rates and taxes. As one interviewee advised, "Government cannot, through grants, mitigate the impact of the job losses".20 In providing support to small businesses, the eligibility criteria included tax compliance, and many applicants were not compliant. This complicated matters and delayed the payment. The decision to close the whole economy, including e-commerce and all areas, independent of an accurate risk assessment followed by a protracted period to reopen all parts of the economy compounded the economic effect of the pandemic.

The pandemic emphasised the importance of non-governmental structures and the need to strengthen these structures to build a more resilient disaster management response that is less dependent on the government. One respondent remarked that a pandemic required decisive decisions, and this may limit opportunities for negotiations with everyone.21 To maximise inclusive and accountable decisions under emergency conditions, platforms for public, private and civil stakeholder engagement and joint implementation need to be established and strengthened, supported by accountable emergency procurement protocols or transversal contracts.

[19] Interview with the DG of Department of Tourism. 6 December 2021.
[20] Interview with the Chief Director Labour Relations of the Department of Labour. 18 November 2021
[21] Group interview with various Heads in the Department of Women, Youth and Persons with Disabilities. 14 March 2022.

Business continuity

The effect of the pandemic on the private and business sector is discussed in Chapter 6.1. The period catapulted government departments forward to digitise processes and spaces, and to introduce more flexible working arrangements. Some departments reported an increase in executive-level productivity as a result of the move away f rom office-bound working arrangements. Many respondents commended the hard work and commitment of staff in their continual response to the pandemic. However, this also placed an uneven workload on those at the frontline of the disaster. Disaster management plans should also consider the effect of fatigue on the staff at the coalface of a disaster and develop an appropriate business continuity strategy.

Shifting government service delivery to an online facility required the procurement of new infrastructures which proved to be a protracted process. However, the state is not agile, and takes months to procure equipment even with emergency procurement. One department indicated that the procurement process to equip all staff with appropriate devices and data started in July/August 2020, with procurement concluding in January 2021, and rollout concluding in June 2021. The delayed procurement processes prevented staff from functioning productively. There is an urgent need to improve supply chain processes, especially under emergency conditions, and to increase understanding of government procurement rules in the private sector.

Departments reported a cost saving in terms of travel with the move to electronic rather than face-to-face meetings. As some stakeholders and sectors found the shift to online meetings harder and required data support to participate in meetings, some funds were redirected to facilitate participation. The Department of Labour reports that interactions with institutions were easier online, but matters affecting individuals were more difficult. The Commission for Conciliation Mediation and Arbitration (CCMA) is also challenged in terms of budget, and vulnerable employees may be unable to approach the CCMA if these services are virtual and data restraints prevent access.22 Similarly, on-site inspections cannot be performed virtually, but visiting sites poses a risk to the employee and the occupants of the premises that are inspected, while other vulnerable sectors, e.g., domestic workers, cannot be monitored for adherence to Covid-19 protocols. Other departments reported first the unavailability and later delays due to backlogs of in-person services, e.g., the apostilling of certificates for consular purposes.

While most administrative work could easily be completed from a distance, some tasks need to be performed in person and proved to be more difficult under the disaster management protocols. A hybrid system can present a feasible way forward.

Academic research

The South African National Research and Development Strategy (2002) tasks research and institutions of higher education to form the basis of sustainable societal development by building human capital, and to contribute towards addressing national needs, current questions and to prepare for the future. The Covid-19 pandemic particularly tested and tried these expectations. As became evident from select interviews with top management of small and large universities, and as discussed in greater detail in Chapter 8, the university environment proved to be generally innovative, resilient and resourceful. From a governance perspective, universities had to manage their own internal challenges, and were also required to contribute to guidance and problem-solving to address challenges at national level.

In general, whereas the pandemic posed challenges to the progress of scientific endeavours and research, community engagement and to the financial security and mental health of students and staff, these were managed by universities in a manner that, for the most part, converted challenges into opportunities. Several scientific studies were adapted or converted to address Covid-19-related problems, and even involved necessary contributions from basic sciences to find solutions to real-world or clinical problems. Some universities established institutional committees and provided special support services to ensure the continuity of core activities and to support scientific initiatives, staff and students.

Still, at smaller, less-resourced universities, postgraduate students were often from lowerincome communities. Therefore, during the lockdown, they were personally more exposed at home or when travelling, subjected to a lack of access to optimal medical care, unstable financial security, inferior personal safety; conditions at homes were not conducive to sound isolation or studying and they lacked access to stable internet connectivity. This sometimes resulted in real fear impacting their psychosocial well-being. Consequently, the pandemic highlighted the key role of sound governance strategies to manage public fear as a real phenomenon, and the need to build resilience, all of which should be incorporated into plans of preparedness for future national crises.

Technological infrastructure, in particular online technologies, offered a solution to many during the lockdown phases, and it has been demonstrated how valuable such infrastructure, know-how of these technologies (support and end-users) and access to devices can be during times of movement restrictions. In addition, this made attendance of virtual meetings affordable and logistically practical in the future – good lessons learned from times of crisis.

Importantly, effective communication channels of universities with national departments, notably the Department of Higher Education, Department of Research and Innovation, National Department of Health, and others, as well as with national funding bodies such as the Medical Research Council and the National Research Foundation, played a key role. Some universities realised the need to be prepared for similar future challenges and started to negotiate the establishment of an institute for preparedness and response in collaboration with other universities and national statutory bodies. Whereas this is a sound idea, it should be ensured that smaller universities do not miss out on such synergistic efforts. In addition, it became apparent that prior collaborative relationships and partnerships were essential to research institutions, who wanted to optimise research output during the pandemic to seize new opportunities. Africa is often not perceived as a destination for research, and those with

sound networks could change that perspective and demonstrate that South Africa often has world-class researchers and resources, conducting competitive, innovative, and high-quality research. As a country, we should celebrate such achievements.

Research ethics were generally well managed, with existing institutional structures such as the Research Ethics Committees, however some ethical dilemmas arose from the inaccessibility of communities (i.e., research involving community outreach or requiring community interaction and visits) and research involving animal facilities. Some communities benefited from or even depended heavily on health and other care provided when participating in certain research projects. Also, individuals may have made personal sacrifices to contribute to science, with the promise that their participation will make a difference. Whereas participant safety is of paramount importance, it is not a simplistic concept. When such studies are abruptly stopped, this has other significant ethical implications. There may be a need for a national coordinated process or structure to assist in times of national disaster to better govern such matters.

At larger, well-established South African universities, innovations that arose from research and the application of scientific expertise contributed to national and international challenges. Examples thereof include contributions to genome sequencing of the coronavirus variant genome, analysis of wastewater to track infection rates, the home delivery of medicines, and even robotics and ventilators to support patient care and psychosocial research into human response and care during a pandemic. It was apparent from the interviews that smaller universities were able to continue with existing scientific activities (i.e., mostly maintain essential operations), whereas larger, well-resourced universities with expertise, appropriate infrastructure and effective collaborative networks were able to contribute to science and innovations to address the new challenges posed by the pandemic.

In conclusion, South African universities, both smaller and more established, showed resilience and sound communication with the government, and the fostering of such a good relationship between institutions of research and government should be valued and expanded on, to address current national challenges and to be even better prepared for future challenges. Yet proactive (not reactive) international, continental, and national networking and preparedness planning have been shown as essential. It was apparent that some larger universities were considering and planning to form consortia with governmental and other stakeholders to optimise communication, manage and govern future national disasters, and it may be important to ensure that smaller universities are not left behind, but are included.

In addition, open communication between the government, tertiary and other research institutions should be fostered to ensure the f ree flow of information during times of crisis. Similarly, proactive, and ongoing public engagement and education remain key to building trust and understanding amongst the public. Universities and scientists can be invaluable resources for the country to tap into.

Recommendations for future risks, responses and prevention

Disaster risk reduction, with its multisectoral, multi-scalar, and multi-disciplinary approach, is supported by an anticipatory governance approach that utilises the collective intelligence and insights of collaborating organisations and citizens to address strategic risks and capitalise on emerging opportunities in pursuit of development objectives.

Van Niekerk (2020) argues that anticipatory governance has five key components:

- foresight,
- networked systems,
- feedback systems,
- an open-minded institutional culture, and
- the presence of Auftragstaktik[23].

Efficient disaster risk management requires appropriate national-level capacity, information management systems and procedures to respond effectively to emergency and disaster situations. Responding to the lessons from the Covid-19 pandemic, a resilient, well-staffed disaster management system will acknowledge and promote the following building-blocks.

Complex emergencies and multiple hazard stressors

Complex emergencies result from natural and anthropogenic hazards, coupled with different levels of pre-existing vulnerability and conflict[24]. One risk can quickly escalate within complex emergencies, leading to the manifestation of other emergencies. Seen as a whole, the combination of these hazards severely strains resources and coping capacities. However, complex emergencies are rarely rapid onset events. Instead, they are brought about by years of accumulated systemic risk that was not managed and attended to appropriately. The Covid-19 pandemic and multiple hazards during 2021 and, more recently, the declaration of an electricity crisis in South Africa, are stark reminders of these complexities in our society and the inadequacy of the governance structures and response to address systemic issues. With its dualistic and struggling economy, inequality, and corruption, South Africa is riddled with compounded political, socio-economic, and environmental crises. Together, these crises present societal issues that need holistic and all-sector approaches. However, as the global pandemic unfolded in this period, it became more apparent that years of graft and corruption, political infighting, disregard for the rule of law, and failing utilities and infrastructure have eroded the ability of the Government to address even the most basic problems. Most approaches to multiple stressors were onesided, siloed, and f ragmented. This state of affairs has, in fact, been highlighted by the national disaster during the pandemic, so that it now poses an ideal opportunity to reflect and plan for amendments or stark corrections, and, in some instances, to bring about a turning point.

[23] Auftragstaktik is based on principles of trust and cooperation and sees lower-level employees take independent actions to further the overall intent of the mission.
[24] Cutter, S. L. 2018. Compound, Cascading, or Complex Disasters: What's in a Name? Environment: Science and Policy for Sustainable Development . 60. pp. 16–25. https://doi.org/10.1080/00139157.2018.1517518; Hariri-Ardebili, M. A. 2020. Living in a Multi-Risk Chaotic Condition: Pandemic, Natural Hazards and Complex Emergencies. International Journal of Environmental Research and Public Health. 17. 5635. https://doi.org/10.3390/ijerph17165635

Multiple crises can impact an already overburdened government system, particularly when resilience is suboptimal or compromised. During the pandemic, disaster risk management centres had to manage multiple hazards in a complex environment. Unprecedented civil unrest and looting amid the pandemic in KZN and Gauteng provinces, was further compounded by the NDMC declaration of a drought in parts of the Northern Cape, Western Cape, and Eastern Cape as a national disaster on 20 July 2021[25], resulting in a concurrent national disaster declaration to attend to both hazards simultaneously. Additional stresses were placed on government systems due to other prevalent hazards such as the African swine flu[26], veld fires, and taxi violence[27] in the Western Cape province, and the impact of Tropical Cyclone Eloise off the Mozambique coast on Mpumalanga, Limpopo, Northern Cape provinces.

The direct impact of Covid-19 on disaster risk management personnel and first responders further eroded the capacities at all levels of Government. Most DRM centres were not well prepared when their staff fell ill, or even to support and protect staff who were particularly vulnerable due to either socioeconomic or health reasons. The impact of fewer officials in many other sectors contributed to the heightened risk of certain hazards. For example, within the forestry sector in the Western Cape, failure to clear invasive alien species and remove burn load added to the risk of uncontrollable veld fires.

This is quite evident in the devastating veld fires which ravaged the upper campus of the University of Cape Town in April 2021. Under normal circumstances, the biomass of flammable vegetation could have been much less due to continued maintenance. Here, governance needs to keep a clear mind in understanding that a major crisis does not preclude other neglected risks from also producing crises, and that all non-crisis areas still need to be managed.

In the Northern Cape, the moist air brought inland by Tropical Cyclone Eloise had a positive effect beside the flooding that it caused. The rain resulted in a significant rise in dam levels in the province, which mitigated the prolonged dry spell experienced by the province since 2018. However, it was the civil unrest in KZN that exposed KZN's inability to manage compounded and complex risks linked to several simultaneous hazards. The lack of adequate resources was stark and focussed the attention away from the Covid-19 pandemic. These multiple hazard events once again emphasise the need for adequate and functional multi-hazard early warning systems linked to precise response, for the whole of South Africa.

[25] Republic of South Af rica, 2021, Government Gazette Vol. 673 No. 44876. Pretoria: Government Printer.
[26] Western Cape Govt, 2021, Media Release. https://www.westerncape.gov.za/news/update-african-swine-fever-asf
[27] Ludidi, V., 2022, Weekend Argus News. 123 killed during the western cape taxi violence in 2021, IOL, 1 January. https://www.iol.co.za weekend-argus/news/123-killed-during-the-western-cape-taxi-violence-in-2021-66c9e844-a84b-427c-b7a4-3cc2afc11d38

Building a resilient disaster risk management system

Different crisis situations have similarities and dissimilarities. The Covid-19 pandemic prompted the adoption of protocols and implementation strategies that will enable society to better respond to any future respiratory infection or a disaster that limits movement, were such an event to arise. In the health sector, there is still a gross underinvestment in disaster preparedness. Primary health care systems and hospital services should be upgraded so that they can respond adequately during disease outbreaks. Regular simulation exercises can be useful to test these systems (Matsoso, 2023).

Protocols, information management and some infrastructure gains support a response by the health sector, while improved information and communication infrastructure in service delivery departments provide the tools for distance working for officials. However, most sectors are still unprepared for different types of crises because risk planning and the adoption of resilience frameworks are still nascent. Improved risk planning and management are needed to ensure that the public, private and civil society sectors can recover quicker from future crisis situations and prevent another close-down of the economy or social support systems.

Although a review of the current disaster management system is underway, the appropriateness of the placement, functions, and capacity of the National Disaster Management Centre (NDMC) and the Disaster Management Act should be revisited in terms of the lessons learned in the Covid-19 pandemic. The institutional location, form, and post levels of the national, provincial and district disaster risk management centres should be considered, to ensure that they are appropriately placed and capacitated to execute their function. Placing the NDMC in the Office of the President will increase its cross-coordinating capacity and facilitate alignment between annual planning, and disaster management plans based on comprehensive risk assessments for the sector and the budgetary implications to mitigate identified risks. The finances, data and information and human resource capacity of the NDMC could be strengthened to enable it to implement early warning systems to proactively identify emerging disaster situations. The NDMC was not yet sufficiently capacitated to digest the warnings that were coming from the international bodies.[28] Once a risk or potential disaster is identified, there is a need for clear engagement protocols between the NDMC and sector departments that set out roles and responsibilities and assessment criteria to identify where the existing legislative arrangements within a sector are deemed inadequate to manage and mitigate the identified risk.

Different coordination arrangements should be adopted to deal with security and nonsecurity events. While NATJOINTS provide an appropriate response for disasters related to security, disasters with limited security implications may be better led by another appropriate government cluster. Disaster management responses should be led by the government cluster best suited for coordinating the response needed. A resilient disaster management system must be developed through the lens of human vulnerability and a scientific understanding of the various characteristics of hazards of all kinds. Such a system must exhibit anticipatory

[28] Group interview with the Deputy Director-General and various members of the National Disaster Management Centre. 10 November 2021.

governance and an understanding of disaster risk in complex systems. It should be driven by cutting-edge, up-to-date information systems and data, inculcate foresight and network systems, open-minded institutional culture, and the devolution of powers. In the end, partnership between such governmental management clusters and other stakeholders (including economy frontiers, business sector, scientists and professionals, media, cultural and religious institutions, etc.) should be considered seriously and pro-actively strengthened.

All national and provincial departments should adopt disaster management plans and implement appropriate monitoring systems to track risks and their effect on the sector. Future pandemics will hit vulnerable groups harder. As outlined in Chapter 5.3, lessons learned need to be considered when designing more proactive strategies and plans to manage the impacts of future outbreaks (or other disasters) so that fewer lives are placed at risk. It is important to strengthen the commitment of leaders and champions of projects to ensure that planning, budgeting and project implementation increase the access and participation of vulnerable groups. Data on vulnerable groups need to be strengthened in all strategic plans, with standardised technical indicator descriptions that ensure that disaggregated data are collected at a departmental level. This should be complemented by a more granular analysis of vulnerable groups specific to each sector or disaster, and not limited to a more generalised set of vulnerable persons. A central data repository within the DPME or Statistics South Africa (StatsSA) can facilitate access to general data for policy and planning purposes but requires further refinement to indicators to monitor risks that are hazard or sector specific.

Legal and financial resilience

As outlined in detail in Chapter 3, the Covid-19 pandemic has been a case study to demonstrate the resilience that the law has shown, or to illustrate where it has not, and where it can be strengthened to be better prepared for future pandemics and other disasters. The legal and regulatory frameworks must be aligned with crucial social sectors, such as the health system, macroeconomics, education, research, social security, vulnerable groups and human settlements. Rule of law, human rights and legal structuring of power must successfully guide and ensure accountability for adaptive governance in these contexts. If necessary, existing legal and regulatory frameworks should be adapted to enhance resilience.

The ability of the country to manage and mitigate future emergencies that may still prove to be uncertain will depend on its financial ability to provide the necessary response to the event.[29] Fiscal consolidation, monetary stability and invigorating economic growth are important to achieve financial resilience (for detailed discussion of macroeconomic impact and policy, see Chapter 6.1). Support packages by the government in response to the Covid-19 pandemic were appreciated, but insufficient to fully mitigate the impact of the pandemic and facilitate recovery across all sectors. KZN, Northern Cape and Gauteng believed that DRM is vastly underfunded in the provinces. There is no clear guidance as to what DRM funding entails, and this caused confusion. For example, KZN departments

[29] Group interview with various Heads in the National Treasury. 10 December 2021.

reported no funds for DRM in 2021, although underspending in various sectors was recorded. In contrast, the NC budget was cut by R5,5 billion between 2020 and 2021, placing strain on an already underfunded mandate. The government's ability to provide support to future pandemics, especially if these occur in the short to medium term, is severely constrained and financial recovery should therefore be a primary objective. Regardless, no master plan can fix what a broken economy cannot afford or provide, and under conditions when disempowered people are not included in its development and implementation plan.

Vulnerable groups are hardest hit in a crisis (for details, see Chapter 5.3). Departments that support vulnerable groups require sufficient resources to fulf il this mandate and should facilitate the adoption of policies and information management systems that serve the needs of those most vulnerable. Government sectors should identify those most vulnerable to the shock in the sector and invest in appropriate support to increase the resilience of these vulnerable groups. Increased resilience will decrease the burden on the state to implement mitigating strategies and enable faster recovery as was observed for more resilient and betterresourced stakeholders during the Covid-19 pandemic.

Strengthened data systems

Robust and reliable data systems will be important regardless of the emergency faced. "Accurate information and information systems are a prerequisite to many other service delivery decisions."[30] Many sectors do not have appropriate data management systems in place to inform decision-making. In some sectors, the absence of relevant data had hindered communication with stakeholders and the formulation of appropriate responses as the pandemic unfolded. While systems were rapidly expanded during the Covid-19 pandemic, many of these relied on support from external partners that can or will not provide a sustainable system for ongoing monitoring and improvement of these systems. Systems should be strengthened at the sector level, to expand the data and information needed for the sector, but also on a multi-sectoral level. Currently, there is no standardised, consistent data collection to support the monitoring of risks in South Africa. There is a need to strengthen data collection infrastructure and to expand the range of data that is collected so as to address the information needs of multiple sectors. Data should be stored in a centralised hub, accessible by different departments, to facilitate use and response to available information. Sound and appropriate technological systems operated by competent users can make many complex tasks easy, free up capacity to address other needs, opening up new possibilities and solutions otherwise not viable.

Robust information systems may best be promoted through dedicated funds to promote digitalisation in all sectors. Specific funding conditions should be adopted to promote appreciation of the importance of data systems and ensure that funds earmarked for data resourcing are used for this purpose.

[30] Interview with the Chief Director Labour Relations in the Department of Labour. 18 November 2021.

Trust and communication

The Covid-19 work streams were helpful to enable a coordinated response between government departments. This helped to formalise coordinated engagement as envisioned in the NDMF and can provide a basis to further strengthen intergovernmental relations and implementation. Consideration should be given to establishing different coordinating arrangements appropriate to the type of disaster management response needed.

The Covid-19 pandemic emphasised several shortcomings in the communication between government and society (for detailed discussion, see Chapter 4). The government's ability to reach persons in informal settlements, vulnerable groups, and those without smartphones and data is insufficient, and many people were excluded from the government's messages. The Digital Vibes company that promised an improved communication platform disappeared before the promise could be realised. Communication on decisions should include the rationale that informed these decisions to improve public trust and understanding and facilitate a society-wide response to the pandemic. An effective strategy to counter misinformation should be adopted and implemented.

The pandemic provided shared interest in various sectors that facilitated engagement with sector stakeholders. A networked governance approach should be strengthened beyond the scope of the pandemic, to focus the capacity of the private sector, non-government sector, public sector, and members of civil society on shared development aims. Established community leaders (such as traditional healers and village chiefs) should be actively involved in the communication strategy (Mpumlwana, 2022; Matsoso, 2023).

Agility for successful governance and delivery

The Covid-19 pandemic catapulted the government forward in the adoption of online platforms and flexible working arrangements. Strengthening the capacity and competence to deliver reliable and trustworthy e-services will increase resilience to future disasters that disrupt places of work and ensure that services and support can be delivered when they are needed most, while still adhering to the Basic Conditions of Employment Act (Act 75 of 1997) and the Public Service Act (Act 103 of 1994, as amended). While Covid-19 necessitated an emergency shift to remote work and online service delivery, these arrangements should be formalised through amending the SMS and MMS handbooks, tailored performance management contracts, appropriate performance monitoring, accountability enforcement, strengthened digital platforms and infrastructure, supported by a reliable electricity supply and tailored risk management responses. Supply chain management processes, as set out in the Public Finance Management Act, (Act 1 of 1999) at times delayed the procurement of resources required to respond to the relevant disaster. There is a need for flexible, transparent, and accountable procurement procedures to enable a faster response to procure emergency equipment or disburse relief funds. These procedures should consider the lessons learned from procurement humiliations during the Covid-19 pandemic, but also the delays in serving and supporting communities in the face of a disaster.

International relationships

Strong international relationships are useful for benchmarking, mutual information exchange and exploitation of cross-border synergies (Wanyenze, 2022; Condo, 2022). As outlined in Chapter 7, South Africa played a leading role in negotiating the interests of the country and the continent with international partners and organisations. For example, as AU Chair in 2020, President Ramaphosa used the platform to lobby international financial institutions for economic relief and support for the continent and used diplomatic outreach to assist in coordinating an African response. However, African countries could have been better prepared, through stronger regional leadership and guidance, in their response to the virus. This includes procedures for acquisition and utilisation of pharmaceutical interventions or creating a balance between controlling the pandemic and the continuity of other essential services and livelihoods.

South Africa is strongly involved in the World Health Organisation (WHO) Intergovernmental Negotiating Body on Pandemic Prevention (INB) which provides a platform for all 194 member countries to develop a legal treaty on pandemic preparedness which will address equity, governance, systems, and tools, as well as finance (Matsoso, 2023). Further consideration is needed to strengthen international collaboration in responding to disasters in regional, continental and global forums.

Conclusion

As the world, South Africa included, is exiting the public health crisis, attention is shifting to questions of recovery and long-term impact. In terms of governance, the question is whether the responses during the pandemic have consolidated into positive long-term improvements. Further research is needed in this area, but early findings suggest mixed outcomes. Some changes are observed, while other pre-Covid shortcomings have resurfaced.

The compounding effect of different hazards and complex emergencies strained the resources and capacities of the public sector. In general, there seemed to be good cooperation between the local and provincial spheres of Government, with evidence of inter-provincial linkages and learning, however an "all systems approach" to DRM is not yet present in the public sector.

Effective preparedness for future (complex) disasters requires a resilient response that considers past experience and available plans, and that can adapt and adjust as the event unfolds. A resilient response requires:

- The commitment of all government leaders, at the political and executive level, to pursue a holistic response to the disaster, while acting responsibly within their approved mandates (see also Chapter 3). Legislative responses should be appropriate and restrict the freedom and individual choices of citizens only to the extent that it is necessary and justifiable in terms of available information on the disaster. In fact, as a philosophical departure point, the legislative response should promote empowerment and fostering of creative resilience as an integral part of protection, where restrictions should be the last resort. And in this regard, also, a balance between the indispensable importance of individual autonomy versus the significance of the common good should always be carefully considered.
- The adoption of disaster management plans by all organs of state is essential, guided by a national resilience framework for disaster management that specifies when an issue is declared as a disaster, how widespread disaster responses will be coordinated in terms of shared responsibilities across provinces and sectors, and clear governance

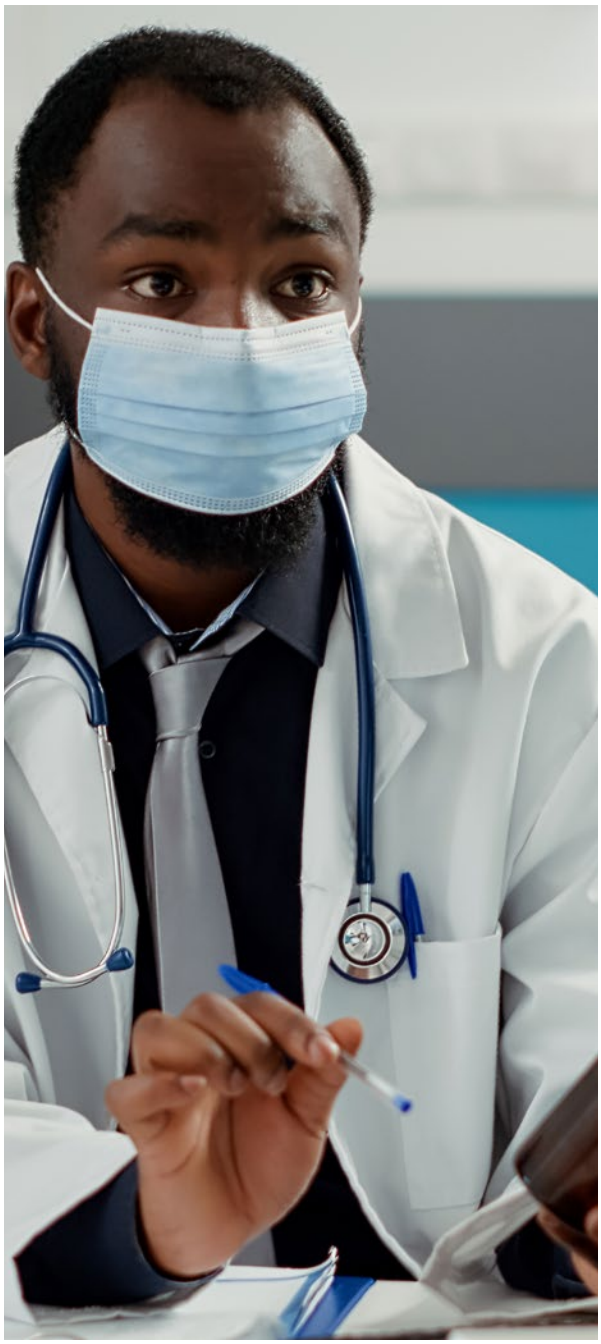
oversight and accountability arrangements between the political, executive and judiciary bodies of the state and civil society.

- Complex disasters may have their origin in one sector (e.g., health), but due to their interconnectedness may spill over to other sectors with varying degrees of effect. Whereas the Covid-19 pandemic originally had a health sector implication, its spillover to other sectors (as demonstrated in Chapters 5.2, 6.1., 6.2., 7 and 8) required a disaster management strategy that can ensure business continuity, fairness, equity, and good governance to mitigate the interconnected nature of complex disasters. While disaster management plans identify and devise responses to disasters specific to the sector, it is therefore important to expand the disaster management strategy in such a manner that it also manages possible spillovers from other areas, or that it does not neglect other sector risks once an event occurs.
- Disaster Management Centres at all levels should be appropriately capacitated with appropriate authority and sufficient competent staff, adequate resources, and relevant information systems to enable a resilient response to the disaster. Such a response should provide for a context and location-specific variation of the response where needed, while working in close collaboration with other DMCs to feed into a nationally coordinated response.
- Economic resilience in the macroeconomic framework of government, in specific sectors supported by the government (e.g., development nodes such as tourism or targeted groups such as the youth), the private sector and communities is essential to develop agility that may reduce the impact of a disaster. Strategies to build resilience and agility should be embedded in the disaster management plans of the organs of the state but should also become part of the active implementation plans of government departments, agencies and municipalities. This will ensure a more proactive response to disaster mitigation, rather than a prospective disaster management response.
- · Investment in responsive and resilient data acquisition and information management systems that relay accurate, up-to-date information, disaggregated to a specific geographic area, specific target group or aspect of importance, will facilitate a tailored response to the effect of the disaster on different communities and segments of the population. Disaster responses should consider the resilience of different segments. Inevitably, those that are more vulnerable are harder hit by the disaster, with less capacity and resources to avert the effects of the disaster or recover from its impact. Specific attention is needed to identify vulnerable groups and to tailor communication, support, and responses to these groups.
- Resilient communication messages, platforms, and media, internally between government spheres and organs of state, and externally to the private sector, civil society and the general public should be established. These should provide clear and concise information about the disaster as it unfolds, the governance response, information that supports the decisions taken, and available support systems. Communication should be timely to enable a proactive response to the information in order to mitigate the impact of the disaster and exert the government response to manage the disaster. The communication strategy must consider local variations, contexts and access to communication technology to communicate to all segments of the population (see Chapter 4). The communication strategy should be complemented by a specific strategy to manage misinformation, disinformation,

and fake news. Disasters create a disruption in the status quo and existing control systems which may be exploited by some. There is a need to consider resilient response processes that cater for different circumstances to avoid constructing an exploitative response in the face of a disaster. A stratified response to water scarcity may, for example, set different restrictions at different levels that are implemented when a certain point is reached, ensuring that there is sufficient time to discuss alternative strategies and their respective implications, which may not be possible once a disaster is imminent. Similar stratified responses are needed in other areas as well, e.g., procurement procedures and supply chain processes should be revised to cater for different levels of scarcity which come into effect when a point is reached. Predetermined responses limit the opportunity to exploit the disaster to advance specific agendas while attention is focused on the disaster.

- Not all disasters can be avoided, and the disruptive effect of a disaster does not only present undesirable changes. Disasters can also be used as an opportunity to transform and encourage changes that have potentially positive effects. The Covid-19 pandemic provided an opportunity to strengthen international relationships, strengthen data systems, strengthen research collaboration, devise alternative delivery mechanisms such as e-learning and electronic meetings, novel co-delivery arrangements between the public and private sector, and flexible working arrangements. These positive results are best promoted within a robust trust relationship between the public and the state to co-create a more positive future.

In conclusion, lessons learnt from the pandemic provide an important resource for informing the development of a more robust, resilient and sustainable disaster risk management strategy in South Africa.



References

Alcántara Ayala, I., Gomez, C., Chmutina, K., Van Niekerk, D., Raju, E., Marchezini, Cadag, J.R., and Gaillard, J.C., 2022. Disaster Risk. Tailor and Francis: London.

Béné, C., Wood, R. G., Newsham, A. & Davies, M., 2012. Resilience: New Utopia or New Tyranny? Reflection about the Potentials and Limits of the Concept of Resilience in Relation to Vulnerability Reduction Programmes. IDS Working Papers. (405). 1–61. https://doi.org/10.1111/j.2040-0209.2012.00405.x.

Caravani, A., 2013. Disasters, complex systems and social resilience. Journal of Contingencies and Crisis Management, 21(3), 103-110. https://doi.org/10.1111/1468-5973.12041.

Chatterji, T., Götz, G., Harrison, P., Moore, R., & Roy, S., 2022. Capacity in motion: comparative COVID-19 governance in India and South Africa. Territory, Politics, Governance, 1-21. Online at https://www.tandfonline.com/doi/full/10.1080/21622671.2022.2154829

Chetty, C., Maja, M.S., & Moosa, S.,2021, 10 December. Department of International Relations and Cooperation. [Group interview for South Africa Covid-19 Country Report, Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Chmutina, K., and von Meding, J., 2019. A dilemma of language: ''Natural disaster'' in academic literature. International Journal of Disaster Risk Science, 10(3). 283–292. https://doi.org/10.1007/s13753-019-00232-2.

Coetzee, C., van Niekerk, D. & Raju, E., 2016. Disaster resilience and complex adaptive systems theory. Disaster Prevention and Management 25, 196–211. doi: https://doi.org/10.1108/dpm-07-2015-0153.

Condo, J., 2022, 25 July. Interview with Chief Executive Officer, Centre for Impact, Innovation and Capacity building for Health Information Systems and Nutrition (CIICHIN, Kigali, Rwanda) [Online interview for South Africa Covid-19 Country Report, Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Cooper, S., van Rooyen, H., Wiysonge, C.S., 2021. COVID-19 vaccine hesitancy in South Africa: how can we maximize uptake of COVID-19 vaccines? Expert Rev Vaccines, 20(8):921-933. Cooper, S, van Rooyen, H., Wiysonge, C.S., 2022. Addressing COVID-19 vaccine hesitancy in South Africa: moving beyond our reliance on information-based responses. Human Vaccines & Immunotherapeutics, Nov 30;18(6):2107851.

Coventry University, (undated). Progression of Vulnerability and Hazard. [Free online article from Humanitarian Action Response and Relief] Futurelearn. https://www.futurelearn.com/info/courses/humanitarian-actionresponse-relief/0/steps/60981.

Cutter, S. L., 2018. Compound, Cascading, or Complex Disasters: What's in a Name? Environment: Science and Policy for Sustainable Development. 60. 16–25. https://doi.org/10.1080/00139157.2018.1517518.

Crisp, N., (Dr), 2021, 17 November. Acting DG of the National Department of Health. [Online interview for South Africa Covid-19, Country Report, Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Daven, J., Modise, M., Momoniat, M., & Van Niekerk, M., 2021, 10 December. National Treasury members [Interview for South Africa Covid-19 Country Report, Second edition]. DPME (Department of Planning, Monitoring and Evaluation). GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Ellis, E., 2022. Nelson Mandela Bay state hospitals face collapse – doctors resign on 'unprecedented' scale. Daily Maverick, 18 August. https://www.dailymaverick.co.za/article/2022-08-18-nelson-mandela-baystate-hospitals-face-collapse-doctors-resignon-unprecedented-scale/.

Folke, C., Biggs, R., Norström, A., Reyers, B., Rockström, J., 2016. Social-ecological resilience and biosphere-based sustainability science. Ecology and Society, 21(3), art 41-16. https://doi.org/10.5751/es-08748-210341.

Gaillard, J. C., Symon, L., Huyck, A., & Van Houtte, G., 2012a. Disaster risk reduction and complex adaptive systems: what can be learned from the analysis of coupled human and natural systems? Natural Hazards and Earth System Sciences, 12(9), 2671-2683. https://doi.org/10.5194/nhess-12-2671-2012.

Gaillard, J. C., Symon, L., Huyck, A., & Van Houtte, G., 2012b. Disaster risk reduction in the context of complex adaptive systems. Journal of Risk Research, 15(9), 995-1013. https://doi.org/10.1080/13669877.2012.668029.

Government of South Africa, 2021. Government Gazette Vol. 673 No. 44876. Pretoria: Government Printer.

Gutshwa, B., 2022, 10 March. Chief Director, Risk, Compliance, Ethics and Fraud Prevention, Department of Agriculture, Land Reform and Rural Development. [Online interview for South Africa Covid-19 Country Report, Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Hariri-Ardebili, M. A., 2020. Living in a Multi-Risk Chaotic Condition: Pandemic, Natural Hazards and Complex Emergencies. International Journal of Environmental Research and Public Health. 17. 5635. https://doi.org/10.3390/ijerph17165635.

Jeans, H., Castillo, G.E., & Thomas, S., 2017. Absorb, Adapt, Transform: Resilience capacities. Oxford: Oxfam GB. Retrieved from https://policy-practice.oxfam.org.uk/publications/absorb-adapt-transformresilience-capacities-620178.

Katoto, P.D.M.C., Parker, S., Coulson, N., Pillay, N., Cooper, S., Jaca, A., Mavundza, E., Houston, G., Groenewald, C., Essack, Z., Simmonds, J., Shandu, L.D., Couch, M., Khuzwayo, N., Ncube, N., Bhengu, P., van Rooyen, H., Wiysonge, C.S., 2022. Predictors of COVID-19 Vaccine Hesitancy in South African Local Communities: The VaxScenes Study. Vaccines, 10(3):353.

Kerner, D.A., & Thomas, J.S., 2014. Resilience Attributes of Social-Ecological Systems: Framing Metrics for Management. Resources, 3, 672-702. https://doi.org/10.3390/resources3040672.

Kroeze, C., Caniëls, M., Huitema, D., & Vranken, H., 2017. Editorial overview: Learning and Innovation in Resilient Systems. Current Opinion in Environmental Sustainability, 28, ivvi. https://doi.org/10.1016/j.cosust.2017.11.004.

Lake, P.S., 2012. Resistance, Resilience and Restoration. Ecological Management & Restoration, 14(1), 20–24. https://doi.org/10.1111/emr.12016.

Lavassa, A & Farina, M., 2020. The role of experts in the Covid-19 Pandemic and the limits of their epistemic authority in democracy, 14 July. Public Health Vol 8-2020 https://doi.org/10.3389/fp.

Levine, S. Ludi, E. & Jones, L., 2011. Rethinking Support for Adaptive Capacity to Climate Change - The Role of Development Interventions, A report for the Africa Climate Change Resilience Alliance. London: Overseas Development Institute.

Ludidi, V., 2022, 123 killed during the western cape taxi violence in 2021. Weekend Argus: IOL, 1 January. https://www.iol.co.za/weekendargus/news/123-killed-during-the-westerncape-taxi-violence-in-2021-66c9e844-a84b-427c-b7a4-3cc2afc11d38

Mandisa, T., Almeida, P., Combrink, L., Kekana, P., Mabaso, C. & Ndima, V., 2022, 21 April. DDG and various divisional heads, Department of Sports, Arts and Culture. [Online group interview for South Africa Covid-19 Country Report, Second edition]. DPME (Department of Planning. Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Manyena, S., 2006. The concept of resilience revisited. Disasters. 30(4), 434–450. https://doi.org/10.1111/j.0361-3666.2006.00331.x

Manyena, S., O'Brien, G., O'Keefe, P., & Rose, J., 2011. Disaster resilience: a bounce back or bounce forward ability? Local Environment, 16(5), 417–424. https://doi.org/10.1080/13549839.2011.583049

Matsoso, P. 2023, 6 March. Former Director General of the National Department of Health (NDOH), now Co-chair of the World Health Organisation's Intergovernmental Negotiating Body for the development of a legal instrument, convention, or treaty for pandemic prevention, preparedness, and response. [Online interview for South Africa Covid-19 Country Report, Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

McKenzie, D., 2021., Southern Africa hoped it was through the worst of Covid-19. Then the Delta variant arrived". CNN, 9 July. https://www.edition.cnn.com/2021/07/09/africa/southern-africa-covid-delta-intl-emd/index.html.

Mkalipi, T., 2021, 18 November. Chief Director, Labour Relations, Department of Labour. [Online interview for South Africa Covid-19 Country report, Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Mpumlwana, M., Molo, M., & Baloyi, P. 2022, 27 September. General Secretary, South African Council of Churches (SACC), Director: Church Liaison & Community Empowerment and National Campaigns Coordinator for VaxuMzansi. [Online interview for South Africa Covid-19 Country Report, Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

National Department of Health, 2023. Latest Vaccine Statistics. Covid-19 Online Resource and News Portal. https://sacoronavirus.co.za/latest-vaccine-statistics/. (Accessed 15 March 2023).

O'Keefe, P., Westgate, K. & Wisner, B., 1976. Taking the ''natural'' out of ''natural disaster''. Nature, 260(5552). 566–567. https://doi.org/10.1038/260566a0.

Ostrom, E., 2007. Adaptive governance of social-ecological systems. Science, 325(5939), 419-422. https://doi.org/10.1126/science.1144004.

O'Sullivan, T., Kuziemsky, C., Toal-Sullivan, D., Corneil, W., 2013. Unravelling the complexities of disaster management: A framework for critical social infrastructure to promote population health and resilience. Social Science & Medicine, 93, 238-246. https://doi.org/10.1016/j.socscimed.2012.07.040.

Poli, R., 2010. An introduction to the ontology of anticipation. Futures. 42(7), 769-776. https://doi.org/10.1016/j.futures.2010.04.028.

Poli, R., 2014. Anticipation: a new thread for the human and social sciences? Cadmus. 2(1), 23 - 36. Retrieved from https://cadmusjournal.org/node/419.

Pitt, R., 2021. Wits research professor warns of 'a very severe third wave in Gauteng'. Daily Maverick, 30 May. https://www.dailymaverick.co.za/article/2021-05-30-wits-researchprofessor-warns-of-a-very-severe-third-wavein-gauteng/.

Reddy, R., Mohamed, K., & Mukwevho, T., 2022, 14 March. Acting Deputy Director and various divisional heads, Department of Women, Youth and Persons with Disabilities. [Online group interview for South Africa, Covid-19 Country Report, Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Reinmoeller, P., & van Baardwijk, N., 2005. The link between diversity and resilience. MITSloan Management Review, Summer. https://sloanreview.mit.edu/article/the-linkbetween-diversity-and-resilience/.

Rising, J., Tedesco, M., Pionetk, F & Stainforth, D.A., 2022. The missing risks of climate change, 26 October. Nature. 610: 643-651. https://www.nature.com/articles/s41586-022-05243-6.//doi.org/10.1038/s41586-022-05243-6.

Semete-Makokotlela, B., Mahlangu, G., Mukanga, D., Delese M.D., Stonier, P., Gwaza, L., Nkambule, P., Matsoso, P., Lehnert, R., Rosenkranz, B., Pillai, G. 2021 Needs driven talent and competency development for the next generation of regulatory scientists in Africa. Br J Clin Pharmacol. 88: 579-586.

Semete-Makokotlela, B., 2021, 31 August. CEO, South African Health Products Regulatory Authority (SAPHRA). [Online interview for South Africa Covid-19 Country Report, Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Shoba, S. and Mthethwa,A. 2021. Hospital bed space alert in Gauteng as third wave of Covid-19 takes hold, 23 May, Maverick Citizen. https://www.dailymaverick.co.za/article/2021-05-23-hospital-bed-space-alert-in-gautengas-third-wave-of-covid-19-takes-hold/.

South African Medical Research Council, 2023. Report on Weekly Deaths in South Africa. Report on Weekly Deaths in South Africa. Available online: https://www.samrc.ac.za/research-reports/report-weekly-deathssouth-africa. (Accessed 15 March 2023).

Tau, R., (Dr)., Dyssel, J., Khangale, M., Kolokoto, J., Losper, M., Pillay, D., & Pitso, M., 2021, 10 November. Deputy Director-General and various members of the National Disaster Management, National Disaster Management Centre. [Online group interview for South Africa, Covid-19 Country Report, Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Tharage, V., 2021, 6 December. Director General, Department of Tourism. [Online interview for South Africa Covid-19, Country Report, Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

United Nations, 2015. Sendai Framework for Disaster Risk Reduction 2015–2030. United Nations: Geneva. https://www.undrr.org/publication/sendai-framework-disaster-riskreduction-2015-2030.

Van der Heever, A., 2022. How do you stop a hospital heist? Appoint a plunder-proof board. News24, 18 August 2022. https://www.news24.com/news24/analysis/analysis-alex-van-derheever-how-do-you-stop-a-hospital-heistappoint-a-plunder-proof-board-20220818.

Van Niekerk, D., 2020. Occasional Paper: Anticipatory Governance in SADC: Reducing Disaster Risk after Covid-19. Stellenbosch: South African Institute for International Affairs. https://sai ia.org.za/research/anticipatory-governance-in-sadc-reducingdisaster-risk-after-covid-19/

Van Niekerk, D. & Terblanché-Greeff, A., 2019. Anticipatory risk reduction. In R. Poli (Ed.) Handbook of anticipation: Theoretical and applied aspects of the use of future in decision making. Springer-Verlag. 1659-1681. https://philpapers.org/rec/VANADR-3

Venter, F., (Prof.) head of the research group Ezintsha at the University of the Witwatersrand, cited in Pitt, R., 2021. Wits research professor warns of 'a very severe third wave in Gauteng', 30 May, Daily Maverick, https://www.dailymaverick.co.za/article/2021-05-30-wits-research-professor-warns-of-avery-severe-third-wave-in-gauteng/

Walker, B., & Salt, D., 2006. Resilience Thinking: Sustaining ecosystems and people in a changing world. Washington DC: Island Press.

Walker, B., Holling, C. S., Carpenter, S. R., & Kinzig, A., 2004. Resilience, adaptability and transformability in social–ecological systems. Ecology and society, 9(2). http://www.ecologyandsociety.org/vol9/iss2/art5/

Wanyenze, R., 2022, 22 July. Dean, School of Public Health, College of Health Sciences, Makerere University. [Online interview for South Africa Covid-19 Country Report, Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Western Cape Government. 2021. Media release: Wcdoa African Swine Fever (Asf) update. https://www.westerncape.gov.za/news/update-af rican-swine-fever-asf. (Accessed 11 May 2023).

Wiysonge, C.S., Ndwandwe, D., Ryan, J., Jaca A., Batouré, O., Anya, B.M., Cooper, S., 2022. Vaccine hesitancy in the era of Covid-19: could lessons from the past help in divining the future? Hum Vaccin Immunother, Dec 31;18(1):1-3.

Zali, M., Gwala, N. and N. Mukwevho (2021) COVID-19 third wave: How ready is the infection epicentre Gauteng? 18 June, Health E-News. https://health-e.org.za/2021/06/18/covid-19-third-wave-how-ready-is-theinfection-epicentre-gauteng/

CHAPTER 3
LEGAL RESPONSES AND CHALLENGES

Abstract

This is the Second edition of the South African Country Report, reviewing the state's response to the second year of the Covid pandemic, from March 2021 onwards. During this time, the state still had to manage the pandemic through a vaccination programme, and begin asking what living with Covid-19 would look like.

This Second edition looks specifically at the law's resilience to the pandemic, indicating its strengths and weaknesses. It does so by looking at various areas of the law that had to be grappled with during this time, in the framework of the Disaster Management Act. Much attention is placed on vaccines, not only local questions, such as mandatory vaccinations, workplace requirements and the vaccination of children, but also how the global procurement and the laws governing patents influenced the state's ability to properly respond to the challenges.

This chapter, as did the previous chapter in the First edition of the South African Country Report (The Presidency: 2021), also picks up on specific human rights' issues, from the right to access to housing, social security, disability rights, to the right to privacy and issues surrounding misinformation.

Lastly, as did the previous report, this report ends with a discussion of the most significant court cases during this time.

Finally, the report ends with conclusions and recommendations for the state to consider in building the resilience of the law, to better respond to emergencies and disasters.

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Abbreviations and Acronyms

AMC	Advanced Market Commitment
BBBEE	Broad-Based Black Economic Empowerment
CCMA	Commission for Conciliation, Mediation & Arbitration
COGTA	Department of Cooperative Governance & Traditional Affairs
CSOs	Civil Society Organisations
DMA	Disaster Management Act
EHP	Emergency Housing Programme
GPS	Global Positioning System
HBAs	Hazardous Biological Agent(s)
HPCSA	Health Professionals' Council of South Africa
HSRC	Human Sciences Research Council
IESCR	International Covenant of Economic, Social & Cultural Rights
IP	Intellectual Property
LMICs	Low- and Middle-Income Countries
MAC	Ministerial Advisory Committee
NCCC	National Consumer Complaints Council
NDHSWS	National Department of Human Settlements, Water and Sanitation
NDMF	National Disaster Management Framework
NDoH	National Department of Health
NMC	Notifiable Medical Conditions
PAJA	Promotion of Administrative Justice
PIE	Prevention of Illegal Eviction
	POPIA Protection of Personal Information Act
PWD	People with Disabilities
R&D	Research and Development
SAHRC	South African Human Rights Commission
SAMA	South African Medical Association
SAMJ	South African Medical Journal
SAPHRA	South African Health Products Regulatory Authority
SIU	Special Investigation Unit
TRAs	Temporary Relocation Area(s)
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UISP	Upgrading of Informal Settlement Programme
UN	United Nations
WHO	World Health Organisation
WTO	World Trade Organisation

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Introduction

The second year of the pandemic brought the question, "What will living with COVID-19 look like in the long term?"

From 10 June to 26 September 2021, South Africa was hit by a third wave, driven by the Delta variant. The third wave was characterised by a change in patterns of infections emanating partly from the decision not to close schools (as had been done during the first and second waves). In addition, vaccination coverage and varying levels of immunity changed the picture of the pandemic and the NICD called for a shift in thinking about COVID-19 from acute waves to a mindset of "living with the virus".[1]

From 15 November 2021, during the fourth wave, the Omicron variant was responsible for the most infections in South Africa. It was associated with significantly less hospital admissions, which might suggest that it caused less severe disease than the previous variants. However, this could also have been because it coincided with higher vaccination rates,[2] and/or with immunity due to having been infected by COVID previously.

The Omicron variant showed that the goal of "living with the virus" is a dynamic concept, as the South African response evolved.[3] As COVID-19 restrictions continued to relax, the emphasis shifted toward resuming

[1] National Institute of Commicable Diseases, "Covid-19: It's time to look at the finer details of South Africa's Pandemic Picutre" 9 September 2021, available at https://www.nicd.ac.za/covid-19-its-time-to-look-at-the-finer-details-of-south-africas-pandemic-picture/ (accessed 27 September 2023)
[2] https://www.nicd.ac.za/diseases-a-z-index/disease-index-covid-19/surveillance-reports/special-public-health-surveillance-bulletin/ Issue 4: 18 Jan 2022.
[3] Emanuel EJ, Osterholm M, Gounder CR. A national strategy for the 'new normal' of life with COVID. JAMA 2022;327(3):211-212.

"normal" life. This opened up the possibility of reconsidering how to move from an "emergency" response to a sustainable long-term approach to pandemic control.

Consequently, with the benefit of hindsight and reflection, the analysis in this chapter is shaped by looking at the resilience that the law showed, or not, and where it can be strengthened. The notion of resilience used in this chapter refers to "the capacity of a system to withstand or adapt to disturbance while maintaining the same basic structures and functions".[4] There is little doubt that COVID-19 has been a "breaching incident"[5] that occasioned a series of major shocks to, among others, the legal system. After such a major shock, there is typically a window of opportunity to assess the response of a system to the incident, and to contemplate whether any changes need to be made to the system so that it may better withstand similar disturbances in future.[6]

While they are sometimes criticised for inhibiting adaptive governance in times of crisis, by virtue of their inherent rigidity, uniformity, predictability, top-down- and cross-contextual application,[7] law and legal principles such as the rule of law and human rights play a crucial role in propping up and stabilising social systems in times of flux, while maintaining essential standards in the course of adaptive governance.[8] This was articulated in the Supreme Court of Appeal's decision in Esau v Minister of Co-Operative Governance and Traditional Affairs where Plasket JA held:

> What is the role of the courts in circumstances such as these? In Lord Aitkin's famous dissenting judgment in Liversidge v Anderson, he made the point that in times of national disaster – the Second World War, in that case – 'the laws are not silent'; that 'they speak the same language in war as in peace'; and that it 'has always been one of the pillars of freedom … that the judges are no respecters of persons and stand between the subject and any attempted encroachments on his liberty by the executive, alert to see that any coercive action is justified in law'. These words echo what had been said by De Villiers CJ in this country, more than 60 years earlier, in the matter of In re Willem Kok and Nathaniel Balie, that even in times of upheaval, the courts' 'first and most sacred duty is to administer justice to those who seek it.[9]

In this chapter, we assess the resilience of some of the legal principles and regulatory frameworks that have underpinned the South African COVID-19 response. In particular, we

[4] Craig Anthony Arnold "Resilient Cities and Adaptive Law" (2014) 50(2) Idaho Law Review 245-263, p 245.
[5] Forman, Lisa. "The Evolution of the Right to Health in the Shadow of COVID-19." Health and human rights vol. 22,1 (2020): 375-378.
[6] Oona Hathaway in "Do Human Rights Treaties Make a Difference?" (2002) 11 Yale Law Journal, 1935, at 2002-2003.
[7] Craig Anthony Arnold & Lance H Gunderson "Adaptive Law and Resilience" (2013) 43 Environmental Law Reporter 10426 at 10427; Barbara A Cosens, JB Ruhl, Niko Soininen & Lance Gunderson "Designing Law to Enable Adaptive Governance of Modern Wicked Problems" (2020) 73(6) Vanderbilt Law Review 1687 at 1723-1724; Tracy-Lynn Humby "Law and Resilience: Mapping the Literature" (2014) 4(1) Seattle Journal of Environmental Law 85 at 113.
[8] Arnold & Gunderson (cited above) at 10427-10429; Humby (cited above) at 115-117; David Matyas "Towards a Legal Toolkit for Disaster Resilience and Transformation" (2020) 45(2) Disasters 453 at 453-455, 464; Margherita Pieraccini "Towards Just Resilience: Representing and Including New Constituencies in Adaptive Governance and Law" (2019) 31 Journal of Environmental Law 213 at 219.
[9] *Esau & Others v Minister of Co-Operative Governance and Traditional Affairs* [2021] ZASCA 9, [2021] 2 All SA 357 (SCA) para 4.

ask whether the rule of law, human rights and the legal system's structuring of power and accountability managed to prevail during the shock presented by COVID-19. At the same time, we consider whether the experience of governing through the pandemic has shown up fault-lines in the conception or implementation of existing legal and regulatory frameworks that may usefully be adapted to enhance their resilience.

Rule of law and decision-making issues

The extension of the state of disaster

The first report evaluated the state's choice and application of the Disaster Management Act (DMA). The state of disaster was extended in terms of section 27(5) by the Minister of COGTA for one month at a time, so as to retain the state of disaster, until 5 April 2022. During that time, the South African response to COVID-19 was almost entirely located within the DMA, with the initial State of Disaster declared on 27 March 2020 effectively having remained in existence for two years.

The extensive and unprecedented use of the DMA to govern the lengthy national response to the pandemic resulted in extensive litigation challenging various aspects, including the constitutionality and legality of the state of disaster, as well as the DMA itself. Many of these cases were dealt with in the first report. Since then, the Supreme Court of Appeal confirmed in Esau v Minister of Co-Operative Governance and Traditional Affairs that executive power during the state of disaster was validly exercised, and that there are enough accountability mechanisms in the Constitution to oversee the power.[10]

The state of disaster was eventually lifted on 5 April 2022. The absence of proper checks on the Minister's power to extend the state of disaster remains a factor to be considered. The definition of "disaster" again becomes important. In terms of section 1 of the DMA, a "disaster" is:

> a progressive or sudden, widespread, or localised, natural or human-caused occurrence which
> (a) causes or threatens to cause-
> (i) death, injury or disease; [...]
> (iii) disruption of the life of a community; and
> (b) is of a magnitude that exceeds the ability of those affected by the disaster to cope with its effects using only their own resources.

The question is whether, if a disaster is no longer of "a magnitude that exceeds the ability of [the state] to cope with its effects using their own resources", an extension of a state of disaster is warranted.[11] As alluded to earlier, the fourth pandemic wave did not constrain government resources, nor did it pose the same risks as the previous waves. Since the DMA is silent on what the Minister must consider when extending a state of disaster, it must be assumed that the Minister deemed the COVID-19 pandemic to remain of such magnitude that it exceeded the ability of national government to deal with it using its resources, and hence continued extending the state of disaster.

[10] Par 55.
[11] du Plessis, E., van Niekerk, D., Rosenkranz, B., & Preiser, W. (2022). After the COVID-19 state of disaster in South Africa. Nature human behaviour, 6(7), 901. https://doi.org/10.1038/s41562-022-01409-4

But it also appears that government may have been faced with the problem that the kinds of regulations that were necessary to deal with "living with Covid-19" all depended on a state of disaster being in place, since "ordinary" public health regulations (such as regulations under the National Health Act 61 of 2003) were insufficient. Indeed, while amendments to the "ordinary" public health regulations were underway, they were not completed in time for the ending of the state of disaster, which led to a curious insertion that certain regulations would continue for 30 days after the state of disaster lapsed, in order to ensure an overlap with the promulgation of appropriate regulations under the National Health Act.

In law, there are mainly two options for holding the Minister accountable when extending the state of disaster in the absence of oversight mechanisms built into the Act itself. First, through the general function of the legislature to oversee the executive function. This entails that the executive is individually and collectively accountable to parliament (section 85 of the South African Constitution).[12] Second, by judicial review of the Minister's decision to extend the state of disaster in terms of the Promotion of Administrative Justice Act or the legality principle.

In terms of the United Nation's Human Rights' Commission guidance,[13] supervision of the exercise of emergency powers is an important part of democracy and the rule of law. This requires periodic and independent scrutiny by the legislature. It is recommended that parliament should include such a requirement either in the National Disaster Management Framework, or by an amendment to the DMA, to mitigate the risk that a state of disaster is extended beyond the objective duration of a disaster. Indeed, there was an unsuccessful attempt to affect amendments to this effect to the DMA, when the Disaster Management Amendment Bill (B2-2021), a private member's bill originating from the Freedom Front Plus, was rejected by National Assembly on 2 June 2022. The objectives of this Bill included amending the duration of a state of disaster and extensions thereto; to provide that any action taken as a result of a declaration of a state of disaster would only be effective prospectively; to allow the extension of national, provincial or local states of disaster only by majority vote and after public debate in the National Assembly, a provincial legislature or Municipal Council (as the case may be); to provide for oversight by the National Assembly and provincial legislatures over national or provincial states of disaster; to amend provisions dealing with the lapsing of states of disaster and the termination of associated regulations.[14]

The DMA was used for more than just managing COVID-19

In terms of administrative law, an administrator exercising power may only do so for the purposes set out in the empowering provision, i.e. the section in the Act.[15] If power is not exercised within the limitation of the

[12] This was also held to be the correct method in Freedom Front Plus v President of the Republic of South Africa and Others [2020] ZAGPPHC 266; Esau and Others v Minister of Co-Operative Governance and Traditional Affairs and Others [2021] ZASCA 9

[13] Emergency measures and Covid-19: Guidance, https://www.ohchr.org/Documents/Events/EmergencyMeasures_Covid19.pdf

[14] Disaster Management Amendment Bill B2-2021 available at https://www.parliament.gov.za/bill/2295375.

[15] G. Quinot, A. Anthony, J. Bleazard, S. Budlender, R. Cachalia, H. Corder, M. Finn, M. Kidd, T. Madonsela, & P. Maree. (2021). Administrative Justice in South Africa: An Introduction Second Edition: Vol. Second edition. Oxford University Press Southern Africa [e-book].

empowering provision, then it is exercised unlawfully.[16] The Disaster Management Regulations were passed to mitigate the effects of the COVID-19 pandemic, and therefore did not authorise action to mitigate against other national crises.

Between 9 and 17 July 2021, South Africa experienced a wave of unrest and looting, predominantly in Gauteng and KwaZulu-Natal, which caused over 300 deaths and more than a billion rands worth of damage to the economy.[17] The direct trigger was the arrest of former president Jacob Zuma, but there were several underlying root causes such as poverty, inequality and unemployment, all of which were exacerbated by the COVID-19 pandemic.[18] In direct response to the effects of the looting, the Minister of Employment and Labour issued directions in terms of regulation 4(10)[19] of the Disaster Management regulations to introduce a temporary financial relief scheme for destroyed, affected or looted workplaces.[20] Even though the Minister of Employment and Labour found their mandate within the Unemployment Insurance Act,[21] the regulations were passed in terms of the disaster management framework.

The passing of these directions, although not challenged in the courts, was irregular, as the underlying rationale of the relief scheme (the purpose) did not align with the empowering provision that deals with mitigating Covid-19. It was also not possible for the Minister to rely on existing authority under the Unemployment Insurance Act to justify the directions that are passed in terms of Disaster Management regulation 4(10). Rather, the Minister should have made regulations or issued directions under the Unemployment Insurance Act.

The draft National Health Act regulations

On 15 March 2022 the Minister of Health published draft regulations for comment, to amend the Regulations Relating to the Surveillance and the Control of Notifiable Medical Conditions.[22]

The amendment deals with a wide array of notifiable medical conditions, listed in Annexure A, in tables 1, 2, 3 and 4 at the end of the regulations. In terms of the current regulations, the Minister (of Health) may declare, by notice in the Government Gazette, a medical condition not listed in the Annexure as a notifiable condition in certain circumstances.[23] While there is no duty on the Minister to consult before publishing such a notice, the Minister remains as a cabinet

[16] Gauteng Gambling Board and Another v MEC for Economic Development, Gauteng, 2013 (5) SA 24 (SCA).
[17] Anon "Nearly R120 million in hard cash looted from ATMs and banks during SA unrest" 18 August 2021, available at https://www.news24.com/news24/bi-archive/r120-million-looted-from-atm-during-south-africa-unrest-2021-8.
[18] Oama Oukula "7 things you should know about declaring a state of emergency in SA" 13 July 2021, available at https://www.capetalk.co.za/articles/421752/7-things-you-should-know-about-declaring-a-state-of-emergency-in-south-africa
[19] Regulation 4(10) provides that –
"Any Cabinet member may issue and vary directions, as required, within his or her mandate, to address, prevent and combat the spread of COVID-19, and its impact on matters relevant to their portfolio, from time to time, as may be required, including- disseminating information required for dealing with the national state of disaster; implementing emergency procurement procedures; taking any other steps that may be necessary to prevent an escalation of the national state of disaster, or to alleviate, contain and minimize the effects of the national state of disaster; or taking steps to facilitate international assistance."
[20] Notice 712 of 2021, GG 44978 (10 August 2021). See http://www.labour.gov.za/uif%E2%80%99s-temporary-relief-scheme-approved-to-assist-workers-of-looted-businesses-in-kzn-and-gauteng.
[21] 63 of 2001.
[22] N 1882 GG 46048 15 March 2022.
[23] Regulation 12.

member jointly and individually accountable to parliament in terms of the Constitution.[24]

The draft amended regulations covered a wide range of precautions and made specific reference to managing COVID-19 or notifiable conditions of similar severity, by way of measures identical to those contained in many of the disaster management regulations passed in the course of the COVID-19 response.

The problem is that there is nothing in the regulations that sets out the parameters for the Minister to impose restrictions on fundamental rights in combating notifiable diseases. It further appears that the full content of the COVID-19 Disaster regulations had simply been incorporated into the 'notifiable conditions' regulations, and was capable of being triggered, not only in the event of flareups of COVID-19, but also of other notifiable conditions.[25]

The draft regulations have come under severe criticism, with the official opposition party, the DA, stating that that "our government now seems to be hell-bent on normalising the restrictions that we faced for so long by introducing regulations to the Health Act that will effectively normalise this very abnormal state of affairs and will shift the power of unnatural regulations to the minister of health".[26] Likewise the EFF noted that "[w]e must ensure this government does not smuggle regulations into law, which will give them power to micro-manage the political terrain and enhance their ability to conduct illegal and corrupt procurement".[27] There has also been a general criticism levelled against the government by various medical experts who believed that, given the seemingly milder impact of the Omicron variant, vaccination coverage and immunity from prior infection, the extent to which rights were initially limited by the covid-related regulations was no longer warranted. Still, rights were restored as the pandemic became less life-threatening.

The draft amended regulations were withdrawn on 22 June 2022.[29] While this is welcomed, given the valid concerns raised in relation to their content, the fact remains that the current (unamended) state of the regulations did not adequately enable a response to the COVID-19 pandemic, hence necessitating extended (and, arguably, eventually unwarranted) reliance on the DMA.

[24] Helen Suzman Foundation v The Speaker of the National Assembly 2020 ; Freedom Front Plus v President of the Republic of South Africa and Others 2020 .
[25] Marc Mendelson et al "The incoherent and illogical new government Covid-19 regulations are the real state of disaster", 22 March 2022 available at https://www.dailymaverick.co.za/article/2022-03-22-the-incoherent-and-illogical-new-government-covid-19-regulations-are-the-real-state-of-disaster/
[26] Khan T, 'We do not want to control lives, says Phaahla in defence of Covid-19 plan' Businessday Premium (05 April 2022).
[27] Patel F, ''We must ensure that govt doesn't smuggle regulations into law' – EFF on National Health Act ' Citizen (5 April 2022)
[28] See Marc Mendelson et al "The incoherent and illogical new government Covid-19 regulations are the real state of disaster", 22 March 2022 available at https://www.dailymaverick.co.za/article/2022-03-22-the-incoherent-and-illogical-new-government-covid-19-regulations-are-the-real-state-of-disaster/; Maslo, Caroline et al. "Characteristics and Outcomes of Hospitalized Patients in South Africa During the COVID-19 Omicron Wave Compared With Previous Waves." JAMA vol. 327,6 (2022): 583-584. doi:10.1001/jama.2021.24868; Madhi, Shabir A et al. "Population Immunity and Covid-19 Severity with Omicron Variant in South Africa." The New England journal of medicine vol. 386,14 (2022): 1314-1326. doi:10.1056/NEJMoa2119658. https://www.nejm.org/doi/full/10.1056/NEJMoa2119658
[29] Department of Health, *Statement by Minister of Health Dr Joe Phaahla on the repeal of regulations on notifiable medical conditions dealing with the Covid-19 pandemic and on monkey-pox,* 23 June 2022.

It arguably remains necessary for the "normal" regulations pertaining to control of notifiable medical conditions to be amended as well, to enable measured responses to serious pandemics such as COVID-19. However, such regulations must adhere to international guidelines and constitutional requirements for the limitation of fundamental rights. Accordingly, regulations should provide transparent and scientifically grounded criteria and processes for declaring notifiable conditions, pandemics or endemic diseases, and should, for the sake of accountability and transparency, require reasons to be given for listing a particular condition as an NMC. It is also suggested, considering our experience with the Omicron variant, that it is not only the transmissibility of a disease, but also its severity and impact on the health system that must be taken into account before a limitation on constitutional rights can be justified. Regulations should explicitly only provide for such restrictions on fundamental rights as are proportional to, and justified by, the threat posed by a particular 'notifiable condition'. In particular, the criminalisation of non-compliance with regulations should be reconsidered.

Decision-making and public participation

The making of the Covid-19 regulations significantly tested government's ability to allow for public participation in the law-making process, given that gatherings were restricted and regulations often had to be made on short notice. However, the public have a right to participate in decision-making, sourced in sections 59(1), 72(1)(a) and 118(1)(a) of the Constitution, in terms of which each sphere of government must facilitate public involvement in legislative and other processes.[30] Section 195(1)(e) of the Constitution further requires that the public administration should include people's needs and encourage the public to participate in policy-making.

The Constitutional Court has, on several occasions, emphasised the importance of public involvement in law-making processes.[31] The *New Clicks*[32] case recognised that what constitutes sufficient public participation will differ from case to case. Participation can include simply taking part, being actively involved, expressing views and opinions, and being heard, or reaching consensus between lawmakers and the public on the course of action to be taken.[33]

There was little evidence of broader public participation in the initial lockdown regulations. There was only one public call for inputs into the regulations. There were several reports of meetings between various stakeholders and the president,[34] but these

[30] These sections are supported by sections 16, 17, 18, 19, 21, and 33 of the Constitution.
[31] Doctors for Life International v Speaker of the National Assembly and Others (CCT12/05) [2006] ZACC 11; 2006 (12) BCLR 1399 (CC); 2006 (6) SA 416 (CC)and Matatiele Municipality and Others v President of the Republic of South Africa and Others (1) (CCT73/05) [2006] ZACC 2; 2006 (5) BCLR 622 (CC); 2006 (5) SA 47 (CC).
[32] Minister of Health and Another v New Clicks South Africa (Pty) Ltd and Others (CCT 59/2004) [2005] ZACC 14; 2006 (2) SA 311 (CC); 2006 (1) BCLR 1 (CC) par 630.
[33] Sobikwa N and Phooko MR, 'An assessment of the constitutionality of the COVID-19 regulations against the requirement to facilitate public participation in the law-making and/or administrative processes in South Africa' 2021 (25) Law, Democracy and Development 313. http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S2077-49072021000100011
[34] See for instance Donna Slater "Govt still remiss in its consultation with private sector on Covid-19 lockdowns, says BLSA" 5 July 2021 available at https://www.engineeringnews.co.za/article/govt-still-poorly-consulting-with-private-sector-on-impacts-of-covid-19-lockdowns-says-blsa-2021-07-05

meetings were not open, their contents not recorded and open to the public, and not with the Minister of COGTA as the person responsible for the DMA, but rather under the President, as the chair of the National Corona Command Council. While the swift action in March 2020 might have justified little input from the broader public, the absence of a call for broader public participation[35] as the pandemic progressed is worrisome.

These issues came before the court in the *Esau* case,[36] where the court accepted that, in some instances, a 48-hour deadline might be acceptable. It also noted that the DMA does not set out how regulations must be made, and that the Minister therefore enjoys a wide discretion.[37] The case has been criticised for focusing too greatly on the requirements of the DMA rather than on the Constitution.[38]

That meaningful public participation concerning the content of measures is necessary for the effectiveness of measures themselves is compellingly illustrated by the results of an HSRC survey, which found that South Africans' willingness to suspend their liberties to fight the pandemic was linked to how they felt about the president and the national government.[39] People who felt that the president was handling the pandemic well, were more inclined to accept limitations on their rights. At the beginning of the pandemic (and the survey) trust was fairly high, but it diminished over the period of the survey.[40]

As the pandemic progressed, people's negative experiences and strained emotional well-being led to anger, irritability, depression, sadness and stress, which also diminished their willingness to have their freedoms curtailed. Frustration and distress caused by lockdowns led to a diminished commitment to the common good[41] and impacted on the willingness to follow regulations, especially where these were experienced as arbitrary, irrational, or unsupported by evidence. The blanket ban on tobacco, for instance, was ineffective, and led to deep polarisation and reduced confidence in the government's handling of the pandemic.[42]

[35] Matatiele Municipality and Others v President of the Republic of South Africa and Others (1) (CCT73/05) [2006] ZACC 2; 2006 (5) BCLR 622 (CC); 2006 (5) SA 47 (CC).
[36] Esau and Others v Minister of Co-Operative Governance and Traditional Affairs and Others (611/2020) [2021] ZASCA 9; [2021] 2 All SA 357 (SCA); 2021 (3) SA 593 (SCA).
[37] Esau and Others v Minister of Co-Operative Governance and Traditional Affairs and Others (611/2020) [2021] ZASCA 9; [2021] 2 All SA 357 (SCA); 2021 (3) SA 593 (SCA) par 97.
[38] Sobikwa N and Phooko MR, 'An assessment of the constitutionality of the COVID-19 regulations against the requirement to facilitate public participation in the law-making and/or administrative processes in South Africa' 2021 (25) Law, Democracy and Development 332. http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S2077-49072021000100011
[39] Bohler-Muller N, Roberts B, Gordon SL and Davids YD, 'The 'sacrifice'of human rights during an unprecedented pandemic: Reflections on survey-based evidence' 2021 (37) South African Journal on Human Rights https://repository.hsrc.ac.za/handle/20.500.11910/18860 See also Bohler-Muller N, Roberts B, Gordon S and Davids YD, 'Human rights and COVID restrictions: what South Africans are willing to give up' The Conversation (26 January 2022) ; Bohler-Muller N, Davids YD, Roberts B and Bekker M, 'Human rights remain essential during the Covid-19 crisis' Daily Maverick (5 May 2022) . https://www.dailymaverick.co.za/article/2020-05-05-human-rights-remain-essential-during-the-covid-19-crisis/
[40] Bohler-Muller N, Roberts B, Gordon S and Davids YD, 'Human rights and COVID restrictions: what South Africans are willing to give up' The Conversation (26 January 2022)
[41] Bohler-Muller N, Roberts B, Gordon SL and Davids YD, 'The 'sacrifice'of human rights during an unprecedented pandemic: Reflections on survey-based evidence' 2021 (37) South African Journal on Human Rights pp 177 – 180. https://journals.co.za/doi/10.1080/02587203.2021.2009740
[42] Bohler-Muller N, Roberts B, Gordon SL and Davids YD, 'The 'sacrifice'of human rights during an unprecedented pandemic: Reflections on survey-based evidence' 2021 (37) *South African Journal on Human Rights.*

After several court cases challenging various aspects of the disaster response,[43] and as the pandemic progressed, the social compact seemingly started to unravel, with certain demographics being less willing to accept a limitation of their rights. This, the HSRC survey suggests, shows "an association between human rights sacrifice and policy preferences".[44]

To ensure that constitutional rights are heeded, and to secure community buy-in into future regulations of the kind that were promulgated during the response to the COVID-19 pandemic, it is necessary to ensure that there are adequate mechanisms for public participation in the making of regulations in terms of the DMA. This can be included in the National Disaster Policy Framework.

Processes should be participatory, inclusive and adaptive, so as to ensure support and adherence to the regulations, particularly by those affected and most vulnerable. This may, for instance, require that decision-making bodies like the NCCC and the Ministerial Advisory Committee (MAC) on Covid-19 include the representation of a diversity of voices and scientists from a much broader range of disciplines. The pandemic is not only a medical problem, and social scientists and humanities scholars have an important role to play in these advisory structures.[45]

Vaccines

Expanding equitable access to vaccines

The speed with which COVID-19 vaccine candidates moved along the development pipeline has been hailed as an unprecedented success.[46] However, this success has been deeply tempered by inequity.

Historically, private companies have prioritised profits, leading to higher profit markets being prioritised over low- and middle-income countries (LMICs). Consequently, access to vaccines in LMICs often lags years behind high-income countries.[47] This trend did not change during the COVID-19 pandemic.[48] Vaccines developed by private pharmaceutical companies are subject to extensive advanced

[43] De Beer N.O and Others v Minister of Cooperative Governa
ZAGPPHC 67 (Supreme Court of Appeal); De Beer and Others v Minister of Cooperative Governance and

Traditional Affairs (21542/2020) [2020] ZAGPPHC 184; 2020 (11 and Others v Minister of Co-Operative Governance and Traditional Affairs and Others (611/2020) [2021] ZASCA 9; [2021] 2 All SA 357 (SCA); 2021 (3) SA 593 (SCA), Fair-Trade Independent Tobacco Association v President of the Republic of South Africa and Another (21688/2020) [2020] ZAGPPHC 246; 2020 (6) SA 513 (GP); 2021 (1) BCLR 68 (GP); British American Tobacco South Africa (Pty) Ltd and Others v Minister of Co-operative Governance and Traditional Affairs and Others (6118/2020) [2020] ZAWCHC 180; 2021 (7) BCLR 735 (WCC) also cross reference previous report.

[44] Bohler-Muller N, Roberts B, Gordon SL and Davids YD, 'The 'sacrifice'of human rights during an unprecedented pandemic: Reflections on survey-based evidence' 2021 (37) *South African Journal on Human Rights*. https://journals.co.za/doi/10.1080/02587203.2021.2009740

[45] Bohler-Muller N, Roberts B, Gordon SL and Davids YD, 'The 'sacrifice'of human rights during an unprecedented pandemic: Reflections on survey-based evidence' 2021 (37) South African Journal on Human RightsAcademy of Science of South Africa (ASSAf) (2020) Public Statement on COVID-19. Accessed 25 September 2020, https://www.assaf.org.za/index.php/news/626-publicstatement-on-covid19.

[46] World Health Organisation, "Advanced Market Commitments for Vaccines," World Health Organisation (September 7, 2020). Available on https://www.who.int/immunization/newsroom/amcs/en/.

[47] Mihigo, R., Okeibunor, J., Cernuschi, T., Petu, A., Satoulou, A., & Zawaira, F. (2019). Improving access to affordable vaccines for middle-income countries in the african region. Vaccine, 37(21), 2838–2842. https://doi.org/10.1016/j.vaccine.2019.03.077

[48] Oxfam International, "Small Group of Rich Nations Have Bought Up More Than Half of the Future Supply of Leading COVID-19 Vaccine Contenders", Oxfam International, (September 18, 2020). Available on https://www.oxfam.org/en/press-releases/small-group-rich-nations-have-bought-more-half-future-supply-leading-covid-19.

market commitments that prioritise high-income countries, strong intellectual property (IP) protections and often carry unaffordable price tags, particularly for LMICs. Deficiencies in existing laws have undoubtedly hindered efforts to make vaccines affordable for developing countries.

Over the last two decades, demands to address this issue have led to the recognition of affordable medicines as an integral component of the right to health. A number of international legal instruments have been adopted to make lifesaving technologies accessible to LMICs. In response to the COVID-19, there were efforts to introduce new measures to overcome existing hurdles to accessibility of vaccines and medications.

Global COVID-19 Vaccine Accessibility Initiatives

C-TAP is a WHO initiative to share knowledge, data and IP related to COVID-19.[49] Successfully implemented, C-TAP would help LMICs overcome two critical barriers to vaccine access: lack of know-how and IP protections. However, participation in C-TAP was voluntary and has overwhelmingly come from LMICs.[50] Few high-income countries, and no pharmaceutical companies or vaccine developers, have agreed to participate. Without mandating the participation of key actors, it is unlikely that C-TAP will translate into meaningful access.

The COVAX mechanism, led by Gavi, utilised the structure of the pneumococcal vaccine advance market commitments (AMC) to provide LMICs quicker access to a COVID-19 vaccine.[51] It aimed to strengthen vaccine manufacturing capacity, tech transfer and delivery systems. COVAX was able to negotiate $3 doses of promising candidates.[52] While 172 countries applied to join AMC, Gavi would decide who could join and how doses were to be allocated.[53] Despite being co-led by the WHO, COVAX lacked external oversight, as the Gavi board exclusively held powers to manage, dissolve and structure COVAX.[54]

Due to the extensive AMCs high income countries were able to secure in exchange for funding the development of COVID-19 vaccines, and the weaker bargaining power of countries like South Africa, the COVAX AMC became a primary mechanism to access COVID-19 vaccines in September 2020. Although several manufacturing deals were signed with pharmaceutical companies to produce large quantities of eventual vaccines, manufacturers were unable to produce enough inoculations for the world's almost 8 billion people.

[49] World Health Organisation, "COVID-19 Technology Access Pool," (September 7, 2020). Available at https://www.who.int/emergencies/diseases/novel-coronavirus-2019/global-research-on-novel-coronavirus-2019-ncov/covid-19-technology-access-pool.
[50] World Health Organization, "Endorsements of the Solidarity Call to Action," (September 7, 2020). Available at https://www.who.int/emergencies/diseases/novel-coronavirus-2019/global-research-on-novel-coronavirus-2019-ncov/covid-19-technology-access-pool/endorsements-of-the-solidarity-call-to-action.
[51] Gavi, "Gavi Launches Innovative Financing Mechanism for Access to COVID-19 Vaccines | Gavi, the Vaccine Alliance," Gavi, (September 7, 2020). Available at https://www.gavi.org/news/media-room/gavi-launches-innovative-financing-mechanism-access-covid-19-vaccines.
[52] World Health Organization, "172 Countries and Multiple Candidate Vaccines Engaged in COVID-19 Vaccine Global Access Facility," (September 7, 2020). Available at https://www.who.int/news-room/detail/24-08-2020-172-countries-and-multiple-candidate-vaccines-engaged-in-covid-19-vaccine-global-access-facility.
[53] Ibid.
[54] Gavi, "Annex A: Terms of the COVAX AMC," (2020). Available at https://www.gavi.org/sites/default/files/board/minutes/2020/30-july/04a%20-%20Annex%20A%20-%20Terms%20of%20the%20COVAX%20AMC_1.pdf.

Gavi's board approved the receipt of financial support for 92 low- and lower-middle income countries; some (such as Angola, Eswatini, Lesotho, Zambia, Zimbabwe and Mozambique) would be fully or partially funded. In addition, 80 upper middle-income economies, which would pay for the vaccines from their own public finance budgets (including Botswana, Brazil, Chile, Mauritius and South Africa), had submitted expressions of interest.[55] Some much wealthier countries (such as Finland, Canada, Norway, the United Arab Emirates and New Zealand) also indicated they would participate. However, COVAX did not require that high income countries procure exclusively through the COVAX AMC, instead, allowing them to retain existing AMCs and bi-lateral agreements, and even permitting participating countries to pursue bi-lateral arrangements.

Ultimately, many countries (including South Africa) did not take doses from COVAX and instead procured vaccines through bilateral arrangements, seriously compromising the viability of the AMC. It was only in June 2021 that wealthier countries (who had by then vaccinated significant portions of their populations) agreed to donate doses to COVAX for distribution in LMICs.

AMCs like COVAX are crucial to ensuring affordable vaccine access, particularly in countries such as South Africa that have not been producing their own vaccines. However, COVAX was ultimately not a viable pathway by which South Africa could obtain vaccines, due to vaccine nationalism and political pressure in the country to expedite the vaccine roll-out.

Intellectual property waivers

COVID-19 vaccines are IP-protected 'public goods', meaning that their production and distribution are governed according to IP laws. Hence the COVID-19 pandemic reminds us of the detrimental impact that IP restrictions have on the scaling up of manufacture and supply of lifesaving pharmaceuticals. Similarly, the pandemic prompted biopharmaceutical firms to invest in risky and costly research and development (R&D) to produce these vaccines. Although governments have funded some of this research, biopharmaceutical firms have relied on IP rights to commercialise the vaccines.

In October 2020, South Africa and India made a joint proposal to the World Trade Organisation seeking a temporary waiver of IP rights on COVID-19-related pharmaceuticals.[56] In ensuring efficient vaccine development and production, other types of IP – manufacturing know-how, test data and cell lines – are also needed to facilitate production. Therefore, in addition to patent protection, the proposed TRIPS waiver under negotiation at the WTO included protection for industrial designs, copyrights, and undisclosed information in relation to the treatment of COVID-19.[57] Support for this waiver came primarily from

[55] WHO news release "172 countries and multiple candidate vaccines engaged in COVID-19 vaccine Global Access Facility" 24 August 2020 available at https://www.who.int/news-room/detail/24-08-2020-172-countries-and-multiple-candidate-vaccines-engaged-in-covid-19-vaccine-global-access-facility
[56] WTO, (2020) 'Waiver from Certain Provisions of the TRIPS Agreement for the Prevention, Containment and Treatment of Covid-19' available at https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/IP/C/W669R1.pdf&Open=True.
[57] WTO, (2020) 'Waiver from Certain Provisions of the TRIPS Agreement for the Prevention, Containment and Treatment of Covid-19' available at https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/IP/C/W669R1.pdf&Open=True; Congressional Research Service, 'Potential WTO TRIPS Waiver and COVID-19' available at https://crsreports.congress.gov/product/pdf/IF/IF11858, accessed on 17 September 2021.

developing nations (over 62 developing countries co-sponsored the proposal), claiming that wealthy countries' vaccine monopolies obstructed equal supply of COVID vaccines.

Granting a selected few pharmaceutical firms monopoly over COVID vaccine production is both unjustified and unproductive, as it encourages 'scientific research monopoly' and results in global society paying a higher price for vaccines. This makes it difficult to scale up manufacturing and secure fair global access to COVID vaccines. It was therefore hoped that, if the waiver was granted, countries would be able to produce diverse, considerably cheaper, COVID vaccines, thereby benefiting developing countries.

Historically, the patent system was designed in such a way that a single patent covered an entire invention. Over the years, the pharmaceutical sector has witnessed a change in this, whereby a single pharmaceutical product is covered by several patents, thus creating a dense patent landscape.[58] By way of illustration, a potential vaccine manufacturer in South Africa must first identify all relevant patents pertaining to the manufacture of a COVID-19 vaccine, negotiate a licence with the patent holders for each of these technologies, and only then begin producing a COVID-19 vaccine.

The process of obtaining multiple licences presents a number of challenges. First, there is a likelihood that the required licences may not be granted by the patent holders. However, this challenge can potentially be overcome by applying for compulsory licences based on public interest. Secondly, the cost of multiple licensing could severely erode the pharmaceutical firm's potential for profit, thus creating a disincentive for these firms to develop COVID vaccines. This challenge can be ameliorated either through public interest compulsory licence litigation, or through government subsidies. Finally, in the process of carrying out a patent search and obtaining multiple licences, some patents may be omitted, which may result in claims from patent owners. Cumulatively, these challenges may deter local pharmaceutical firms from working on developing COVID vaccines altogether.

In recent years, exemptions to patent rights have received increased scrutiny in IP policy discussions.[59] As a result, the TRIPS Agreement has provided member states with flexibilities that allow them to forego TRIPS obligations when enforcing their patent laws due to public health concerns. Pre-grant flexibilities apply before a patent is awarded and usually pertain to the grant procedure, whereas post-grant flexibilities allow a patent to be used in ways that would otherwise be considered patent infringement.

It has been extensively argued that existing TRIPS flexibilities — particularly compulsory licensing — are insufficient to suit the current pandemic situation, both in terms of procedure and legal substance. Applying for and issuing of a compulsory licence is burdensome and time-consuming because it must be implemented product-by-product, or country-by-country, and there are frequently major regulatory impediments to overcome.

[58] M Lemley & C Shapiro, 'Patent Holdup and Royalty Stacking' (2007) 85 Texas Law Review 1992.
[59] Evans Misati & Kiyoshi Adachi, 'The Research and Experimentation Exceptions in Patent Law: Jurisdictional Variations and the WIPO Development Agenda' (2010) *Policy Brief Number 7 ICTSD* 1.

The Doha Declaration on the TRIPS Agreement and Public Healthof 2001,[60] an agreement that allowed low- and middle-income countries to prioritise public health over IP rights through several measures that make medicines more affordable (including compulsory licences and parallel imports, which allow for the production or import of cheaper drugs without the permission of the company which originally developed them), has increased pharmaceutical manufacturing capacity and affordability of medicines in many developing nations. However, the Declaration was not geared toward vaccines, and few of its measures assist in making vaccines more affordable.[61] Moreover, the Doha Declaration only deals with one type of intellectual property (patents), whereas the proposed TRIPS waiver plan encompasses other forms of intellectual property, as discussed earlier.

As a way of supporting worldwide vaccine distribution, the pharmaceutical sector has attempted to facilitate knowledge transfer of COVID-19 therapies through voluntary licensing agreements. Voluntary licensing is a practice whereby a vaccine manufacturer determines under what conditions, and to whom, its patent can be licensed to facilitate manufacturing. On 8 October 2020, Moderna, a US pharmaceutical company, announced its decision not to exercise its patent rights on its COVID-19 vaccine, just six days after South Africa and India proposed a waiver of the TRIPS agreement.[62] Despite this, there have been few confirmed cases of licences being awarded to other companies, or attempts to replicate Moderna's vaccine. Furthermore, the Director-General of the WHO, Tedros Adhanom Ghebreyesus, recently opined that voluntary licensing agreements "tend to be exclusive and non-transparent, compromising equitable access".[63]

It is useful to consider the example of the 2001 WTO TRIPS waiver toward HIV/AIDS drugs despite the existence of TRIPS flexibilities at that time. According to Médecins Sans Frontières, the prices of patented pharmaceuticals fell to less than a tenth of their former level in one year, allowing more countries to access HIV/AIDS drugs. Similarly, access to COVID-19 vaccinations is projected to improve as a result of the TRIPS waiver.

Even if the WTO approves a possible TRIPS waiver, it will not immediately affect WTO Member States' domestic IP laws. Each Member State would be required to incorporate the TRIPS waiver into their domestic law.

It is undisputed that IP property rights foster biotechnology innovation. Accordingly, opponents of the India-South Africa proposal argue that granting the waiver would constrain manufacturing capacity and impede future advances due to lack of innovation. Some stakeholders have even argued that there is little to no evidence that IP rights slow COVID vaccine production and distribution.

[60] The declaration is available at https://www.wto.org/english/tratop_e/dda_e/dohaexplained_e.htm.
[61] See the WHO "23rd Meeting of Health Ministers of Countries of SEAR, Colombo, Sri Lanka, 4-5 September 2005" available at https://apps.who.int/iris/bitstream/handle/10665/127615/WP 5 - Access to Medicines and Vaccines.pdf;jsessionid=F188EFDB772BE35891D83C02ED32E2F0?sequence=1
[62] Statement by Moderna "Statement by Moderna on Intellectual Property Matters during the COVID-19 Pandemic". 8 October 2020, available at https://investors.modernatx.com/news-releases/news-release-details/statement-moderna-intellectual-property-matters-during-covid-19.
[63] Dr Tedros Ghebreyesus 'I run the WHO and I know that rich countries must make a choice' The New York Times, 23 April 2021, available at https://www.nytimes.com/2021/04/22/opinion/who-covid-vaccines.html.

While the waiver alone will, indeed, not guarantee increased vaccine uptake and would not automatically lead to increased and diverse manufacturing of COVID vaccines, particularly in South Africa, it would simplify the complex global IP regime and allow countries to work on technology transfers and exports without fear of trade retribution. This would lessen reliance on a few countries for the manufacturing of COVID vaccines, while also reducing the danger of export restrictions.

Sovereign patent fund

While global initiatives such as those discussed above may go a long way toward securing greater access to vaccines, there is still a need to consider whether the current state of South African IP law can be altered in order to ensure that South Africans have more speedy access to vaccines in acute cases of need, such as that presented by COVID-19.

A holistic solution may be to adopt legislation establishing and regulating a *sovereign patent fund*. This would entail the establishment of a state enterprise that actively purchases patents in strategically important fields, for example, COVID vaccine-related patents. The sovereign patent fund can be granted march-in rights and various appropriation rights if it is in the public interest. The sovereign patent fund can then grant *free* use-licences to local companies.

Emergency use authorisations and Covid-19 vaccines

South Africa experienced difficulties in processing and issuing approvals for vaccine candidates, with SAPHRA having to balance the need to issue quick approvals, against the need to ensure that vaccines are safe and effective. Immediately, the first bottleneck in the approval process was the delays in vaccine manufacturers submitting dossiers to SAPHRA for approval. For example, despite the Moderna vaccine undergoing Phase III trials in South Africa, the manufacturers refused to file a dossier with SAPHRA or pursue registration with SAPHRA for their vaccine, due to commitments to sell the vaccine to the US government. The Sisonke Trial was used to allow for the Johnson and Johnson candidate to be approved and rolled out to health care workers within three weeks of efficacy results being made available. SAPHRA has come under fire for taking too long to approve some vaccines rolled out in other LMICs such as the Sinopharm and Sputnik vaccines, where only limited data on efficacy has been made available to regulators globally. However, this stringent approach has ensured that South Africans are only given access to proven vaccines that are effective, as required by the Medicines and Related Substances Act, 101 of 1965.

Vaccine injury fund

The bi-lateral agreement the South African government entered into with vaccine manufacturers required, in some instances, that the manufacturers of the COVID-19 vaccines be given immunity against civil litigation arising from vaccine-related harms, and that the South African government bear this liability.[64] As a consequence, the government introduced the COVID-19 Vaccine Injury No-Fault Compensation Scheme in April 2021.

[64] A Abdool Karim and J van Dyk "How South Africa's COVID vaccine injury fund will work" Bhekhisisa, 20 April 2021available at https://bhekisisa.org/health-news-south-africa/2021-04-20-how-sas-covid-vaccine-injury-fund-will-work/

Concerns were raised over the government's ability to manage such a fund,[65] in light of the failures of the Road Accident Fund. Concerns included how the quantum of the claims would be calculated, how valid claims would be determined, and which compensation regime would be adopted.

Nevertheless, the scheme was established in terms of section 27(2)(c), (m) and (n) of the DMA, and is administered by the National Department of Health (NDOH).[66] The scheme seeks to provide "expeditious and easy access to compensation, for person who suffers from a COVID-19 Vaccine Injury caused by the administration of an approved COVID-19 vaccine", without having to establish fault.[67] It authorises the Minister of Health, in consultation with the Minister of Finance, to issue directions in respect of the requirements relating to the administration of the scheme, the reporting of injuries, the claims system, eligibility requirements, matters surrounding the Adjudication panel, etc.[68] The Minister of Health published directions on 4 April 2022.[69]

With regard to eligibility to claim from the fund, regulation 93 allows as a claimant, a person who has suffered a vaccine injury that has been caused by the administration of a SAPHRA registered COVID-19 vaccine procured and distributed by the Government. Only serious injuries specified in the directions are covered.[70] The claim will be contingent upon a determination by a panel that the injury was causally related to a COVID-19 vaccine.[71] The types of vaccines covered, and the quantum of claims will be determined through the issuance of directions by the Minister of Health.[72] A person who has submitted a claim for compensation under the Compensation for Occupational Injuries and Diseases Act, 130 of 1993, is not eligible for compensation under this scheme.[73]

The Department of Health will provide the human resources and technology to manage the scheme, approve and release payments to those who are entitled to compensation, and advise the Minister on any matters concerning the compensation of persons who suffer from a vaccine injury.[74] The Directives set out the adjudication panel's constitution, powers and functions in detail.[75]

The injuries that qualify for compensation are injuries resulting in permanent, or temporary, or mental impairment and death.[76] Only vaccines administered after 17 May 2021, and procured before 5 April 2022 will be subject

[65] Khaya Sithole "Can SA run a vaccine claims fund when the RAF is in such a mess?" 22 April 2021, available at https://www.news24.com/fin24/opinion/khaya-sithole-can-sa-run-a-vaccine-claims-fund-when-the-raf-is-in-such-a-mess-20210422
[66] Regulations 89-90, the Amendments to Regulations issued in terms of section 27(2) of the Disaster Management Act, 2002, available at http://www.health.gov.za/wp-content/uploads/2021/04/2021-04-15-Amendments-to-DMR-for-CoVID-19-Vaccine-Injury-Compenation-Scheme-for-public-comment.pdf (the Scheme Regulations). The scheme is contained in chapter 8 of the amended regulations under the Disaster Management Act Reg No 376 of 22 April 2022. Regulation 100 makes it clear that this chapter 8 and its directions will not cease to operate or cease to be of forced and effect merely because the national state of disaster comes to an end. The lawfulness of which is unsure since the state of disaster is terminated.
[67] Regulation 89(3).
[68] Regulation 89(4). Further guidance on the panel is in regulation 92.
[69] Directions for the establishment of a covid-19 vaccine injury no-fault compensation scheme: issued in terms of the Disaster Management Act, 2002, n 1987, GG 46196 4 April 2022.
[70] Regulation 93(1)(b).
[71] Regulation 97.
[72] Regulation 93(3).
[73] Regulation 93(4).
[74] Directive 3.2.
[75] Chapter 2 of the directive.
[76] Directive 8.

to the scheme.[77] A person who wishes to claim must report to a panel within 30 days after the onset of symptoms, and if it is determined to be a causally linked injury, the claim must be lodged within 30 days.[78] The amount of compensation is capped at R150 000 in the event of a death, with a pro ratio determination (with a maximum of R150 000) in the event of permanent disability. In the case of a temporary disability, an amount of R5 000 per month with a maximum of 6 months will be paid.[79]

The general government's Compensation Fund that deals with workplace injuries has certain requirements to accept the side-effects of Covid-19. Compensation is governed by its normal rules for compensation, and, when an employee has received a vaccine approved in South Africa. This can exclude workers who received their vaccinations outside South Africa.[80] It is important that a link exists between the vaccine and the injury.

The effectiveness of the vaccine injury fund can only be assessed once it has become operational and there is more data. However, Sithole's warning to learn from the failure of the Road Accident Fund should be eheeded. Determination of the compensation amount can be a protracted process, with litigation adding to the costs that the fund might have to bear. The fact that there is a cap on the amount of compensation payable means that the bulk of the problems of determining compensation will probably be avoided.

It is of further concern that the vaccine injury fund, conceivably a medium- to long-term initiative, does not fit within the necessarily limited duration of the DMA framework. Once there was no longer a state of disaster, the legal authority for the existence of regulation and directions was no longer there and could possibly be challenged, based on it being unlawful. It is thus suggested that these regulations be moved to under the National Health Act.

Mandatory vaccination

Vaccine mandates are a controversial issue in South Africa, as everywhere else. Vaccine hesitancy has emerged as a major barrier to a successful vaccination programme in South Africa. A survey conducted by the Human Sciences Research Council (HSRC) across nearly 8,000 people indicated that 28% of those surveyed in June and July 2021 were reluctant to take a COVID-19 vaccine.[81]

The Constitution protects the right to health, the right to life, the right to freedom of religion, the right to a healthy environment, and the right of freedom and security of person which includes the right of security and the right of control over one's own body, the right not to be subjected to medical or

[77] Directive 10.
[78] Directive 11.
[79] Schedule 6 to the directives.
[80] Anon "Compensation Fund says it will pay for Covid-19 vaccine injury at work – with conditions" News24, 22 October 2021, available at https://www.news24.com/news24/bi-archive/sa-compensation-fund-rules-for-covid-19-vaccine-payouts-as-workplace-injury-2021-10 ; A Abdool Karim and J van Dyk "How South Africa's COVID vaccine injury fund will work" Bhekhisisa, 20 April 2021 available at https://bhekisisa.org/health-news-south-africa/2021-04-20-how-sas-covid-vaccine-injury-fund-will-work/
[81] Runciman, C., Roberts, B., Alexander, K., Bohler-Muller, N., & Bekker, M. (2021). UJ-HSRC Covid-19 Democracy Survey. Willingness to take a Covid-19 vaccine: A research briefing. Retrieved November, 10, 2021. Available at http://www.hsrc.ac.za/uploads/pageContent/1045979/2021-08-18%20UJ-HSRC%20Report%202%20Explainng%20vaccine%20acceptance%20and%20hesitancy2.pdf

scientific experiments without one's consent. Any limitation on these rights is permissible only insofar as it complies with the limitation clause in section 36 of the Constitution, which essentially embodies a proportionality analysis. In other words, the bigger the risk to public health, the larger the limitation may be on individual rights.[82]

The question about mandating vaccines can be divisive. There are scholars who argue against mandatory vaccinations,[83] while others advocate for them.[84]

Arguments against (immediate) mandatory vaccinations rest on the premise that the Constitution, as the supreme law, holds the moral vision that people are autonomous moral agents, capable of rationality and forming their own opinions.[85] Accordingly, before a mandate is warranted in terms of the Constitution, less restrictive policy options (such as incentive schemes and strategies promoting vaccine uptake) must first be pursued.[86] Moreover, due to the lack of public trust in government, as well as government's failures in vaccine rollout,[87] vaccine mandates might be counterproductive.[88] Furthermore, in some instances, vaccine hesitancy is also driven by conspiracy theories that vaccines are a way for government to gain authoritarian control over people. This means that there might be a greater pushback against vaccines were these to become mandatory.[89]

Those arguing for (immediate) mandatory vaccinations point out that the Siracusa principles and section 36 of the Constitution require that restrictions on human rights be based on law. Together with the National Health Act, 61 of 2003 (and regulations relating to notifiable medical conditions), and the DMA, restrictions on individual rights through mandatory vaccinations are not arbitrary. Rather, the requirement is that it must be based on a legitimate objective and must be strictly necessary for the achievement of a policy objective. This objective is the prevention of the transmission of infection. The focus then shifts to the fact that the limitation must be based on scientific evidence, that it should not be arbitrary, discriminatory or unreasonable. The fact that the Covid-19 vaccine has been implemented globally, based on good safety data and protecting people from severe disease and death, bolsters the argument that such a restriction on individual rights will be reasonable. Since we do not have the "luxury of time during a public health emergency", this then justifies the immediate mandate.[90]

[82] Minister of Justice and Constitutional Development and Others v Prince (Clarke and Others Intervening); National Director of Public Prosecutions and Others v Rubin; National Director of Public Prosecutions and Others v Acton (CCT108/17) [2018] ZACC 30; 2018 (10) BCLR 1220 (CC); 2018 (6) SA 393 (CC); 2019 (1) SACR 14 (CC).
[83] Thaldar DW, Shozi B. Why a COVID-19 vaccine mandate is not the best policy option for South Africa. The Conversation, 18 August 2021, available at https://theconversation.com/why-a-covid-19-vaccine-mandate-is-not-the-best-policy-option-for-south-africa-166195; Tanya Calitz. "Constitutional Rights in South Africa Protect Against Mandatory COVID-19 Vaccination", Helaht and Human Rights Journal, 21 April 2021, available at. https://www.hhrjournal.org/2021/04/constitutional-rights-in-south-africa-protect-against-mandatory-covid-19-vaccination/
[84] K Moodely, "Why COVID-19 vaccines should be mandatory", The Conversation, 10 August 2021, available at https://theconversation.com/why-covid-19-vaccines-should-be-mandatory-in-south-africa-165682
[85] British American Tobacco South Africa (Pty) Ltd v Minister of Health (463/2011) [2012] ZASCA 107; [2012] 3 All SA 593 (SCA).
[86] Thaldar DW, Shozi B. Why a COVID-19 vaccine mandate is not the best policy option for South Africa. *The Conversation,* 18 August 2021, available at https://theconversation.com/why-a-covid-19-vaccine-mandate-is-not-the-best-policy-option-for-south-africa-166195
[87] B Farham "Vaccine hesitancy? No, government failure" Daily Maverick 16 August 2021, available at https://www.dailymaverick.co.za/article/2021-08-16-vaccine-hesitancy-no-government-failure/
[88] Thaldar DW, Shozi B. Why a COVID-19 vaccine mandate is not the best policy option for South Africa. *The Conversation,* 18 August 2021, available at https://theconversation.com/why-a-covid-19-vaccine-mandate-is-not-the-best-policy-option-for-south-africa-166195

Practically, it needs to be noted that there are some vaccines that are already mandatory in South Africa.[91] The Notifiable Medical Conditions Regulations[92] have been in place for various diseases for over a decade. In 2020 Covid-19 became a notifiable condition under these regulations. The regulations provide a mechanism for a health care provider to administer, among other things, a vaccine to a person who refuses to accept one. The process is complicated and requires the head of the provincial Department of Health to apply for a court order before any vaccine can be administered. A court must assess the application on a case-by-case basis, to determine whether it is justifiable to compel the person to take a vaccine without his/her consent.

The State of Disaster Regulations[93] further regulated matters such as compelling testing and isolation, which could conceivably be extended to cover instances of compelled vaccination.[94] However, because these regulations apply to individuals on a case-by-case basis, they are unlikely to be feasible options for making a COVID-19 vaccine compulsory for the entire South African population.

The South African Human Rights' Commission (SAHRC) argues that, given the crisis of the pandemic, it is likely that if a law is passed to mandate vaccines, this would pass constitutional muster.[95] The commission, however, prefers voluntary vaccination, hoping that the public will see the greater benefits for themselves.

Vaccine mandates should only be pursued as a last resort. Importantly, we recommend that mandates cannot be used as a policy alternative to: (a) good governance principles such as transparency and accountability, and (b) democratic principles such as public participation, open debate, and inclusion of a diversity of voices in decision-making. If a decision to impose a vaccine mandate flows from (a) and (b), it would pass constitutional muster; however, if a vaccine mandate is imposed to compensate for government's failure in either (a) or (b), it will not pass constitutional muster.

Sectoral decisions

Children

When vaccines were rolled out for children aged 12 and 17, there was concern raised that this age group could be vaccinated without parental consent. Accepting that, in principle, children may, in certain circumstances, make certain medically related decision for

[91] Anyone who wants to travel to a high-risk area or country is required to produce proof that they have been vaccinated for yellow fever before being allowed to re-enter South Africa. Similarly, the Department of Basic Education requires that parents submit a vaccination report, in the form of an immunization card, when making their child's Grade 1 application.
[92] National Health Act 61 of 2003: Regulations relating to the surveillance and the control of notifiable medical conditions, GG no 41330, 15 December 2017, available at https://www.nicd.ac.za/wp-content/uploads/2017/12/41330_15-12_Health-compressed.pdf
[93] Disaster Management Act 57 of 2002: Regulations made in terms of Section 27(2) of by the Minister of Cooperative Governance and Traditional Affairs, GG 43148 25 March 2020, available at https://www.gov.za/sites/default/files/gcis_document/202003/4314825-3cogta.pdf
[94] Botes, W., & Thaldar, D. (2020). COVID-19 and quarantine orders: A practical approach. South African Medical Journal, 110(6), 469-472. doi:10.7196/SAMJ.2020.v110i6.14794
[95] South African Human Rights Commission, Press statement "Media Statement on the Position of the SAHRC on the issue of mandatory COVID-19 Vaccination" 4 October 2021, available at https://www.sahrc.org.za/index.php/sahrc-media/news-2/item/2823-media-statement-on-the-position-of-the-sahrc-on-the-issue-of-mandatory-covid-19-vaccination.

themselves, one opinion warned that that is not so simple.[96] Section 7 of the National Health Act provides that health service requires the user's informed consent. Section 129 of the Children's Act, in turn, deals with "consent to medical treatment and surgical operation". A child, in this case, may consent to his/her own medical treatment if s/he is over 12 years old, and of sufficient maturity, and has the mental capacity to understand the benefits and the risks of the treatment. There is a further requirement that a child be assisted by his or her parent or guardian.[97] There can thus be an argument made out that at least the knowledge of the parents is required. *Baron and others v Claytile (Pty) Limited and Another*[98] stated that for consent to be legal, "it must have been given [...] freely and voluntarily with the full awareness of the rights being waived".

Workplace vaccination:

The Department of Employment and Labour has listed SARS CoV2 (Covid-19) as a group 3 hazardous biological agent (HBA) under the Hazardous Biological Agents' regulations published in terms of the Occupational Health and Safety Act,[99] which require employers to control exposure to HBAs in the workplace. This means that Covid-19 is recognised as a hazard that "may cause severe human disease, which presents a serious hazard to exposed persons, and which may present a risk of spreading to the community, but for which effective prophylaxis and treatment is available".[100] In terms of regulation 10(4)(g), a registered vaccine can be made available to control exposure to HBAs in the workplace where reasonably practicable.

The department also published a code of practice[101] "to guide employers and employees in managing exposure to SARS-CoV-2 in the workplace by providing guidance to employers and employees"with regards to conducting risk assessment regarding exposure, limiting infection, transmission, absence from work due to infection, isolation and adverse effects vaccination and trying to accommodate employees who refuse or fail to vaccinate against Covid-19.[102] This code came into effect when the state of disaster ended. Correctly, it removes the code from the regulations made in terms of the DMA, and places them under the Labour Relations Act instead.

The code limits the ground for employees to refuse to get vaccinated (only medical reasons are regarded as justifiable).[103] This is in line with the CCMA cases that upheld the decision of employers to suspend or dismiss employees who refused to get vaccinated or take weekly tests. The most noteworthy cases heard by the CCMA were *Theresa Mulderij v Goldrush Group*[104] in which the CCMA found the dismissal of the employee to be

[96] M Seal "Legal obstacle course: Vaccinating children aged 12 to 17 with or without parental consent", Daily Maverick, 26 October 2021, available at https://www.dailymaverick.co.za/opinionista/2021-10-26-legal-obstacle-course-vaccinating-children-aged-12-to-17-with-or-without-parental-consent/
[97] M Seal "Legal obstacle course: Vaccinating children aged 12 to 17 with or without parental consent", Daily Maverick, 26 October 2021, available at https://www.dailymaverick.co.za/opinionista/2021-10-26-legal-obstacle-course-vaccinating-children-aged-12-to-17-with-or-without-parental-consent/
[98] (CCT241/16) [2017] ZACC 24; 2017 (10) BCLR 1225 (CC); 2017 (5) SA 329 (CC) (13 July 2017).
[99] 85 of 1993.
[100] Hazardous Biological Agents Regulations, 2022.
[101] Code of Practice: Managing exposure to SARS-COV-2 in the workplace, 2022, No R 1896, 16 March 2022.
[102] Paragraph 2(1).
[104] GAJB 24054-21.

substantively fair due to the fact that the employee was permanently incapacitated on the basis of her decision not to vaccinate; and *Gideon J Kok v Ndaka Security and Services,*[105] where the CCMA held that the suspension of the employee after he refused to be vaccinated, was fair.

More recently, in *Kgomotso Tshatshu v Baroque Medical (Pty) Ltd,*[106] the CCMA had to determine whether the dismissal of the employee, based on the employer's operational requirements, was fair. In this case, the employer implemented a mandatory vaccination policy which required all its employees to be vaccinated, and alleged that the vaccination of its employees was an operational requirement and argued that the mandatory vaccination policy was required to ensure a safe working environment. Ms Tshatshu refused to vaccinate due to medical reasons. The employer requested a medical certificate confirming this adverse reaction, and Ms Tshatshu provided two medical notes in this regard. These medical notes were rejected by the employer which then proceeded to retrench Ms Tshatshu. She did not receive severance pay.

On the *reasonableness* of the policy, the Commissioner found that the employer did not lead any evidence on the effectiveness of a mandatory vaccination policy. In addition, the Consolidated Direction of 11 June 2021, issued in terms of Regulation 4(10) of the Regulations under section 27(2) of the DMA, which was in force at the time of this dispute, did not provide for or permit a "blanket Mandatory Vaccine Policy".

The Commissioner concluded that, when one considers the Constitution, the limitation of rights, the unreasonableness of the rule, and Government's response to COVID-19 and the regulations it has issued, an employer has no right to formulate any Covid-19 Vaccination Mandate. The Commissioner was of the view that the prerogative for a mandatory vaccination policy rested with the Government. The Commissioner therefore found the dismissal to be substantively unfair, and in fact, unconstitutional. In doing so, the Commissioner did not consider that the Code of Practice: Managing Exposure to SARS-COV-2 in the Workplace, 2022 (dated 15 February 2022) actually permitted employers to implement mandatory vaccination programmes and obliges workers to comply with the employer's plan. These provisions remained the same in the Code of 24 June 2022. Furthermore, the CCMA does not have the power to declare policies unconstitutional.

Human rights

The right to health and its relationship with other human rights

The right to health is guaranteed in many human rights' instruments. In the first instance, the Constitution of the WHO and the Universal Declaration recognise a right to health underpinned by a number of components, including access to medical care, housing, social security and food.[107] The

[105] FSWK2448-21.
[106] GABJ 20811-2.
[107] Article 25 of the Universal Declaration of Human Rights states: "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing, and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control".

WHO defines health as a state of complete physical, mental and social wellbeing, which means it is not restricted to the absence of disease or infirmity. In other words, social isolation that comes at a mental health cost will need to be included in our consideration of "health".[108]

The International Covenant of Economic, Social and Cultural Rights (ICESCR)[109] provides for the "enjoyment of the highest attainable standard of physical and mental health conducive to living a life of dignity", which includes the prevention, treatment and control of epidemics, and endemic occupational and other diseases. The right to health is linked to the rights of privacy, liberty, dignity, non-discrimination and life. There is a specific duty to take effective measures to address epidemic and infectious diseases. This requires health care facilities, goods and services to be available in sufficient quantity, physically and economically accessible to everyone, ethically and culturally acceptable, and of a medically appropriate quality.[110]

Within the South African constitution, there is a right of access to health care services contained in section 27(1)(a), alongside a number of other critical social and economic rights, notably including access to housing and social security, which underpin a right to the highest attainable standard of health. Sections 26(2) and 27(2) of the Constitution place a duty on the State to "take reasonable legislative and other measures, within its available resources to achieve the progressive realisation" of these rights. Section 27(3) makes it clear that no one can be denied emergency medical treatment. Elsewhere in the Constitution, section 24(a) guarantees a right to an environment that is not harmful to health or well-being, whereas section 12(2) awards individuals a right of bodily and psychological integrity, which includes freedom from medical experimentation without informed consent.[111]

Perhaps contrary to what might have been expected, the right of access to health care services did not feature prominently in contestation, litigation, and activism during the COVID-19 pandemic in South Africa, other than in relation to the rights-based dimensions of contestations over global vaccine access. While the health system did struggle to accommodate the many patients who needed hospital care, and while many lockdown measures (notably, restrictions on alcohol sales) were justified precisely by the need to "free up" capacity in hospitals, there was no systemic denial of access to treatment that sparked rights-based opposition.

Instead, the right to health featured more prominently, firstly, in its interaction with those socio-economic rights, such as rights of access to housing and social security discussed below, that are simultaneously determinants of health and are impacted by the implementation of public health measures. Secondly, it was loosely used by the State to justify (sometimes extensive) limitations on a range of civil liberties by various disaster management regulations.

[109] Art 12. See also African Charter on the Rights and Welfare of the child, article 16/22.
[110] General Comment No.14 (2000) The Right to the Highest Attainable Standard of Health, (Article 12 of the International Covenant of Economic, Social and Cultural Rights). UN Committee on Economic, Social and Cultural Rights, 2000. para 12.
[111] On this 'package of rights' and their interrelation with the right to health as articulated by the WHO and international law see Pieterse, Marius. Can rights cure? The impact of human rights litigation on South Africa's health system. PULP, 2014 10-24.

In this latter respect, there is often a tension between the right-to-health in terms of advancing goals of public health measures and individual human rights (such as, typically, freedom of movement and the right to bodily integrity) that are typically limited while implementing such measures.[112] There is, accordingly, a specific need to balance individual human rights and the purpose served by public health restrictions.

International instruments provide guidance on when and how rights may be limited in the interests of public health. Specifically, the Siracusa Principles on the Limitation and Derogation Provision in the International Covenant on Civil and Political Rights determine that rights may be derogated or limited only "in accordance with the law; based on a legitimate objective; [when it is] strictly necessary in a democratic society; [when it is] the least restrictive and intrusive means available; and [in a manner that is] not arbitrary, unreasonable, or discriminatory".[113]

In South Africa, this balance is to be struck under the general limitation clause in section 36 of the Constitution which determines that limitations on rights must be "reasonable and justifiable in an open and democratic society based on human dignity, equality and freedom". This is to be judged through a proportionality exercise, weighing the nature and extent of the rights infringement against the importance and effectiveness of the limitation, and ultimately inquiring into the existence of less restrictive measures to achieve the limitation's purpose.[114]

By severely restricting freedom of movement and freedom of association, restricting gatherings, allowing for forced quarantine and isolation and making provision for surveillance, the South African disaster management regulations proclaiming to combat COVID-19 clearly limited many rights embodied in the Bill of Rights. Many of the regulations were challenged in the courts for their constitutionality, with most of them dismissed.[115] A full discussion of case law follows below.

It appears from the judgments in these matters[116] that courts tended not to conduct the full-blown proportionality inquiry mandated by section 36 of the Constitution, instead referring in nearly every instance simply to the legality of the measures and the momentous importance of the public health purpose that they serve in finding that the measures were reasonable and justifiable.[117] This accords with previous

[112] Karim SA and Kruger P, 'Which Rights? Whose Rights? Public Health and Human Rights through the Lens of South Africa's COVID-19 Jurisprudence' 2021 (11) Constitutional Court Review 536, BM Meier, DP Evans & A Phelan 'Rights-Based Approaches to Preventing, Detecting, and Responding to Infectious Disease' (2020) 82 Infectious Diseases in the New Millennium 217, 253; Pieterse, Marius. Can rights cure? The impact of human rights litigation on South Africa's health system. PULP, 2014. 151-174.
[113] Siracusa Principles on the Limitation and Derogation Provision in the International Covenant on Civil and Political Rights (1985) para 25. See also principles 51-54.
[114] Section 36(1)(a)-(e) of the Constitution. For discussion in the context of public health, see Pieterse, Marius. Can rights cure? The impact of human rights litigation on South Africa's health system. PULP, 2014 164-167.
[115] The exception was De Beer and Others v Minister of Cooperative Governance and Traditional Affairs (21542/2020) [2020] ZAGPPHC 184; 2020 (11) BCLR 1349 (GP) in which the High Court declared a number of disaster management regulations to be irrational and unconstitutional. But the De Beer judgment was fully overturned on appeal.
[116] See for example Ex parte: van Heerden [2020] ZAMPMBHC 5 (27 March 2020); CD and Another v Department of Social Development [2020] ZAWCHC 25 (14 April 2020); Esau v Minister of Cooperative Government and Traditional Affairs [2020] ZAWCHC 56 (26 June 2020).
[117] For critical discussion of this (perhaps extraordinary) deference, see Brown, J "Lawfare under lockdown: Challenges to South Africa's Covid Regulations, March to August 2020" (2021) 37(2) South African Journal on Human Rights 302-312.

research finding that current articulations of the proportionality principle do not hold up in times of widespread societal panic, and that, in order to enhance their resilience, legal balancing exercises of individual rights against public health objectives need to be more explicitly weighted in favour of upholding rights.[118]

As underscored by the HSCR survey in partnership with the University of Johannesburg, in the beginning of the pandemic, amidst great uncertainty, people were more willing to allow limitations of their human rights in the interest of the public health and the greater good.[119] But with hindsight, we can ask whether the drastic measures did in fact contain COVID-19, and there are opinions that they did not, as reflected by figures indicating a far greater number of excess deaths.[120] While many limitations on rights were indeed obviously necessary, many others were both ineffective and disproportionate. Some human rights' activists have been critical of the fact that government advisors generally excluded civil society and human rights' activists from their deliberations.[121]

The pandemic also illustrated that the right to health (as it underlies public health measures) is not entirely inimical to individual rights. There is an increased understanding that disease control measures improving public health and individual human rights can also complement each other, especially where there is improved access to health care, infrastructure improvement, improvement in disease surveillance and reporting; and improvement of methods to control the spread of disease.[122] Improved public health can contribute to the progressive realisation of the right to health, life, bodily integrity and the ability to lead a more dignified life.[123]

The right of access to housing and the response to COVID-19 in human settlements

Informal settlements and impoverished areas proved far less resilient against the health and economic impacts of Covid-19 than more upmarket suburbs.[124] The pandemic appeared to implicate human settlements in three interrelated ways. First, sub-optimal living conditions in informal settlements, overcrowded inner-city buildings and backyards aggravated vulnerability to infection and serious illness. Secondly, adherence to "stay at home" lockdown measures, as well as their efficacy and social impact, were contingent on the nature of home environments.[125]

[118] See Meyerson, D "Why courts should not balance rights against the public interest" (2007) 31 Melbourne University Law Review 873.
[119] Bohler-Muller, N., Roberts, B., Gordon, S. L., & Davids, Y. D. (2021). The 'sacrifice'of human rights during an unprecedented pandemic: Reflections on survey-based evidence. South African Journal on Human Rights, 37(2), 154-180.
[120] See Bradshaw, Debbie, Dorrington, Rob, Laubscher, Ria, Groenewald, Pamela, & Moultrie, Tom. (2022). COVID-19 and all-cause mortality in South Africa – the hidden deaths in the first four waves. South African Journal of Science, 118(5-6), 1-7. https://dx.doi.org/10.17159/sajs.2022/13300.
[121] C Reichel "One year later: COVID-19. Human Rights, and the Rule of Law in South Africa", Bill of Health Harvard law, available at https://blog.petrieflom.law.harvard.edu/2021/04/13/human-rights-rule-of-law-south-africa-covid/ ; see also the Equal Education and Others v Minister of Basic Education and Others (22588/2020) [2020] ZAGPPHC 306; [2020] 4 All SA 102 (GP); 2021 (1) SA 198 (GP) case.
[122] Karim SA and Kruger P, 'Which Rights? Whose Rights? Public Health and Human Rights through the Lens of South Africa's COVID-19 Jurisprudence' 2021 (11) Constitutional Court Review 537.
[123] Karim SA and Kruger P, 'Which Rights? Whose Rights? Public Health and Human Rights through the Lens of South Africa's COVID-19 Jurisprudence' 2021 (11) Constitutional Court Review
[124] See Turok I and Visagie J, 'COVID-19 amplifies urban inequalities' 2021 (117) South African Journal of Science
[125] See Makoni M, 'Keeping COVID-19 at bay in Africa' 2020 (8) The Lancet Respiratory Medicine 553.

Thirdly, the economic consequences of lockdown threatened the security of housing arrangements and rendered people vulnerable to eviction.

With similar pressures being felt elsewhere, institutions such as UN Habitat and the UN Special Rapporteur on the Right to Adequate Housing warned against pandemic responses that exacerbated housing-related vulnerability.[126] In particular, states were urged to protect vulnerable populations against eviction, to observe proportionality in living environment interventions and to observe human rights, including the right to housing, throughout.

On 16 April 2020, the initial South African Disaster Management Regulations were amended to include an absolute prohibition on evictions during the (then level 5) lockdown. This prohibition was incrementally amended as lockdown measures were relaxed over the coming months. Under alert levels 1, 2 and 3, eviction orders could be granted in compliance with the Prevention of Illegal Eviction from and Unlawful Occupation of Land Act, 19 of 1998 (PIE Act), but could not be executed until the end of the state of national disaster, unless considerations of justice and equity directed otherwise.[127]

From the outset, the South African government was particularly concerned about the impact of the virus in informal settlements, where many inhabitants suffered from underlying conditions, and where overcrowding and underservicing would complicate attempts at enforcing social distancing and hand hygiene. The Minister of Human Settlements, Water, and Sanitation outlined the Department of Human Settlements, Water and Sanitation's (NDHSWS's) planned response to the pandemic on 24 March 2020. There were two main components to this: First, water, sanitation, and hand-washing facilities would be rapidly upscaled in communities lacking formal supply. Secondly, twenty-nine informal settlements across the country had been identified as requiring specific intervention and would be considered for "de-densification". This would involve relocation of certain residents to temporary relocation areas (TRAs) on land "not far from" the settlements.[128]

Civil Society Organisations (CSOs) objected strongly to the "de-densification" plans. Fourteen CSOs jointly released an "urgent call to rethink de-densification as the dominant proposed strategy in the context of Covid-19" on 11 April 2020, warning that de-densification could "equate eviction and forced removal" in circumstances where informed consent to relocation was not obtained, would disrupt people's social support networks, and threaten their livelihoods, and would involve cumbersome and time-consuming processes that were ill suited to combating a medical emergency.[129]

[126] See Leilani Farha (UN Special Rapporteur Rapporteur on the Right to Adequate Housing) COVID-19 Practice Note: Protection for those Living in Homelessness (2 April 2020) available through http://unhousingrapp.org/user/pages/07.press-room; UN Habitat Policy Statement on the Prevention of Evictions and Relocations during the COVID-19 Crisis (14 May 2020) available at https://unhabitat.org/sites/default/files/2020/05/un-habitat_policy_statement_on_prevention_of_evictions_and_relocations.pdf

[127] For exposition of the different legal iterations of the prohibition on eviction see Felix Dube & Anel Du Plessis "Unlawful Occupiers, Eviction and the National State of Disaster: Considering South Africa's Emergency Legislation and Jurisprudence during COVID-19" (2021) 65(S2) Journal of African Law 333 at 335-337.

[129] South African Government Media Statement "Remarks by Minister of Human Settlements, Water and Sanitation, Hon. LN Sisulu, at the occasion of media briefing to outline interventions to curb the spread of COVID-19" (25 March 2020) available at https://www.gov.za/speeches/minister-lindiwe-sisulu-interventions-curb-spread-coronavirus-covid-19-25-mar-2020-0000.

NDHSWS realised the need for an "all of government" and "all of society" approach to the pandemic and established virtual platforms for dialogue between officials from different spheres of government, CSOs, academia and community leaders. It created and coordinated a WhatsApp group and Google group discussion forum, and hosted weekly "informal sector coordination group" meetings via Zoom. These were focused on the response to the pandemic in informal settlements, but also canvassed water and sanitation interventions, and food parcel distribution during the initial lockdown.[130]

These forums contributed significantly to the refinement of NDHSWS's Covid-19 response and to bridging the divide with CSOs. A "partnership framework agreement" between NDHSWS and CSOs was negotiated and published on 8 June 2020.[131] It committed to limited relocations to TRAs only, as a short-term emergency response, in accordance with a process of meaningful engagement aimed at securing full informed consent from affected households. While the NDHSWS initially attempted to draft disaster management directives guiding this process, these were jettisoned in favour of procedures in terms of the Emergency Housing Programme (EHP) provided for by the National Housing Code (2009).

Apart from emergency relocations, the "partnership framework agreement" envisaged that conditions in informal settlements would be tackled through upscaled implementation of the Upgrading of Informal Settlement Programme (UISP), also contained in the 2009 Code.[132] The choice of the UISP as a preferred policy vehicle for addressing the vulnerabilities highlighted by the pandemic in informal settlements, instead of regulations under the DMA, is welcomed. The DMA envisages the creation of an inherently temporary regulatory framework, designed to last only for the duration of a state of disaster. Indeed, the Constitutional Court had previously held that relocations in terms of the DMA could only be temporary unless they also complied with the PIE Act.[133] This makes the DMA an inappropriate legal vehicle for sustainably addressing overcrowding in informal settlements. In addition to outlasting the state of disaster, responses under the UISP had the further benefit of alignment with municipalities' Integrated Development Plans and Spatial Development Frameworks.

However, the urgency of interventions during the pandemic highlighted several hurdles to upscaled implementation of the UISP. In situ upgrading of informal settlements is time consuming, due not least to poor alignment of the UISP's objectives with prevailing processes pertaining to land acquisition, environmental authorisations and water user licencing. The UISP lacks provisions authorising interim upgrading and service provision parallel to the pursuit of these processes, while local government zoning bylaws typically do not allow for incremental upgrades. It has furthermore long been pointed out that prevailing standards in terms of the National Building Regulations

[130] See Marius Pieterse "Balancing Socio-economic rights: Confronting COVID-19 in South Africa's Informal Urban Settlements" (2021) 39(1) Nordic Journal of Human Rights 33 at 37-38.
[131] *Partnership Framework Agreement between Civil Society Organisations (CSOs) and the National Department of Human Settlements (NDHS) around Interventions in Informal Settlements in the Context of COVID-19* (8 June 2020).
[132] Ibid.
[133] *Pheko v Ekurhuleni Municipality* 2012 (4) BCLR 388 (CC).

and Building Standards Act, 103 of 1977, are premised on formal construction, and do not cater for building in informal settlement environments. These instances of poor articulation of different regulatory and legal frameworks restrained the agility of the response under the UISP.[134]

Upholding the moratorium against evictions also proved challenging, especially in the context of increased illegal land occupations during the lockdown, where authorities had to balance obligations under the moratorium with similarly pressing obligations to uphold law and order.[135] On several occasions, municipalities responded to occupations with evictions and demolitions, notwithstanding the moratorium. Where challenged, as for instance in several high-profile cases brought against the City of Cape Town, courts have criticised municipalities' wilful ignorance of the moratorium, interdicted their eviction practices and declared their actions unlawful and unconstitutional.[136]

There were further reports of continued extra-legal evictions by "private" landlords, especially in the informal backyard rental sector. These highlight the lack of state control over informal markets and the insidiousness of human rights' violations in this context. Perhaps relatedly, anecdotal reports of increased homelessness emerged from many major urban centres.

While most municipalities increased homeless shelters and associated support, these sometimes came under fire. In Cape Town, a panel of independent experts appointed by the SAHRC released a report decrying human rights' violations inherent to conditions at an emergency "homeless camp" at Strandfontein, in April 2020.[137] The facility was closed shortly afterwards. The City was further criticised for barring the SAHRC's observers from the camp, not least by the Cape High Court, which declared this unlawful in March of 2021.[138]

Yet, while there were initial fears that its response might aggravate housing needs and contribute to evictions, displacement and homelessness, the NDHSWS can be commended for remaining open to devising more nuanced solutions in conforming to international guidelines, and in dialogue with civil society and other stakeholders. In particular, the establishment and coordination of dialogic forums to coordinate the response was a major strength of

[134] See further Marius Pieterse "Balancing Socio-economic rights: Confronting COVID-19 in South Africa's Informal Urban Settlements" (2021) 39(1) Nordic Journal of Human Rights 33at 36.
[135] See Felix Dube & Anel Du Plessis "Unlawful Occupiers, Eviction and the National State of Disaster: Considering South Africa's Emergency Legislation and Jurisprudence during COVID-19" (2021) 65(S2) Journal of African Law 333 334-335.
[136] See for instance Community of Hangberg v City of Cape Town [2020] ZAWCHC 66; SAHRCH v City of Cape Town 2021 (2) SA 565 (WCC); City of Cape Town v South African Human Rights Commission (144/2021) [2021] ZASCA 182. For discussion see Felix Dube & Anel Du Plessis "Unlawful Occupiers, Eviction and the National State of Disaster: Considering South Africa's Emergency Legislation and Jurisprudence during COVID-19" (2021) 65(S2) Journal of African Law 333.
[137] OM Stern; G van Cutsem; D Laurenson; J King & T Jenkins Independent Report submitted to the South African Human Rights Commission concerning the City of Cape Town's COVID-19 Shelter for Street-based People - Strandfontein, Cape Town (11 April 2020).
[138] City of Cape Town v South African Human Rights Commission (144/2021) [2021] ZASCA 182. See J Stenty 'Court slams City of Cape Town for barring access to homeless camp' GroundUp (17 March 2021) available through www.groundup.org.za.

the response, and it is hoped that such a deliberative approach to human settlement governance can be institutionalised going forward.

Overall, Covid-19 highlighted systemic weaknesses in the legal and institutional architecture of human settlements' governance that had long predated the pandemic. In particular, the struggle to settle upon and implement an appropriate response to the pandemic in informal settlements underlines how housing problems and spatial inequality are systemic in nature, and are not easily, or consistently, solved through short-term emergency measures.

Obstacles encountered in attempts to upscale implementation of the UISP point to a need to streamline the many legal and policy instruments that impact on human settlements, in a manner which prioritises giving effect to the constitutional right of access to adequate housing.

Inconsistent adherence to the moratorium on evictions, inconsistent capacity to upscale UISP implementation and inconsistent responses to land invasions at municipal level further arguably highlight a need for a more strongly defined and consistent role for municipalities in the human settlements' sector.

The right of access to social security amidst the economic impact of lockdown

Covid exacerbated the already existing socio-economic challenges in South Africa, which was already struggling nationally with severe inequality, poverty and unemployment.[139] In terms of section 27(1)(c) of the Constitution, "everyone has the right to have access to social security, including, if they are unable to support themselves and their dependants, appropriate social assistance". Much as they served a compelling public health purpose, the "lockdown" regulations passed in terms of the DMA to combat the spread of COVID-19 quite literally removed many people's ability to support themselves or their dependants.

According to Statistics South Africa, the poorest 60% of South African households rely on social grants to attain overall household income. The impact of the Covid measures on the labour market was disproportionately felt by individuals in lower-income households.[141] Surveys suggest that between 2 million and 3 million people lost their jobs between February and April 2020.[142] A further 3 million people who work in the informal sector were also deprived of the opportunity to earn an income. Under existing social security law, they do not qualify for social assistance unless they qualify for old-age, child support or disability grants.[143]

[139] Staunton C, Swanepoel C and Labuschagine M, 'Between a rock and a hard place: COVID-19 and South Africa's response' 2020 Journal of Law and the Biosciences .
[140] Ntlama N and Chitsamatanga BB, 'The Human Rights Response to the Global Impact of the COVID-19 Virus on Socio-economic Rights in South Africa' 2020 90. StatsSA 2019.
[141] Bhorat H, Oosthuizen M and Stanwix B, 'Social Assistance Amidst the COVID-19 Epidemic in South Africa: A Policy Assessment' 2021 (89) South African Journal of Economics i.
[142] Turok I and Visagie J, 'COVID-19 amplifies urban inequalities' 2021 (117) South African Journal of Science 1.
[143] Ntlama N and Chitsamatanga BB, 'The Human Rights Response to the Global Impact of the COVID-19 Virus on Socio-economic Rights in South Africa' 2020 90.

When Covid struck, the South African government could not provide exceptional support programmes for businesses and households to mitigate the devastating economic effects of the lockdown. A Social Relief of Distress Grant of R350 per month, targeted at unemployed persons and others who neither received any independent income nor a social grant or unemployment benefits was introduced, initially for a period of six months from May to October 2020, and later extended to 31 March 2024. Together with this grant, state-provided social security reached some 7 million beneficiaries during the lockdown and did help to protect livelihoods in poor communities and compensate for high unemployment rates, however there is a fear that once the labour markets recover, this support will be withdrawn.[144]

In their analysis[145] the Budget Justice Coalition, an alliance of leading civil society organisations, draws particular attention to below-inflation increases for crucial social grants like the Child Support Grant. Although the R350 Social Relief of Distress Grant has been extended for a year, its amount arguably remains inadequate. The failure to commit to further extensions of this grant into 2023/24 and 2024/25 means that the basic income of the most vulnerable remains uncertain, and results in an overall reduction of social protection spending averaging 3.0% a year over the Medium-Term Expenditure Framework. The coalition calls for a human rights' impact assessment to be conducted of this and other "individual budget decisions where human rights are impacted"'.[146] The human rights of vulnerable groups: People with disabilities Around 12%, but perhaps as much as 20% of South Africa's population falls across a spectrum of disability[147] – from immobility or partial immobility, to restricted communication, sensory deprivation and psychosocial and neurological complications.[148] We did not need a pandemic to realise that the needs and rights of persons with disabilities are not taken seriously enough, despite strong international[149] and national[150] laws. The disadvantages faced by this diverse group in all spheres of life were exacerbated during the various stages of lockdown.[151]

[144] Turok I and Visagie J, 'COVID-19 amplifies urban inequalities' 2021 (117) South Af rican Journal of Science 4.
[145] Section 27 statement "Godongwana's 'tough love' budget: protecting the rich, while abandoning the people and human rights commitments", 25 February 2022, available at https://section27.org.za/wp-content/uploads/2022/02/BJC-Post-Budget-2022-Statement.pdf
[146] Mark Heywood 'Budget 2022: Cuts to essential public services are expensive and unaffordable' Daily Maverick 1 March 2022. Available at: https://www.dailymaverick.co.za/article/2022-03-01-budget-2022-cuts-to-essential-publicservices-are-expensive-and-unaffordable/ [Accessed 1 March 2022].
[147] National Department of Health. (2019). South Af rican Demographic and Health Survey 2016: Report. Pretoria: National Department of Health. URL: https://dhsprogram.com/pubs/pdf/FR337/FR337.pdf.
[148] Tim Hart, Narnia Bohler-Muller, Therina Wentzel "Vulnerable but overlooked: The Covid-19 vaccine plight of people with disabilities in South Af rica", Daily Maverick, 5 July 2021, available at https://www.dailymaverick.co.za/article/2021-07-05-vulnerable-but-overlooked-the-covid-19-vaccine-plight-of-people-with-disabilities-in-southafrica/
[149] South Af rica has been a signatory to the 2006 Convention on the Rights of Persons with Disabilities (UNCRPD) since 2007.
[150] The Constitution of the republic of South Af rica, 1996 and the Promotion of Equality and Prevention of Unfair Discrimination Act 4 of 2000. It should be noted that despite activism by various disability rights groups South Africa does not have separate legislation dealing with disability. See also the White Paper on the Rights of Persons with Disabilities (DSD 2016).
[151] Hart T, Wickenden M, Thompson S, Davids YD, Pienaar G, Ngungu M, Majikijela Y, Rubaba T, Molongoana N and Bohler-Muller N, 'Socio-Economic Wellbeing and Human Rights-Related Experiences of People with Disabilities in Covid-19 Times in South Af rica' 2022 . https://repository.hsrc.ac.za/handle/20.500.11910/19395

This despite the fact that the United Nations reported at the beginning of the pandemic, that, worldwide, persons with disabilities 'are disproportionately impacted by the COVID-19 outbreak', and urged that government or non-government responses must not undermine the fundamental human rights of persons with disabilities.[152] The South African Government's response to the dire situation faced by many persons with disabilities, and especially the poor, and women, did not adequately provide for the rights and needs of this large, but significantly marginalised, group.

Reports from the initial four months of the pandemic (which is outside the scope of this second report), indicated that people with disabilities were generally being overlooked by disaster relief measures.[153] Their needs were also not addressed in pandemic directives that focused more on controlling the spread of the virus rather than focusing on its impact on specific groups.[154] People with disabilities are also not specifically catered for in the National Disaster Management Framework. Studies have further found that during the pandemic, disabled people were at higher risk of food insecurity.[155] Mask-wearing is also challenging for people living with arthritis, Parkinson's disease, dementia or Alzheimer's, people living on the autism spectrum and

[152] United Nations. 2020. COVID-19 Outbreak and Persons with Disabilities. URL: https://www.un.org/development/desa/disabilities/covid-19.html.
[153] Tim Hart, Narnia Bohler-Muller, Therina Wentzel "Vulnerable but overlooked: The Covid-19 vaccine plight of people with disabilities in South Africa", Daily Maverick, 5 July 2021, available at https://www.dailymaverick.co.za/article/2021-07-05-vulnerable-but-overlooked-the-covid-19-vaccine-plight-of-people-with-disabilities-in-south-africa/; Ned L, McKinney ELM, McKinney V and Swartz L, 'COVID-19 pandemic and disability: Essential considerations' 2020 (18) Social and Health Sciences reports that at the beginning of the pandemic disabled people could not access distribution points for food parcels.
[154] Hart T, Wickenden M, Thompson S, Davids YD, Pienaar G, Ngungu M, Majikijela Y, Rubaba T, Molongoana N and Bohler-Muller N, 'Socio-Economic Wellbeing and Human Rights-Related Experiences of People with Disabilities in Covid-19 Times in South Africa' 2022 7.
[155] Schwartz N, Buliung R and Wilson K, 'Disability and food access and insecurity: A scoping review of the literature' 2019 (57) Health & place .

people with speech issues.[156] Disabled children who could not access special facilities and schools regressed.[157] People with hearing impediments could no longer read the lips of those obliged to wear masks.

With the vaccine roll-out, many people with disability who have, for instance, weakened immune systems, were not prioritised for vaccination. The fear of contracting the virus from their caregivers who were also not prioritised for vaccination increased mental distress.[158] Some caregivers relied on public transport to get to work and these struggled to get to work at the beginning of the pandemic. Later, the changing of caregivers, to relieve those on-duty, was a risk every time. Not all caregivers could get access to permits in the beginning.[159]

People were also cut off from physiotherapy and rehabilitation services, as well as being isolated from friends due to the fear of the risk of contracting the virus.[160] Some people were cut off from their caregivers who were not necessarily regarded as health care workers.[161]

The DMA makes no mention of persons with disabilities or disability-inclusive approaches to managing disasters. Furthermore, the inclusion of persons with disabilities as a specific vulnerable group under section 3.5 of the Implementation Matrix 2015-2030 of the White Paper on the Rights of Persons with Disabilities[162] has not, as yet, occurred.

A survey conducted presents some of the economic and social well-being experiences and perceptions of people with disabilities during the pandemic. An online survey undertaken during July and August 2021 was participated in voluntarily by 1857 respondents. The majority of the participants were black South Africans (83%). Types of functional difficulties included vision, hearing, mobility, communication, self-care, concentration, and memory challenges.

[156] Tim Hart, Narnia Bohler-Muller, Therina Wentzel "Vulnerable but overlooked: The Covid-19 vaccine plight of people with disabilities in South Africa", Daily Maverick, 5 July 2021, available at https://www.dailymaverick.co.za/article/2021-07-05-vulnerable-but-overlooked-the-covid-19-vaccine-plight-of-people-with-disabilities-in-south-africa/.
[157] Tim Hart, Narnia Bohler-Muller, Therina Wentzel "Vulnerable but overlooked: The Covid-19 vaccine plight of people with disabilities in South Africa", Daily Maverick, 5 July 2021, available at https://www.dailymaverick.co.za/article/2021-07-05-vulnerable-but-overlooked-the-covid-19-vaccine-plight-of-people-with-disabilities-in-south-africa/.
[158] Tim Hart, Narnia Bohler-Muller, Therina Wentzel "Vulnerable but overlooked: The Covid-19 vaccine plight of people with disabilities in South Africa", Daily Maverick, 5 July 2021, available at https://www.dailymaverick.co.za/article/2021-07-05-vulnerable-but-overlooked-the-covid-19-vaccine-plight-of-people-with-disabilities-in-south-africa/.
[159] Ned L, McKinney ELM, McKinney V and Swartz L, 'COVID-19 pandemic and disability: Essential considerations' 2020 (18) Social and Health Sciences 5.
[160] Tim Hart, Narnia Bohler-Muller, Therina Wentzel "Vulnerable but overlooked: The Covid-19 vaccine plight of people with disabilities in South Africa", Daily Maverick, 5 July 2021, available at https://www.dailymaverick.co.za/article/2021-07-05-vulnerable-but-overlooked-the-covid-19-vaccine-plight-of-people-with-disabilities-in-south-africa/.
[161] An Wentzel "People living with disabilities struggle to overcome severe disruptions of life and health caused by the pandemic" Daily Maverick, 20 June 2021 available at https://www.dailymaverick.co.za/article/2021-06-20-people-living-with-disabilities-struggle-to-overcome-severe-disruptions-to-life-and-health-caused-by-the-pandemic/
[162] White Paper on the Rights of Persons with Disabilities, 2016. Government Gazette No. 39792; Government Notice No. 230, 9 March 2016. URL: https://www.gov.za/sites/default/files/gcis_document/201603/39792gon230.pdf

Respondents also reported upper-body immobility, lack of use of their hands, and experiences of anxiety or fear, stress, and depression. The study specifically aimed to reach individuals in order to hear their unique voices. Key findings included:

- inaccessible communications relating to Covid-19.
- financial and employment challenges.
- the experience of 'abnormal' events such as food insecurity.
- increased inadequate access to transport and other essential services, and
- the negative psychosocial impact of the pandemic.

The results of the study indicate that it is 'crucial for government to take an intersectional- and disability-inclusive approach in mitigating the impact of disasters' and that it 'should be aware of the impacts of their mitigation regulations on vulnerable members of society', including people with disabilities. Regulations focused mainly on hard science when controlling the spread of the virus, and scant attention was paid to whether these regulations would have unintended impacts on certain groups, in this case, persons with disabilities.

Based on the findings, it was recommended that disaster management and emergency planning laws and processes must urgently be worked on to become disability inclusive. In particular, communication in all media formats should be improved to encompass the diversity of disability types; disability-inclusive baseline data are required over and above data on those who are social grant recipients and attention must be paid to inclusive service provision across sectors.

Surveillance and the right to privacy

The use of contact tracing apps to monitor and manage Covid-19 infections raised important questions about the balance between public health interests and the protection of the privacy of individual citizens. More specifically, the legal nature and consequences of this type of surveillance which may continue post-pandemic are cause for concern.

Like many other countries, South Africa repurposed existing technologies, such as the Global Positioning System (GPS), wi-fi, and Bluetooth to track and trace people who were either infected by COVID-19, or may have been exposed to an infected person, and to notify people of their possible exposure so as to allow them to seek the necessary medical attention.[163] The South African government introduced the COVID Alert SA app to allow people some free movement and economic activity, with the ability – and responsibility - to manage their own risk of being exposed to possible infection or spread of infection. This app, based on smartphone-technology-enabled and readily available functions developed by Apple or the Google Exposure Notification System, allows mobile phones that are in close proximity to each other for a certain period of time to exchange a randomly generated code which can be activated when the holder of a phone tests positive for Covid-19, to anonymously alert others through the simple click of a button.[164] Generally, the use of these so-called

[163] Botes WM. Unpacking the legal and ethical aspects of South Africa's COVID-19 track and trace app. The Conversation, Africa. 10 November 2020. https://theconversation.com/unpacking-the-legal-and-ethical-aspects-of-south-africas-covid-19-track-and-trace-app-147137 (accessed 25 August 2022).
[164] Botes WM. Unpacking the legal and ethical aspects of South Africa's COVID-19 track and trace app. The Conversation, Africa. 10 November 2020. https://theconversation.com/unpacking-the-legal-and-ethical-aspects-of-south-africas-covid-19-track-and-trace-app-147137 (accessed 25 August 2022).

"exposure notification systems", whose function relies on proximity awareness as opposed to the collection, storage and use of a person's location data, has been supported by privacy law scholars around the world.[165]

However, the use of these technologies, especially in the South African context, has been criticised. To practically enable close proximity location between mobile phones, cell tower metadata (supplied by electronic communication service providers) relies on signal strength and delay times to triangulate the position of a cellular phone, which may be highly inaccurate. This inaccuracy may be caused by buildings that scatter signals in urban areas, while in rural areas, the lack of cell towers makes triangulation impossible, which ultimately questions the real contribution that such technologies can make in identifying or locating Covid-19 cases or contacts.[166] Furter inaccuracies, such as false positives, also proved to be an international problem which was affected by factors such as whether a phone was in a person's pocket or bag, or whether the person was inside a building or outside.[167] In addition, many people, often entire poor populations, only possess very old phones (if they possess a phone at all) which are unable to use contact tracing apps, leaving these most vulnerable populations, specifically during a pandemic, out of any equation.[168] Moreover, the COVID ALERT SA app is officially owned and managed by the South African government. Many people expressed their concerns in this regard, not only in South Africa, but also in the UK, about who was in charge of tracing activities and overseeing their data, and the majority of people indicated that they would prefer health organisations, as opposed to government, to manage infection surveillance.[169]

At the height of the pandemic and the rolling out of the COVID Alert SA app, the Protection of Personal Information Act (POPIA) had not yet been implemented in full. Thus, in the absence of critical and legally enforceable privacy guidance, but mindful of the need for privacy protection, the South African Information Regulator urged parties to nonetheless proactively adhere to the basic principles of privacy protection, including accountability, lawful processing, purpose of collection and processing, retention and restriction of records, quality of information and security measures as per a guidance note the regulator published early in 2020.[170] Fortunately, POPIA has since been enacted and should provide effective and legally binding privacy protection during the next pandemic, national health emergency, or state of disaster.

[165] Whittaker Z. Hundreds of academics back privacy-friendly coronavirus contact tracing apps. Techcrunch. 2020. https://techcrunch.com/2020/04/20/academics-contact-tracing/ (accessed 25 August 2022).
[166] Viljoen IM, Castelyn C, Pope A, Botes M, Pepper MS. Contact tracing during the COVID-19 pandemic: Protection of personal information in South Africa. South African Journal of Bioethics and Law. 2020;13(1):15-20.
[167] O'Neill P H. Bluetooth contact tracing needs bigger, better data. MIT Technology Review. 2020. https://www.technologyreview.com/2020/04/22/1000353/bluetooth-contacttracing-needs-bigger-better-data (accessed 25 August 2022).
[168] Bradshaw T. 2 billion phones cannot use Google and Apple contact-tracing tech. Ars Technica. 2020. https://arstechnica.com/tech-policy/2020/04/2-billion-phones-cannot-usegoogle-and-apple-contract-tracing (accessed 25 August 2022); Viljoen IM, Castelyn C, Pope A, Botes M, Pepper MS. Contact tracing during the COVID-19 pandemic: Protection of personal information in South Africa. South African Journal of Bioethics and Law. 2020;13(1):15-20.
[169] Botes WM. How emerging communication technologies impact clinical ethics. Presented on 2 December 2021 in the Category: Emerging technologies and Clinical Ethics at the 16th Annual International Conference on Clinical Ethics and Consultation in South Africa.
[170] Information Regulator, South Africa. Guidance note on the processing of personal information in the management and containment of COVID-19 pandemic in terms of the Protection of Personal Information Act 4 of 2013 (POPIA). No date. https://www.justice.gov.za/inforeg/docs/InfoRegSAGuidanceNote-PPI-Co (accessed 15 April 2020).

Exiting a state of disaster and post-pandemic, the one (global) point relating to surveillance and privacy that raises the most concern is the so-called "function creep", when technology that was deployed for a seemingly benign purpose, such as tracking and tracing Covid-19 infections, slowly becomes repurposed for problematic ends, and long-term loss of autonomy. A historical example of this is how many post-9/11 surveillance programmes are still active today, decades after the terrifying incident, in which personal information is being misused and data collection is extended beyond what was initially authorised or envisioned.[171] Due to the poor uptake of tracking and tracing technologies in South Africa, this may seem to be less of a problem, but considering that epidemics and pandemics will be forever present, the recommendations may increase the resilience of future privacy respecting, and effective, surveillance programmes and technologies.

To appreciate and successfully implement privacy respecting surveillance technologies it is important to understand that privacy preferences, the right to limit privacy rights and decisions made in one setting, such as the Covid-19 pandemic, do not necessarily apply to a different setting, such as Monkey Pox.[172] This will require us to appreciate and investigate how our interactions with other people, institutions, and technologies happen in specific contexts, and how particular norms of appropriateness govern people's expectations of how personal information should be collected, stored and used (flow) within a certain given context. According to this theory of "contextual integrity", the following factors shape norms of appropriateness for the use of privacy invasive technologies and need to be taken into account:

- **Context:** This will entail the backdrop against which future surveillance technologies will be implemented. As was the case with Covid-19, surveillance technologies were implemented with the aim to track and trace infected people, whilst still allowing them to move around freely in an effort to stimulate the economy and household income. The infectious nature of the next pandemic virus, the state of fully integrated, accessible, and existing technology at that time, the state of the nation, and the latest legal developments in privacy laws (amongst others) will determine this context and which surveillance technologies (or other measures) will be the most appropriate to implement in this specific environment. For example, the lack of usable smartphones that could enable tracking and tracing, mistrust of the governmental owned tracing app, and the POPIA, which was not yet fully operational at the implementation of tracking and tracing apps, affected the appropriateness, and ultimately, the uptake and effectiveness, of technologically enabled tracking and tracing on South Africa.

[171] Díaz A. Coronavirus, location tracking, and civil liberties. The Brennan Center. 2020. https://www.brennancenter.org/our-work/analysis-opinion/coronavirus-location-tracking-and-civil-liberties (accessed 25 August 2022).
[172] Nissenbaum H. Privacy as contextual integrity. Washington Law Review. 2004:79, 119–157; Nissenbaum H. Privacy in context: Technology, policy, and the integrity of social life. Stanford University Press. 2010.

- **Actors:** the various parties involved in the context explained above. Resource poor, marginalised, and vulnerable citizens, a government that does not inspire the necessary trust when it comes to respectfully surveying its citizens and dealing with their information in a privacy preserving way, existence of effective legislation, and access to courts that could enforce such legislation, affected the appropriateness of the surveillance technologies used in South Africa. In future it would be advisable to use technologies to which the majority of the population has easy access to, and which are implemented by trustworthy, reputable, and independent third parties such as medical institutions.[173]
- **Attributes:** the different types of information at stake. The implementation of Apple or the Google Exposure Notification Systems was globally found to be legally acceptable because of their privacy preserving technological nature. This stood in stark contrast to the criticism that the South African government received when they wanted to establish a Covid-19 database containing the name, address, contact particulars, and health status of individuals, which information constituted special personal information that was collected without consent or explanation of future use. However, now that the POPIA has been fully implemented in South Africa, these attributes can be measured against legal terms and conditions.
- **Transmission principles:** the terms and conditions that shape or constrain the flow of information. The main instrument in this regard will now be the POPIA and related privacy and surveillance regulations and guidelines. It is trite, and discussed elsewhere in this report, that it is completely legal to limit certain human or foundational rights, including privacy, during exceptional times such as pandemics, and that the legislative frameworks triggered under such circumstances, such as the DMA, should provide the necessary guidance.

To effectively manage the surveillance of people and virus spreading during the next health disaster, all these factors will need to be taken into consideration as a whole before deciding on the most appropriate way forward.

Misinformation, freedom of expression and access to information

Decisions based on incorrect information, especially during a pandemic when time is of the essence, can lead to fatal results. Researchers found that almost 6 000 people globally have been hospitalised and at least 800 have died as a result of the spread of misinformation about COVID-19.[174] The WHO called this phenomenon an 'infodemic' and defined it as an overabundance of information - some accurate, some not - that spreads alongside a disease outbreak.[175] Times of great uncertainty, as experienced during the Covid-19 pandemic, situated

[173] Mubangizi, J. (2021). Poor Lives Matter: COVID-19 and the Plight of Vulnerable Groups with Specific Reference to Poverty and Inequality in South Africa. Journal of African Law, 65(S2), 237-258. doi:10.1017/S0021855321000292
[174] Islam S, Sarkar T, Khan SH, Kamal AHM, Hasan SMM, Kabir A, Yeasmin D, Islam MA, Chowdhury KIM, Anwar KS, Chughtai AA, Seale H. COVID-19–Related Infodemic and Its Impact on Public Health: A Global Social Media Analysis. The American Journal of Tropical medicine and Hygiene. 2020;103(4):1621-1629. DOI:https://doi.org/10.4269/ajtmh.20-0812.
[175] World Health Organisation. Call for Action: Managing the Infodemic. 2020. https://www.who.int/news/item/11-12-2020-call-for-action-managing-the-infodemic (accessed 28 February 2023).

within our digital age, allow infodemics to spread at an unprecedented speed and scale, turning uncertainties into fearmongering, scepticism, distrust, and ultimately fear, anxiety, finger-pointing, stigma, violent aggression, and dismissal of proven public health measures – which risks the lives and livelihoods of entire populations.

In response to this global phenomenon, the South African government criminalised the spread of so-called fake news via regulations issued in terms of the DMA, which stipulate that:

> Any person who publishes any statement, through any medium, including social media, with the intention to deceive any other person about COVID-19 … commits an offence and is liable on conviction to a fine or imprisonment for a period not exceeding six months, or both such fine and imprisonment.[176]

These regulations require the spread of such information to be intentional and deceitful to be punishable, but considering the difficulty in sometimes distinguishing between truths, half-truths, speculation, possibilities and downright fake news, it seems a harsh and arbitrary punishment with extraordinarily little guidance as to the evaluation thereof. According to Prof Vishwanath of Harvard University, 'misinformation' is about not having the right factual information, whilst 'disinformation' is when a person or groups of people are knowingly spreading false information with the intent to mislead and deceive people.[177] However, to determine the intention of anxious people living in uncertain times seems, in most cases, an impossible task, especially if a criminal record may be attached to such a determination.

In addition, factors that detract from an accurate determination of whether someone must be punished for knowingly spreading false information include the fact that the disease was completely novel, and new vaccines were developed in record time as part of projects called 'Operation Warp Speed' which implied that the investigation into the disease and development of vaccines was rushed. The lack of data on the long-term effects of both the disease and vaccines, and the social media comments made by high profile politicians, such as former United States President, Donald Trump, that openly contradicted the advice from his team of public health experts, did nothing to clarify people's confusion or address their fears and concerns.[178]

The allegations of murder made against fellow medical practitioners by Dr Bekker, forced the SA Medical Association (SAMA) to lay charges against him at the Health Professions' Council (HPCSA), which allegations just added to public confusion and the spread of scientifically ungrounded information.[179] In turn, the HPCSA was

[176] Disaster Management Act No. 57 of 2002. Regulations issued in terms of Section 27(2).
[177] Viswanath K. Fighting the spread of COVID-19 misinformation. Harvard TH Chan School of Public Health. 2021. https://www.hsph.harvard.edu/news/features/fighting-the-spread-of-covid-19-misinformation/ (accessed 28 February 2023).
[178] Ibid.
[179] N Ndlovu "Doctor charged for calling those who administered Covid-19 vaccines murderers" Pretoria News. IOL. 1 February 2023. https://www.iol.co.za/pretoria-news/news/doctor-charged-for-calling-those-who-administered-covid-19-vaccines-murderers-93b85117-6377-43c5-aef1-0f24896deb6f https://www.iol.co.za/pretoria-news/news/doctor-charged-for-calling-those-who-administered-covid-19-vaccines-murderers-93b85117-6377-43c5-aef1-0f24896deb6f. (accessed 1 March 2023).

criticised for not "stamping firmly down on health professionals' unethical behaviour, nor issuing guidance on this kind of thing, during the pandemic".[180] The problem was not only his allegation, but the fact that he had a small, but devoted, following on social media "that swear by what he says".[181] In a pending urgent application in the Pretoria High Court, the Covid Care Alliance, Transformative Health Justice (THJ), and Free the Children is calling on the government to stop its Covid-19 vaccination campaign immediately, alleging that some patients suffered severe adverse effects and even death after being administered with the vaccine.[182] In the context of misinformation, the problem is that since February 2022, when THJ sent a letter, endorsed by approximately 70 doctors, to SAHPRA and the Department of Health (DoH) about their concerns in this regard, no response had been forthcoming. In the absence of any formal and authoritative responses and clarifications, the discussions and speculations in medical circles and media reporting about this topic will naturally give way to a rise in the fears, scepticism, and concerns of the public and the spread of misinformation – regardless of the scientific basis of these allegations.[183]

Against these developments, the constitutional rights of freedom of belief, opinion, conscience, expression, especially the freedom to *receive or impart information or ideas,* are important and critical rights that enable the public to demand government accountability.[184] However, as set out in 4.1 above, these rights may be limited during trying times such as the Covid-19 pandemic, and there are clear standards in international human rights' law and the South African Constitution that prescribe the permissible nature and degree of limitations that are deemed lawful for public health purposes.

Subsequently, considering the nature, uncertainty and extent of the pandemic, how it must be regulated and managed with due regard to international human rights, and the pending court cases and media coverage about different medical opinions about Covid-19 and its vaccines, the criminalisation of the intentional and deceitful spreading of misinformation does not seem legitimately objective – how can it be definitively determined that information is truly deceitful, if medical opinions about the nature and effects of the disease and its vaccines are divided; strictly necessary – considering that an infodemic is a global phenomenon driven by systemic failures and agenda, it is highly questionable whether the criminal prosecution of a couple of individuals would curb misinformation, further considering the negative impact a criminal record may pose for the individual.[185] In a study conducted by the University of Westminster across 11 sub-Saharan countries, it was found that the changes made to laws and regulations in those countries relating to the publication of 'false information' between 2016 and 2020

[180] Coetzer M. "Doctor facing charges after calling colleagues murders over Covid vaccines" The Citizen. 30 January 2023. https://www.citizen.co.za/+news/pretoria-doctor-facing-+charges-covid-vaccines/ (accessed 1 March 2023).
[181] Ibid.
[182] M Naidoo "Medical experts call for investigations into the serious suspicions about the Covid-19 vaccine", Sunday Tribune. IOL.. 30 January 2023. https://www.iol.co.za/sunday-tribune/news/medical-experts-call-for-investigations-into-the-serious-suspicions-about-the-covid-19-vaccine-c9d35478-d15f-434f-878c-9e032a7f478e (accessed 1 March 2023).
[183] Ibid.
[184] The Constitution of the Republic of South Africa, 1996. Sections 15 and 16(1)(b).
[185] Frederick Bird (2020) A defense of objectivity in the social sciences, rightly understood, Sustainability: Science, Practice and Policy, 16:1, 83-98, DOI: 10.1080/15487733.2020.1785679.

had a chilling effect on political and media debate without reducing misinformation or related harm.[186] These laws clamped down on public debate, impacting negatively people's rights to freedom of speech, yet failed to 'curb the harmful effects of misinformation'.[187] The legal measures taken by South Africa to stop the spread of misinformation are thus unnecessarily restrictive, providing no indication of how to evaluate any misconduct for purposes of executing a lawful arrest and prosecution.

Ironically, in a time of unprecedented access to credible information, it was found that more information is an effective counter to misinformation for the following reasons:

- the amount of misinformation grows faster than valid information due to the lack of fact-checking;
- the idea that people can check facts themselves is an illusion – even though people can look up topics on the internet, they may still not understand something, overlook important domain-specific details, or trust the wrong sources;
- people are easily caught in so-called misinformation 'echo chambers' - the same misinformation may appear on numerous websites which creates the impression of corroborative evidence;
- with the explosion of available information, it becomes impossible to critically evaluate every piece of information we get – to critically assess evidence requires time and effort which most people often lack, leading to motivated reasoning to suit only their existing beliefs.

These serve as further examples of the complexity of misinformation and why the criminalisation of the spread thereof is not justified. To promote evidence-based practices and policies in a democratic society, science, communication, journalism, and education need to work together to address challenges associated with misinformation. We recommend the following:

- authoritative guidelines must be developed to provide criteria for establishing whether information is false or not, and how to establish and promote trustworthy channels to disseminate important information, especially during health emergencies;
- collaborative communication campaigns, such as the one between the WHO and the United Kingdom Government, to create and distribute content to combat the spread of misinformation could actively engage and inform the public with the correct information from authoritative institutions;[188]
- awareness campaigns such as the global 'Stop The Spread' campaign can be used to raise sensitivity and awareness about the risks of misinformation, especially around COVID-19, and advice on how to fact-check information with trusted sources such as the WHO or national health authorities;[189]
- reporting mechanisms and channels to be implemented to identify misinforming sources and act against them accordingly,

[186] Cunliffe-Jones, P et al. 2021. Misinformation Policy in Sub-Saharan Africa: From Laws and Regulations to Media Literacy. London: University of Westminster Press. DOI: https://doi.org/10.16997/book53.
[187] Cunliffe-Jones P, Finlay A, Schiffrin A. Punitive laws are failing to curb misinformation in Africa. University of the Witwatersrand. 2021. https://www.wits.ac.za/news/latest-news/opinion/2021/2021-06/punitive-laws-are-failing-to-curb-misinformation-in-africa.html (accessed 1 March 2023).
[188] WHO "Countering misinformation about Covid-19:, 11 May 2020, available at https://www.who.int/news-room/feature-stories/detail/countering-misinformation-about-covid-19
[189] WHO "How to report misinformation online" (no date) available at https://www.who.int/campaigns/connecting-the-world-to-combat-coronavirus/how-to-report-misinformation-online

such as the 'Reporting Misinformation' campaign launched prior to the Covid-19 pandemic in August 2021 by the WHO;[190]

- spreading and making available an array of authorised social media infographics to explain issues around the disease and vaccines;
- using gamification to engage tech-savvy and younger people, such as the online game called Go Viral![191] (A 5-min game that helps protect you against covid-19 misinformation) developed in a partnership between Cambridge University and the UK Cabinet Office which has proven to reduce perceived reliability of fake news by an average of 21%.

Misinformation or disinformation, especially in a free and democratic society, will never be eradicated, but for this very reason it is critically important that key authorities in the management of the Covid-19 pandemic, or any future health emergencies, develop consensus around the facts and clearly communicate this to the public. In addition, the government and health service providers must keep track of the latest developments in the use of social media to be able to effectively manage their presence on social media so as to be aware of the spread of any misinformation and to allow them to counter it as soon, and as effectively, as possible.

The right to free and fair elections

The COVID-19 pandemic affected the way elections were conducted across the world. During the first few months of the pandemic, many countries postponed elections.[192] South Africa, too, was faced with having to decide whether to postpone its municipal elections, scheduled for 27 October 2021.[193]

President Cyril Ramaphosa gave almost six months' notice by announcing 27 October 2021 as the date for the elections on 21 April 2021.[194] The Constitution requires that an election be held within 90 days of the end of the term of office for local government. Since the last local government elections were held on 3 August 2016, an election had to be held by 1 November 2021. No provision is made for discretion to postpone the elections in the constitution or in legislation.

As the Electoral Commission of South Africa started preparing for elections, some political parties flagged the challenges of holding elections during the COVID-19 pandemic. The commission then constituted an inquiry,[195] headed by former deputy chief justice Moseneke, to ascertain whether the elections would be free and fair if held in October. The inquiry found[196] that there was a possibility that elections in October might

[190] WHO "How to report misinformation online" (no date) available at https://www.who.int/campaigns/connecting-the-world-to-combat-coronavirus/how-to-report-misinformation-online.
[191] https://www.goviralgame.com/en
[192] Afek A, Leshem E, Kaliner E, Fast D and Sadetzki S, 'Upholding democracy in a global pandemic: the Israeli elections experience' 2020 (27) *Journal of Travel Medicine* p 3 states that between February - July 2020, 70 countries postponed national and subnational elections and referendums, and 53 countries held the elections as scheduled. E du Plessis, P Kruger and S Abdool Karim "Postponing South Africa's local elections: what the Constitutional Court must decide", *The Conversations*, 31 August 2021 available at https://theconversation.com/postponing-south-africas-local-elections-what-the-constitutional-court-must-decide-166970
[193] The Presidency, Press releass "President announces 27 October 2021 as a date for local government elections", 21 April 2021, available at https://www.thepresidency.gov.za/newsletters/president-announces-27-october-2021-date-local-government-elections.
[194] The Presidency, Press releass "President announces 27 October 2021 as a date for local government elections", 21 April 2021, available at https://www.thepresidency.gov.za/newsletters/president-announces-27-october-2021-date-local-government-elections.
[195] https://www.elections.org.za/freeandfair/
[196] https://www.elections.org.za/freeandfair/lge2021/Report-Livestream

not be free and fair. It suggested elections be postponed to February 2022. Based on this report, the electoral commission applied to the Constitutional Court to have the elections postponed.[197] However, the Constitutional Court did not agree. In *Electoral Commission of South Africa v Minister of Cooperative Governance and Traditional Affairs and Others*[198] the Constitutional Court held that the decision to continue with elections lies within the jurisdiction of the state. The Court held that in the absence of guidelines relating to the postponement of elections, states should follow guidelines applicable to conducting elections in an emergency situation. It found that states remain bound to allow their citizens to participate in the government of their countries, and that this should be done as set out in the African Charter on Democracy, Elections and Governance and other legal instruments. The Court opined that elections can be held during the COVID-19 pandemic, however, due regard must be given to maintaining the integrity of the electoral process, and appropriate measures to safeguard the right to life must be implemented. The Court cautioned against states using the postponement of elections to further undemocratic practices.

Relaxed Procurement Regulations and Corruption

Under a state of disaster, goods and services can be procured without following the normal processes required by the Public Finance Management Act, 1 of 1999, and the Local Government: Municipality Finance Management Act, 56 of 2003. Indeed, the restrictive and cumbersome nature of "ordinary" procurement law may be one of the reasons for opting for a state of disaster, during which it is necessary for the state to move swiftly. But, perhaps inevitably, the relaxing of rules opened up possibilities for the inflation of prices, fraud and corruption.[199]

Case law

Introduction

Subsequent to the previous report, new litigation decreased significantly, while some of the court cases that featured in the previous report went on appeal. They are dealt with in this report which includes one new case on the suspension of alcohol sales. The other significant development relates to investigations into fraudulent Covid 19-related procurement transactions involving the Department of Health. Criminal conduct in this area had become widespread during the lockdown period and some cases were still under investigation by the time this report was concluded.

Appeal and other cases

The De Beer case

The widely discussed – and criticised - De Beer judgment by the High Court, which featured in the initial country report, was appealed by the government in May 2021 and decided in July 2021. The High Court ruling was overturned by the Supreme Court of Appeal[200] on several grounds which, to a great extent dealt with the misalignment between the scope and content of the pleadings and

[197] https://collections.concourt.org.za/handle/20.500.12144/36806
[198] CCT 245/21 ([2021] ZACC 29) CC)
[199] Munzhedzi PH, 'Analysing the application of governance principles in the management of COVID-19 in South Africa: Lessons for the future' 2021 (9) *Africa's Public Service Delivery and Performance Review.*
[200] *Minister of Cooperative Governance and Traditional Affairs v De Beer and Another (538/2020) [2021] ZASCA 95; [2021] 3 All SA 723 (SCA)*

the High Court's approach to the matter, and the jurisprudential shortcomings of the constitutional litigation placed before the court. In order not to stray from the focus of the initial report on this matter, the current report will be confined to the rationality issue of the constitutional challenge. Apart from the jurisprudential importance of this issue highlighted in many cases regarding the constitutionality of the government's Covid-19 measures, the ruling of the Supreme Court of Appeal also provides guidance on how litigants should approach constitutional challenges against government measures.

Addressing this matter, the Court commenced by stating as follows:[201]

> Constitutional questions ought to be approached by litigants and courts alike with the appropriate degree of care. The Constitutional Court has repeatedly warned that constitutional attacks on the validity of legislation must be pleaded explicitly and with specificity to enable the State to know what case it has to meet and to adduce the evidence necessary to do so.

Applying this standard, the Court was critical of what it called the applicants' (in the High Court, respondents in the appeal case) fleeting and unspecific references to violations of the Bill of Rights caused by the government's regulations[202] without mentioning each specific regulation sought to be impugned, the constitutional right that was alleged to be violated, and how the regulation allegedly infringed the right in question.[203] Hence, the case put forward by the applicants "was wholly inadequate", with "no cognisable case to answer" and lacking "sufficient specificity, clarity and supporting admissible evidence so that the functionary or repository of power knows the case that has to be met".[204]

The pleadings in respect of the rationality issue suffered from the same defects. As the Court pointed out, the founding affidavit failed to disclose a cause of action based on the alleged irrationality of the regulations, nor was any cognisable attack raised.[205] It is this issue that lies at the heart of the criticism leveled against the High Court's treatment of the rationality test, which was dealt with in the interim report, and which the Supreme Court of Appeal also relied upon to find against the High Court judgment, even if it is assumed that a rationality attack was properly before the court, which the High Court seems to have believed. In such an instance, the Supreme Court of Appeal pointed out, the High Court was duty bound to assess each of the regulations against the purpose for which it was adopted, and to determine whether a rational link between the measure and its objective to curb the spread of the virus could be established. Instead, the High Court strayed into the proportionality test when it embarked upon a comparative exercise to determine whether some other measure might achieve a better result than the measure in question.[206] See South Africa Covid-19 Country Report [First edition] (Presidency of South Africa: 2021) for more details on this issue.

[201] Ibid para 95.
[202] Ibid para 98.
[203] Ibid para 99.
[204] Ibid para 100.
[205] Ibid para 102.
[206] Ibid paras 104 – 106.

The Tourism Fund case

This matter involved the creation of a Tourism Relief Fund to mitigate the impact of the Covid pandemic on small businesses in the tourism industry. Acting under the DMA, the minister issued a direction providing for a race-based distribution of funds by resorting to section 10(1)(e) of the Broad-Based Black Economic Empowerment Act 53 of 2003. This provision obliges government to determine criteria for the awarding of incentives, grants, and investment schemes in support of broad-based black economic empowerment. This was unsuccessfully challenged before the High Court in 2020. See interim report for more details.

The matter went on appeal in 2021 and the High Court ruling was overturned by the Supreme Court of Appeal.[207] The government's case was based on the submission that it was bound by statute to apply the eligibility criteria provided for in the BBBEE Act in distributing the relief funds, and that for this reason, the government's decisions in this regard were not susceptible to a legal challenge by the applicants. This caused the matter to be determined on the correctness, or otherwise, of the Minister's interpretation of the BBBEE Act.

Relevant to the Court's analysis in this regard was the difference in objectives for which the DMA and the BBBEE Act, respectively, were enacted. Since it was clear that the two pieces of legislation pursued different objectives, the well-established principle that a power given for a specific purpose may not be used to secure another (ulterior) objective, applies.[208] In other words, grants determined to further a DMA objective cannot be used to further a BBBEE Act objective.[209] Citing constitutional court precedents, the Supreme Court of Appeal concluded that:[210]

> When a person exercising public power has committed themselves unequivocally to a basis for their authority to exercise that power, they stand or fall by that choice. They are, generally speaking, not free to rely on some other source of empowerment which may enable them to do what they have purported to do.

The Minister therefore erroneously believed that she was bound to apply the eligibility requirements of the BBBEE Act to the DMA-based Tourism Fund, which, according to the Supreme Court of Appeal constituted a "material error", and which caused the Minister to fail to apply her mind to the criteria she was called upon to apply under the DMA.[211] Following the ruling of the Supreme Court of Appeal, the government indicated its intention to appeal the matter to the Constitutional Court. On February 8, 2023, the Constitutional Court dismissed the appeal on the ground that the matter had become moot because the state of disaster had been terminated causing the dispute between the parties to become non-justiciable.[212]

The suspension of alcohol sales case

Among the range of measures government adopted in response to the Covid-19 pandemic, the suspension of alcohol sales was arguably one of the most controversial measures.

[207] *Afriforum NPC v Minister of Tourism and Others; Solidarity Trade Union v Minister of Small Business Development and Others* (499/2020; 498/2020) [2021] ZASCA 121 (22 September 2021).
[208] Ibid para 46.
[209] Ibid para 48.
[210] Ibid para 49.
[211] Ibid para 54.
[212] *Minister of Tourism and Others v Afriforum NPC and Another* [2022] ZACC 07.

The justification for this intervention was mainly based on the argument that the consumption of alcohol (read: irresponsible consumption of alcohol), especially over weekends, contributed to road accident and physical violence casualties which increased the pressure on the already overburdened medical facilities. The counter-argument by the alcohol beverages industry was that the government was not only losing out on billions of rands in tax revenues, but that the measure had caused job losses of staggering proportions in a country with extraordinary high levels of unemployment. Furthermore, it is a matter of common knowledge that the measure was water on the mill for illicit alcohol traders, whose profit margins soared as a result of the lockdown measures.[213]

Aggrieved by the alcohol sales suspension, South African Breweries applied to the Western Cape High Court in July 2021 for relief to have the Minister's decision reviewed and set aside.[214] The basis of the relief was that the Minister acted ultra vires her powers under section 27 of the DMA when adopting the regulation suspending or limiting the sale of alcohol. Following established case law, the Court classified the Minister's regulation-making power as administrative action in terms of the Promotion of Administrative Justice (PAJA) Act, 3 of 2000, to which the ultra virus rule applies, and not, as the Minister claims, an exercise of executive powers which would cause her decision not to be reviewable under PAJA.[215]

In essence, the applicant's case was that the provision in section 27(2)(i) of the DMA, which authorises the "suspension or limiting of the sale, dispensing or transportation of alcoholic beverages in the disaster-stricken or threatened area" does not empower the Minister to prohibit altogether the sale, etc. of alcohol, which is what the impugned regulation 29 does, by using the term 'prohibit' as opposed to 'suspend' or 'limit'. Furthermore, regulation 29 contained no end date which meant that the prohibition is indefinite, while, in contrast, a suspension or limitation is a temporary measure. As such, regulation 29 was also in conflict with a cabinet decision to impose the alcohol sales ban for a two-week period only. This latter point was disallowed by the court since the applicant failed to raise the matter at the time of submitting their founding affidavit.[216]

Turning to the *ultra vires* argument, the court rejected the interpretation the applicant assigned to the wording of regulation 29 read with section 27(2)(i) of the DMA. The court reasoned that:

> Parliament has specifically, by means of section 27(2)(i), given the power to the Minister to make regulations regarding the sale, distribution and transportation of alcoholic beverages in a national state of disaster. Whilst I agree that regulation 29(1) in its present form does not 'limit' the sale, dispensing or transportation of alcoholic beverages, it surely 'suspends' these activities. Section 27(2)(i) plainly gives

[213] See for instance T Konco "Illicit alcohol trade boom as industry loses billions due to latest alcohol ban", Weekend Argus, 3 July 2021, available at https://www.iol.co.za/weekend-argus/news/illicit-alcohol-trade-boom-as-industry-loses-billions-due-to-latest-alcohol-ban-b27d4da0-cf20-4baa-81c2-25e22c5c5fea (accessed on 30 October 2021).
[214] *South African Breweries (Pty) Ltd v Minister of Cooperative Governance and Traditional Affairs and Another* [2021] 4 All SA 189 (WCC).
[215] Ibid para 24.
[216] Ibid para 57.

> the Minister the power to either 'limit' or 'suspend'. With this particular regulation, the Minister exercised her discretion, given the existing circumstances, not to simply limit, as she did in the previous iterations of the regulations, where the sale and distribution of alcoholic beverages had been limited to certain hours of the day and certain days of the week, (or in certain instances where on-site consumption had not been allowed).

Following the ordinary rules of interpretation, as in the above instance, the court also rejected the applicant's 'no time limit' argument as follows:[218]

> It is clear from a common understanding of the DMA, which only operates during a limited time under a state of national disaster, and for a period not longer than three months (unless extended by notice in the *Gazette*), that regulation 29 cannot possibly be interpreted to mean that the sale, distribution and transportation of alcoholic beverages will remain in place for an indefinite period. The only sensible interpretation is that regulation 29 'suspends' the sale, distribution and transportation of alcoholic beverages for a specific period.

The Digital Vibes scandal

In September 2021, the South African public was apprised of a report by the Special Investigation Unit (SIU)[219] implicating the Minister of Health and other officials in the National Department of Health in the irregular appointment of a company, Digital Vibes, for the provision of services in respect of a Covid 19 media campaign, financial misconduct, and fraudulent transactions. The report's detailed account of how the Minister, his family and officials in his department benefitted financially from the transactions came at a time when Covid-19 related corrupt activities were rife, causing the President, and even the African Union, to publicly condemn the ruthless and cynical exploitation of a disaster situation for personal gain. For more detail see South Africa Covid-19 Country Report [First edition] (The Presidency, 2021).

The publication of the SIU report caused the Minister of Health to resign from his position and criminal investigations into the conduct of certain staff members were still ongoing at the time of writing.

However, another alarming incident relating to alleged corrupt transactions involving personal protection equipment was the execution-style murder in August 2021 of Babita Deokaran, the chief director of financial accounting in the Gauteng Department of Health who was gunned down when she dropped her child off at school. Following her death, it was confirmed that she had been a witness in an SIU investigation into the R332-million corrupt PPE deals in the department.[220] Although six persons were arrested within a week of the shooting, a year later, and at the time of completing this report, the case against the accused, hadn't commenced.

[218] Ibid para 64.
[219] Available at https://s3.documentcloud.org/documents/21071320/presidential-report30-june-2021-digital-vibes.pdf (accessed on 28 October 2021).
[220] F Huffajee "SIU confirms Babita Deokaran, mowed down after dropping child at school, was a witness in the R332m PPE scandal " Daily Maverick, 24 August 2021, available at https://www.dailymaverick.co.za/article/2021-08-24-whistle-blower-slain-after-dropping-her-child-at-school-siu-confirms-babita-deokaran-was-a-witness-in-the-r332m-ppe-scandal/ (accessed on 31 October 2021).

About a year after her assassination, new media reports claimed that Ms Deokaran came across suspicious transactions worth R800 million at Tembisa Hospital, and that she was on a mission to put a stop to payments due in terms of the transactions when she was gunned down. This caused the Gauteng Provincial Government to announce the appointment of an independent forensic investigator into the matter[221], a decision the provincial government should have taken right at the beginning.

This mafia-style killing is not an isolated incident in South Africa. Assassinations have become a constant feature of South African politics over the last two decades, and there is evidence that between 2000 and 2020, 1,822 assassinations have taken place, of which 404 (22%) were politically motivated.[222] Successful investigations and prosecutions in this department are dismally low, which can be ascribed, more often than not, to the interlinkages between political patronage networks, organised crime and law enforcement agencies.[223]

Conclusion

That the government's disaster law-based regulations ended up in the courts must be seen as a positive development. It is good for the rule of law and for legal development. It is also good for bringing home the importance of government accountability, which is an indispensable component of good governance. But this is only the case when government takes the court rulings seriously and uses them to improve on its performance. The opportunity for that is already present. To deal with the crippling and unprecedented energy crisis, which has been fifteen years in the making, government has recently declared a new state of disaster under the DMA, which will empower government to deal with the crisis with less bureaucracy and regulation, and more funds. How this was abused during the Covid pandemic should serve as an early warning.

Conclusions and recommendations

Overall, South Africa's constitutional architecture and its legal system fared well in withstanding the significant pressures of the COVID-19 pandemic. The country was fortunate to have the DMA and its supporting regulatory framework in place when the pandemic hit, thereby obviating resort to a national state of emergency, or having to frantically come up with a bespoke legal framework aimed solely at Covid-19. The DMA proved sufficiently flexible to enable a coordinated and consistent response to the pandemic, not least due to the wide regulatory powers it bestowed on the Minister of COGTA.

But, as this chapter has shown, there proved to be downsides to the employment of the DMA and its regulatory framework, which impacted negatively on the resilience of the

[221] N Nkosi "Premier Makhura's move to appoint forensic investigator in Deokaran's murder investigation welcomed" The Star, 16 August 2022, available at https://www.iol.co.za/the-star/news/premier-makhuras-move-to-appoint-forensic-investigator-in-deokarans-murder-investigation-welcomed-80140f3c-11bf-43b6-a314-b48b50ebb069 (accessed on 22 August 2022).
[222] Global Initiative Against Transnational Organized Crime "Targeting of three women for assassination shows how violence is shaping electoral politics "Daily Maverick 26 October 2021, available at https://www.dailymaverick.co.za/article/2021-10-26-targeting-of-three-women-for-assassination-shows-how-violence-is-shaping-electoral-politics/ (accessed on 31 October 2022).
[223] See for instance G Ardé *War Party: How the ANC's political killings are breaking South Africa (2020); C Dolley To the wolves: how traitor cops crafted South Africa's underworld* (2021).

rule of law, accountability and human rights. First, it appears that, while initially warranted, the state of disaster declared under the DMA to respond to COVID-19 may have been kept in place for longer than was strictly warranted by the impact of the pandemic. This suggests that current oversight mechanisms over the ministerial power to extend a state of disaster may not be sufficiently rigorous.

It is accordingly recommended that parliament should provide more explicitly for periodic and independent parliamentary scrutiny of ministerial powers in terms of the DMA, either in the National Disaster Management Framework, or by way of an amendment to the DMA, to mitigate the risk that a state of disaster is extended beyond the objective duration of a disaster.

Moreover, the unwarranted extension of the state of disaster points to a lack of adaptive capacity in the ordinary state of South African public health law. Attention should be paid to ensuring that 'non-disaster' public health laws and regulations are capable of responding appropriately to the health and social threats of pandemics, without necessitating resort to a legislative state of exception. To this end, it was arguably correct to resort to amended notifiable disease regulations to transition out of the state of disaster.

However, such regulations must adhere to international guidelines and constitutional requirements for the limitation of fundamental rights, which was not the case with the draft amended notifiable disease regulations that were eventually abandoned. There is an urgent need for pandemic control regulations that provide transparent and scientifically grounded criteria and processes for declaring notifiable conditions. These must allow for proportionate, graded responses to public health threats that carefully weigh the transmissibility of a disease, its severity and its impact on the health system against the fundamental rights that may need to be limited in efforts to combat its spread. Regulations should explicitly only provide for such restrictions on fundamental rights as are proportional to, and justified by, the threat posed by a particular 'notifiable condition'.

We also noted, in relation to the use of COVID-19 disaster management regulations to alleviate the effects of marginally related looting and civil unrest, that when enacting regulations, administrators such as Ministers, should carefully consider the real authorisation provided to them and act within the legal bounds of such authorisation. The vast nature and impact of a pandemic does not provide a rationale for all government interventions.
There are further concerns that the process for promulgating regulations under the DMA generally did not adhere to constitutional best practice when it came to public involvement and participation. This, as was shown above, not only contributed to producing regulations that were sometimes disproportionately restrictive of fundamental rights, but also ultimately impacted on the public's willingness to comply with regulations. It is recommended that the National Disaster Policy Framework create explicit provision for participatory, inclusive and adaptive public involvement processes and for broader representation on advisory bodies.

Linked to this, independent oversight of government actions and how these impact on rights of society, communities and individuals is crucial. Chapter 9 institutions (such as the South African Human Rights' Commission) have an important role to play, and civil society should feel confident to

challenge regulations in court if needed.[224] This has been the case in South Africa, but should continue as new regulations are made under the National Health Act, and we learn to adjust to living with Covid-19.

The discussion on access to vaccines first linked the resilience of the South African legal system to matters of global justice. It showed that the various reactive global responses to the COVID-19 pandemic were not effective in disrupting the stranglehold of international IP protection for pharmaceutical interventions, or the privileged position of developed countries when it comes to vaccine procurement. Accordingly, domestic law needs to provide for more robust mechanisms to enhance South Africa's ability to procure and manufacture necessary vaccines in preparation for future pandemics. The creation and regulation of a sovereign patent fund is held forth as one possible mechanism in this respect.

The vaccine injury fund is welcomed, though we recommend that its administration heed lessons from the chequered history of the Road Accident Fund. It is further recommended that the vaccine injury fund fall under the regulatory framework of the National Health Act, rather than the Disaster Management Act.

As to the thorny issues of vaccine mandates, this report acknowledges the various arguments in favour of and against limiting individual bodily integrity rights by imposing blanket vaccination requirements. While there are indications that a blanket vaccine mandate might withstand constitutional scrutiny, we recommend that vaccine mandates should only be pursued as a last resort, and caution that they would need to be formulated and applied transparently, accountably and subject to democratic principles such as public participation, open debate, and inclusion of a diversity of voices in decision-making. To the extent that individual rights are limited by vaccine mandates, the law should further provide for their regular review under the constitutionality required proportionality assessment, and in light of newly available science.

This links to the discussion on human rights, where the report emphasised the need for a more holistic understanding of the right to health, that extends beyond the provision of health care services and also includes environmental determinants of health and the foundations of a well-functioning public health system. Within such an understanding, perceived clashes between public health objectives and civil, political or socio-economic rights are not so much to be viewed as conflicts, but rather as tensions that require careful, context-sensitive balancing.[225]

While this is lamented, it should also be noted that rights-resilience may be enhanced by mandating that a proportionality assessment, in conformance with the Siracusa Principles and section 36 of the Constitution, be explicitly included as a prerequisite for emergency regulations in terms of the DMA or its regulatory framework. This would not only make for more rights-sensitive regulations, but would also embolden courts in their necessary scrutiny of disaster regulations.

[224] Bohler-Muller N, Roberts B, Gordon SL and Davids YD, 'The 'sacrifice'of human rights during an unprecedented pandemic: Reflections on survey-based evidence' 2021 (37) South African Journal on Human Rights. https://journals.co.za/doi/10.1080/02587203.2021.2009740

[225] Marius Pieterse "Balancing Socio-economic rights: Confronting COVID-19 in South Africa's Informal Urban Settlements" (2021) 39(1) Nordic Journal of Human Rights 33.

The human rights' section then zoomed in on the balancing of rights and public health in selected sectors, with the discussion showing up fault-lines in the existing state of the law. In the human settlements context, we conclude that, due to its temporary nature, the DMA is not the appropriate vehicle through which to pursue health-conducive conditions in informal settlements. Instead, we note that various legal instruments in the human settlements' sector require streamlining, alignment and modification so as to remove hurdles to the full implementation of the UISP.

In relation to social security, we note that the pandemic's economic impact was felt most devastatingly in those sectors of the population currently falling outside of, or with a perilous hold on, the social safety net. Pre-pandemic social security arrangements are clearly neither resilient nor sustainable, and we urge that priority attention be paid to extending the social safety net, over and above the current distress relief grant.

The section on disability rights shows clearly that the DMA and its regulatory framework fails when it comes to providing for the special and urgent needs of vulnerable groups. As with all legislation and policies, the NDMF should consider how the specific needs and circumstances of people with disabilities are to be considered in the event of a disaster. Specifically, communication in all media formats must be improved to encompass the diversity of disability types, the availability of disability-inclusive baseline data must urgently be extended, and there must be inclusive service provision across sectors.

The discussion of how surveillance technologies were employed during the COVID-19 pandemic showed up several tensions between public health objectives and privacy rights. These were particularly acute prior to the enactment of the POPIA, which has since significantly bolstered the resilience of privacy rights in emergency contexts.

The discussion on misinformation, freedom of expression and access to information showed that legal measures taken by South Africa to stop the spread of misinformation are unnecessarily restrictive of these rights, and disproportionate to their objective. In this respect, we recommend the development of authoritative guidelines on identifying and countering false information, alongside the establishment of trustworthy communication channels, collaborative communication and awareness campaigns, mechanisms and channels for reporting misinformation.

Finally, the report notes how the relaxation of statutory procurement requirements under the state of exception created by the DMA-framework has enabled largescale corruption and criminality. This not only points to a systemic problem in South African society, but also alerts us to the shortcomings of "ordinary" procurement law, which admittedly provides too rigid and convoluted a framework to respond with the required agility to states of disaster. But rather than provide for an exceptional framework in which requirements are relaxed, attention should be paid to enhancing the agility and flexibility of "everyday" procurement processes while simultaneously maintaining rigorous controls.

References

Abdool Karim, A. & Van Dyk, J., 2021. How South Africa's COVID vaccine injury fund will work. Bhekisisa. https://bhekisisa.org/health-news-south-africa/2021-04-20-how-sas-covid-vaccine-injury-fund-will-work/.

Academy of Science of South Africa (ASSAF), 2020. Public statement on Covid-19. https://www.assaf.org.za/index.php/news/626-publicstatement-on-covid19. (Accessed 25 September 2020).

Afek, A., Leshem, E., Kaliner, E., Fast, D. & Sadetzki, S., 2020. Upholding democracy in a global pandemic: the Israeli elections experience. Journal of Travel Medicine (27); 3. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7543432/pdf/taaa162.pdf

Anon., 2021. Nearly R120 million in hard cash looted from ATMs and banks during SA unrest. News24, 18 August. https://www.news24.com/news24/bi-archive/r120-million-looted-from-atm-during-south-africa-unrest-2021-8.

Ardé, G., 2020. War Party: How the ANC's political killings are breaking South Africa. Cape Town: Tafelberg.

Arnold, C.A. & Gunderson, L., 2013. Adaptive law and resilience. Environmental Law Reporter 43, 10426-10429 at 10427. https://www.researchgate.net/publication/257109831_Adaptive_Law_and_Resilience/link/53fe22680cf21edafd14f3f5/download

Arnold, C.A., 2014. Resilient cities and adaptive law. Idaho Law Review, 50(2): 245-263.

Baron and Others v Claytile (Pty) Limited and Another, CCT241/16) [2017] ZACC 24; 2017 (10) BCLR 1225 (CC); 2017 (5) SA 329 (CC) (13 July 2017).

Bird, F., 2020. A defense of objectivity in the social sciences, rightly understood. Sustainability, Science, Practice and Policy, 16(1); 83-98, DOI:10.1080/15487733.2020.1785679.

Bhorat, H., Oosthuizen, M. & Stanwix, B., 2021. Social assistance amidst the COVID-19 epidemic in South Africa: A policy assessment. South African Journal of Economics(89)(1),63-81. https://onlinelibrary.wiley.com/doi/full/10.1111/saje.12277

Bohler-Muller, N., Roberts, B., Gordon, S. & Davids, Y.D., 2021. Human rights and COVID restrictions: what South Africans are willing to give up. The Conversation, 26 January. https://theconversation.com/human-rights-and-covid-restrictions-what-south-africans-are-willing-to-give-up-175340.

Bohler-Muller, N., Davids, Y.D., Roberts, B. & Bekker, M., 2020. Human rights remain essential during the Covid-19 crisis. Daily Maverick, 5 May. https://www.dailymaverick.co.za/article/2020-05-05-human-rights-remain-essential-during-the-covid-19-crisis/

Bohler-Muller, N., Roberts, B., Gordon, S.L. & Davids, Y.D., 2021. The 'sacrifice' of human rights during an unprecedented pandemic: Reflections on survey-based evidence. South African Journal on Human Rights (37); 177-180. https://repository.hsrc.ac.za/handle/20.500.11910/18860.

Botes, W.M., 2020. Unpacking the legal and ethical aspects of South Africa's COVID-19 Track and Trace App. The Conversation, Africa, 10 May. https://theconversation.com/unpacking-the-legal-and-ethical-aspects-of-south-africas-covid-19-track-and-trace-app-147137. (Accessed 25 August 2022).

Botes, W. & Thaldar, D., 2020. COVID-19 and quarantine orders: A practical approach. South African Medical Journal, 110(6): 469-472. doi.10.7196/SAMJ.2020.110i6.14794.

Botes, W.M., 2021. How emerging communication technologies impact clinical ethics. Presented on 2 December 2021 in the category: Emerging technologies and clinical ethics. 16th Annual International Conference on Clinical Ethics and Consulation in South Africa, ...

Bradshaw, T., 2020. 2 Billion Phones cannot use Google and Apple Contact-Tracing Tech. Ars Technica. https://arstechnica.com/tech-policy/2020/04/2-billion-phones-cannot-usegoogle-and-apple-contact-tracing. (Accessed 25 August 2022).

Bradshaw, D., Dorrington, R., Laubscher, R., Groenewald, P., & Moultrie, T., 2022. COVID-19 and all-cause mortality in South Africa – the hidden deaths in the first four waves. South African Journal of Science, 118(5-6): 1-7. https://dx.doi.org/10.17159/sajs.2022/13300.

British American Tobacco South Africa (Pty) Ltd and Others v Minister of Co-operative Governance and Traditional Affairs and Others (6118/2020) [2020] ZAWHC 180; 2021(7) BCLR 735 (WCC).

British American Tobacco South Africa (Pty) Ltd v Minister of Health (463/2011) [2012] ZASCA 107; [2012] 3 All SA 593 (SCA).

Brown, J., 2021. Lawfare under Lockdown: Challenges to South Africa's Covid regulations, March to August 2020. South African Journal on Human Rights, 37(2); 303-312.

Calitz, T., 2021. Constitutional Rights in South Africa protect against mandatory COVID-19 vaccination. Helaht and Human Rights Journal, 21 April. https://www.hhrjournal.org/2021/04/constitutional-rights-in-south-africa-protect-against-mandatory-covid-19-vaccination/.

CD and Another v Department of Social Development [2020] ZAWCHC 25 (14 April 2020).

City of Cape Town v South African Human Rights Commission (WCHC case5633/2020, judgement of 7 March 2021 (144/2021) [2021] ZASCA 182.

Coetzer, M., 2023. Pretoria doctor facing charges after calling colleagues murderers over Covid vaccines. The Citizen, 30 January. https://www.citizen.co.za/news/pretoria-doctor-facing-charges-covid-vaccines/. (Accessed 1 March 2023).

Community of Hangberg v City of Cape Town, 2020, ZAWCH 66.

Congressional Research Service, 2021. Potential WTO TRIPS waiver and COVID-19, updated 13 September. https://crsreports.congress.gov/product/pdf/IF/IF11858 (Accessed 17 September 2021).

Cosens, B.A., Ruhl, J.B., Soininen, N. & Gunderson, L., 2020. Designing law to enable adaptive governance of modern wicked problems. Vanderbilt Law Review 73(6) 1687; 1723-1724.

Cunliffe-Jones, P., 2021. Misinformation policy in sub-Saharan Africa: From laws and regulations to media literacy. University of Westminster Press: London. DOI:https://doi.org/10.16997/book53.

Cunliffe-Jones, P., Finlay, A. & Schiffrin, A., 2021. Punitive laws are failing to curb Mmsinformation in Africa. University of the Witwatersrand. https://www.wits.ac.za/news/latest-news/opinion/2021/2021-06/punitive-laws-are-failing-to-curb-misinformation-in-africa.html. (Accessed 1 March 2023).

De Beer and Others v Minister of Cooperative Governance and Traditional Affairs (21542/2020) [2020] ZAGPPHC 184; 2020 (11) BCLR 1349 (GP).

De Beer and Others v Minister of Cooperative Governance and Traditional Affairs (21542/2020) [2021] ZAGPPHC 67 (Supreme Court of Appeal).

Diaz, A., 2020. Coronavirus, location tracking and civil liberties. The Brennan Center. https://www.brennercenter.org/our-work/analysis-opinion/coronavirus-location-tracking-and-civil-liberties. (Accessed 25 August 2022).

Disaster Management Amendment Bill B2-2021 available at https://www.parliament.gov.za/bill/2295375

Doctors for Life International & Others v the Speaker of the National Assembly and Others (CCT12/05) [2006] ZACC 11; 2006 (12) BCLR 1399 (CC); 2006 (6) SA 416 (CC).

Dolley, C., 2021. To the Wolves: How traitor cops crafted SA's underworld.Maverick 451: Johannesburg.

Dube, F. & Du Plessis, A., 2021. Unlawful occupiers, eviction and the national state of disaster: Considering South Africa's emergency legislation and jurisprudence during COVID-19. Journal of African Law 65(2); 333; 335-337. https://www.researchgate.net/publication/357114124_Unlawful_Occupiers_Eviction_and_the_National_State_of_Disaster_Considering_South_Africa's_Emergency_Legislation_and_Jurisprudence_During_COVID-19/link/61bbfdb463bbd932429bb748/download

Du Plessis, E., Kruger, P & Abdool Karim, S., 2021. Postponing South Africa's local elections: what the Constitutional Court must decide. The Conversation, 31 August. https://www.theconversation.com/postponing-south-africas-local-elections-what-the-constitutional-court-must-decide-166970.

Du Plessis, E., van Niekerk, D., Rosenkranz, B. & Preiser, W., 2022. After the COVID-19 state of disaster in South Africa. Nature Human Behaviour 6(7), 901. https://doi.org/10.1038/541562-022-01409-4. https://www.nature.com/articles/s41562-022-01409-4

Electoral Commission of South Africa v Minister of Cooperative Governance and Traditional Affairs and Others, CCT 245/21 ([2021] ZACC 29 CC).

Emmanuel, E.J., Osterhelm, M., Gounder, C.R., 2022. A national strategy for the 'new normal' of life with COVID. JAMA: 327(3). 211-212. https://jamanetwork.com/journals/jama/fullarticle/2787944

Equal Education and Others v Minister of Basic Education and Others (22588/2020) [2020] ZAGPPHC 306; [2020] 4 All SA 102 (GP); 2021(1) SA198 (GP).

Esau and Others v Minister of Co-Operative Governance and Traditional Affairs and Others, 2021 (Supreme Court of Appeal) ZASCA 9, (2021), 2 All SA 357 (SCA), para 4.

Esau and Others v Minister of Co-operative Governance and Traditional Affairs and Others, 611/2020, [2021] ZASCA 9 (28 January 2021). http://www.saflii.org/za/cases/ZASCA/2021/9.html.

Evans, M. & Adachi, K., 2010. The research and experimentation exceptions in patent law: Jurisdictional Variations and the WIPO Development Agenda, Policy Brief Number 7, ICTSD 1.

Ex Parte: Van Heerden [2020] ZAMPMBHC 5 (27 March 2020).

Fair-Trade Independent Tobacco Association v President of the Republic of South Africa and Another, 21688/2020, [2020] ZAGPPHC 246; 2020 (6) SA 513 (GP); 2021 (1) BCLR 68 (GP) (26 June). http://www.saflii.org/za/cases/ZAGPPHC/2020/246.html.

Farha, L. (UN Special Rapporteur on the Right to Adequate Housing), 2020. COVID-19 Practice note: Protection for those living in homelessness, 2 April. http://unhousingrapp.org/user/pages/07.press-room.

Farham, B., 2021. Vaccine hesitancy? No, government failure. Daily Maverick, 16 August. https://www.maverick.co.za/article/2021-08-16-vaccine-hesitancy-no-government-failure/.

Forman, L., 2020. The evolution of the right to health in the shadow of COVID-19. Health and Human Rights Vol 22,1.355-378. https://www.jstor.org/stable/26923509

Freedom Front Plus v President of the Republic of South Africa and Others, 22939/2020, [2020 ZAGPPHC 266; [2020] 3 All SA 762 (GP) (6 July 2020). http://www.saflii.org/za/cases/ZAGPPHC/2020/266.html.

Gauteng Gambling Board and Another v MEC for Economic Development, Gauteng, 2013. (5) SA 24 (SCA).

Ghebreyesus, T. (Dr)., 2021. I run the WHO and I know that rich countries must make a choice. The NEw York Times, 23 April. https://www.nytimes.com/2021/04/22/opinion/who-covid-vaccines.html.

Givetash, L., 2021. After protests and looting tear through South Africa, the nation wonders: What now?. NBC News, 2 August. https://www.nbcnews.com/news/world/after-protests-looting-tear-through-south-africa-nation-wonders-what-n1275585.

Global Alliance for Vaccines and Immunisation - (Gavi), 2020. Gavi launches innovative financing mechanism for access to COVID-19 Vaccines/Gavi, the Vaccine Alliance, 7 September. https://www.gavi.org/news/media-room/gavi-launches-innovative-financing-mechanism-access-covid-19-vaccines. (Accessed 7 September 2020).

Gavi, 2020. Annex A: Terms of the COVAX AMC. https://www.gavi.org/sites/default/files/board/minutes/2020/30-july/04a%20-%20Annex%20A%20-%20Terms%20of%20the%20COVAX%20AMC_1,pdf.

Government of South Africa, 2021. Notice 712 of 2021. Disaster Management Regulations, 4(10). Government Gazette 449 78, 10 August. http://www.labour.gov.za/uif%E20%80%99s-temporary-relief-scheme-approved-to-assist-workers-of-looted-business-in-kzn-and-gauteng.

Government of South Africa, 2022. Draft Disaster Management Amendment Bill. https://www.parliament.gov.za/bill/2295375.

Government of South Africa, 2016. White Paper on the Rights of Persons with Disabilities, Government Gazette No. 39792; Government Notice No. 230. https://www.gov.za/sites/default/files/gcis_document/201603/39792gon230.pdf.

Hart, T., Bohler-Muller, M., Wentzel, T., 2021, Vulnerable but overlooked: The Covid-19 vaccine plight of people with disabilities in South Africa. Daily Maverick, 5 July. https://www.dailymaverick.co.za/article/2021-0705-vulnerable-but-overlooked-the-covid-19-vaccine-plight-of-people-with-disabilities-in-south-africa/.

Hart, T., Wickenden, M., Thompson, S., Davids, Y.D., Pienaar, G., Ngungu, M., Majikijela, Y., Rubaba, T., Molongoana, N. & Bohler-Muller, N., 2022. Socio-Economic Wellbeing and Human Rights-Related Experiences of People with Disabilities in Covid-19 Times in South Africa: Final report. (Commissioned by the Institute of Development Studies (IDS)). http://hdl.handle.net/20.500.11910/19395 DOI: 10.19088/IDS/2022.013

Hathaway, O., 2002. Do human rights' treaties make a difference? 11 Yale Law Journal, 1935; 2002-2003.

Helen Suzman Foundation v The Speaker of the National Assembly and Others, 32858/2020, [2020] ZAGPPHC 574 (5 October 2020).http://www.saflii.org/za/cases/ZAGPPHC/2020/574.html.

Heywood, M., 2022. Budget 2022. Cuts to essential public services are expensive and unaffordable. Daily Maverick, 1 March. https://www.dailymaverick.co.za/article/2022-03-01-budget-2022-cuts-to-essential-public-services-are-expensive-and-unaffordable/.

Huffajee, F., 2021. SIU confirms Babita Deokaran, mowed down after dropping child at school, was a witness in the R332m PPE scandal. Daily Maverick, 24 August. https://www.dailymaverick.co.za/article/2021-08-24-whistle-blower-slain-after-dropping-her-child-at-school-siu-confirms-babita-deokaran-was-a-witness-in-the-r332m-ppe-scandal. (Accessed 31 October 2021).

Human Sciences Research Council, 2021. Survey on vaccine acceptance and hesitancy. https://www.hsrc.ac.za/uploads/pageContent/1045979/20210818%2OUJHSRC%20Report%202%20Explaining%20vaccine%20acceptance%20and%20hesitancy2.pdf.

Humby, T-L., 2014. Law and resilience: Mapping the literature. Seattle Journal of Environmental Law, 4(1) 85; 113, 115-117. https://digitalcommons.law.seattleu.edu/cgi/viewcontent.cgi?article=1032&context=sjel

Independent Online (IOL), 2021. The Star: Premier Makhura's move to appoint forensic investigator in Deokaran's murder investigation welcomed. https://www.iol.co.za/the-star/news/premier-makhuras-move-to-appoint-forensic-investigator-in-deokarans-murder-investigation-welcomed-80140f3c-11bf-43b6-a314-b48b50ebb069. (Accessed 22 August 2022).

Independent Online (IOL), 2021. Weekend Argus: Illicit alcohol trade boom as industry loses billion due to latest alcohol ban. https://www.iol.co.za/weekend-argus/news/illicit-alcohol-trade-boom-as-industry-loses-billions-due-to-latest-alcohol-ban-b27d4a0-cf20-4baa-81c2-25e22c5c5fea. (Accessed 30 October 2021).

Independent Online (IOL), 2023. IOL, Pretoria News: Doctor Charged for calling those who administered Covid-19 vaccines murderers. https://www.iol.co.za/pretoria-news/news/doctor-charged-for-calling-those-who-administered-covid-19-vaccines-murderers-93b85117-6377-43c5-aef1-0f24896deb6f. (Accessed 1 March 2023).

Independent Online (IOL), 2023. IOL, Sunday Tribune: Medical experts call for investigations into the serious suspicions about the Covid-19 vaccine. https://www.iol.co.za/sunday-tribune/news/medical-experts-call-for-investigations-into-the-serious-suspicions-about-the-covid-10-vaccine-c9d35478-d15f-434f-878c-9e032a7f478e. (Accessed 1 March 2023).

Information Regulator, South Africa, (Undated). Guidance note on the processing of personal information in the management and containment of COVID-19 pandemic in terms of the Protection of Personal Information Act, 4 of 2013 (POPIA). https://www.justice.gov.za/inforeg/docs/InfoRegSAGuidanceNote-PPI-Co. (Accessed 15 April 2020).

International Covenant on Civil and Political Rights, 1985, Siracusa Principles on the Limitation and Derogation Provision. Para 25. http://hrlibrary.umn.edu/instree/siracusaprinciples.html.

Islam, S., Sarkar, T., Khan, S.H., Kamal, A.H.M., Hasan, S.M.M., Kabir, A., Yeasmin, D., Islam, M.A., Chowdhury, K.M., Anwar, K.S., Chughtal, A.A. & Seale, H., 2020. COVID-19-Related infodemic and its impact on public health: A global social media analysis. The American Journal of Tropical Medicine and Hygiene 103(4); 1621-1629. DOI: htttps://doi.org/10,4269/ajtmh.20-0812.

Islam, M.S.,Kamal, A.H.M., Kabir, A., Southern, D.L., Khani, S.H., Murshid Hasan, S.M. ... Seale, H., 2021. Covid-19 vaccine rumors and conspiracy theories: The need for cognitive innoculation against misinformation to improve vaccine adherence. PLOS ONE, 12 May 2021, 16(5): e0251605. https://doi.org/10.1371/journal.pone.0251605.

Khan, T., 2022. We do not want to control lives, says Phaahla in defence of Covid-19 plan. Businessday Premium, 5 April. https://www.businesslive.co.za/bd/national/health/2022-04-05-we-do-not-want-to-control-lives-says-phaahla-in-defence-of-covid-19-plan/.

Karim, S.A. & Kruger, P., 2021. Which rights? Whose rights? Public health and human rights through the lens of South Africa's COVID-19 jurisprudence. Constitutional Court Review (11); 536.

Konco, T., 2021. Illicit alcohol trade boom as industry loses billions due to latest alcohol ban. Weekend Argus, 3 July. https://iol.co.za/weekend-argus/news/illicit-alcohol-trade-boom-as-industry-loses-billions-due-to-latest-alcohol-ban-b27d4da0-cf20-4baa-81c2-25e22c5c5fea (Accessed 30 October 2021).

Lemley, M. & Shapiro, C., 2007. Patent holdup and royalty stacking. 85 Texas Law Review 1991 (2007), Stanford Law and Economics Olin Working Paper No. 324, SSRN: https://ssrn.com/abstract=923468.

Madhi, S.A., Kwatra, G., Myers, J.E., Jassat, W., Dhar, N., Mukendi, C.K., Nana, A.J., Blumberg, L., Welch, R. & Ngorima-Mabhena, N., 2022. Population immunity and Covid-19 severity with Omicron variant in South Africa. The New England Journal of Medicine, Vol 386(14):1314-1326. doi.10.1056/NEJMoa2119658. https://www.nejm.org/doi/full/10.1056/NEJMoa2119658.

Makoni, M., 2020. Keeping COVID-19 at bay in Africa. The Lancet Respiratory Medicine (8); 553.

Maslo, C., Friedland, R., Toubkin, M., Laubscher, A., Akaloo, T. & Kama, B., 2022. Characteristics and outcomes of hospitalized patients in South Africa during the COVID-19 Omicron wave compared with previous waves. Jama (327) 6: 583-584 doi:10.1001/jama.2021.24868.

Matatiele Municipality and Others v President of the Republic of South Africa and Others (1) (CCT73/05) [2006] ZACC 2; 2006(5) BCLR 622 (CC); 2006 (5) SA 47 (CC).

Matyas, D., 2020. Towards a legal toolkit for disaster resilience and transformation. Disasters 45(2); 453-455, 464.

Meier, B.M., Evans, D.P. & Phelan, A., 2020. Rights-based approaches to preventing, detecting and responding to infectious disease. 82 Infectious Diseases in the New Millennium; 217; 253.

Mendelson, M., Madhi, S.M., Nel, J., Gray, G., Osih, R & Venter, F., 2022. The incoherent and illogical new government COVID-19 regulations are the real state of disaster. Daily Maverick, 22 March. https://www.dailymaverick.co.za/article/2022-03-22-the-incoherent-and-illogical-new-government-covid-19-regulations-are-the-real-state-of-disaster/.

Meyerson, D., 2007. Why courts should not balance rights against the public interest? Melbourne University Law Review, 31; 873.

Mihigo, R., Okeibunor, J., Cernuschi, T., Petu, A., Satoulou, A & Zawaira, F., 2019. Improving access to affordable vaccines for middle-income countries in the African region. Vaccine 37(21): 2838-2842, https://doi.org/10.1016/j.vaccine.2019.03.077.

Minister of Cooperative Governance and Traditional Affairs v De Beer and Another (538/2020) [2021] ZASCA 95; [2021] 3 All SA 723 (SCA).

Minister of Health and Another v New Clicks SA (Pty) Ltd and Others (CCT 59/2004) [2005] ZACC 14; 2006 (2) SA 311 (CC); 2006 (1) BCR 1 (CC). par 630.

Minister of Justice and Constitutional Development and Others v Prince (Clarke and Others Intervening); National Director of Public Prosecutions and Others v Rubin; National Director of Public Prosecutions and Others v Action (CCT108/17) [2018] ZACC30; 2018(10) BCLR 1220 (CC); 2018 (6) SA393 (CC); 2019 (1) SACRF 14 (CC).

Minister of Tourism and Others v Afriforum NPC and Another, 2022. ZACC 07.

Moderna., 2020. Statement by Moderna on intellectual property matters during the Covid-19 pandemic, 8 October. https://investors,modernatx,com/news-releases/news-release-details/statement-moderna-intellectual-property-matters-during-covid-19.

Moodley, K., 2021. Why Covid-19 vaccines should be mandatory. The Conversation, 10 August. https://theconversation.com/why-covid-19-vaccines-should-be-mandatory-in-south-africa.165682.

Mubangizi, J., 2021. Poor lives matter: COVID-19 and the plight of vulnerable groups with specific reference to poverty and Inequality in South Africa. Journal of African Law, 65(2); 237-258, doi.10.1017/S0021855321000292.

Munzhedzi, P.H., 2021. Analysing the application of governance principles in the management of COVID-19 in South Africa: Lessons for the future, Africa's Public Service Delivery and Performance Review 9. https://www.cambridge.org/core/journals/journal-of-african-law/article/poor-lives-matter-covid19-and-the-plight-of-vulnerable-groups-with-specific-reference-to-poverty-and-inequality-in-south-africa/D2261079562D8DA3D4A1F49580F216DB

Naidoo, M., 2023. Medical experts call for investigations into the serious suspicions about the Covid-19 vaccine. Sunday Tribune, IOL, 30 January. https://www.iol.co.za/sunday-tribune/news/medical-experts-call-for-investigations-into-the-serious-suspicions-about-the-covid-19-vaccine-c9d35478-d15f-434f-878c-9e032a7f478e.

National Department of Employment & Labour, 2022. Code of practice: Managing exposure to SARS-COV-2 in the Workplace, R1896, 16 March.

National Department of Health, 2022. Statement by Minister of Health Dr Joe Phaahla on the repeal of regulations on notifiable medical conditions dealing with the Covid-19 pandemic and on monkey-pox, 23 June. https://sacoronavirus.co.za/2022/06/23/statement-by-minister-of-health-dr-joe-phaahla-on-the-repeal-of-regulations-on-notifiable-medical-conditions-dealing-with-the-covid-19-pandemic-and-on-monkey-pox/

National Department of Health, 2019. South African Demographic and Health Survey 2016: Report. Pretoria, Dept. of Health. https://dhsprogram.com/pubs/pdf/FR337/FR337.pdf.

National Institute for Communicable Diseases (NCID), 2017. Health compressed. https://www.ncid.ac.za/wp-content/uploads/2017/12/41330_15-12_Health-compressed.pdf.

National Institute for Communicable Diseases (NICD), 2021. Covid-19 - it's time to look at the finer details of South Africa's pandemic picture, 9 September. https://www.nicd.ac.za/covid-19-its-time-to-look-at-the-finer-details-of-south-africas-pandemic-picture/. (Accessed 23 September 2023).

National Institute for Communicable Diseases (NICD), 2022. Disease index Covid-19: Special public health surveillance bulletin, 18 January. https://www.nicd.ac.za/diseases-a-z-index/disease-index-covid-19/surveillance-reports/special-public-health-surveillance-bulletin/Issue 14.

Ned, L., McKinney. E.L.M., McKinney, V. & Swartz, L., 2020. COVID-19 pandemic and disability: Essential considerations. Social and Health Sciences(18); 5.

Ndlovu, N., 2022. Doctor charged for calling those who administered Covid-19 vaccine murderers. Pretoria News, IOL, 1 February. https://www.iol.co.za/pretoria-news/news/doctor-charged-for-calling-those-who-administered-covid-19-vaccines-murderers-93b85117-6377-43c5-aef1-0f24896deb6f (Accessed 1 March 2023).

Nissenbaum, H., 2004. Privacy as contextual integrity. Washington Law Review, 79; 119-157.
Nissenbaum, H., 2010. Privacy in context: Technology, policy and the integrity of social life.:Stanford University Press.

Nkosi, N., 2022. Premier Makhura's move to appoint forensic investigator in Deokaran's murder investigation welcomed. The Star, 16 August. https://www.iol.co.za/the-star/news/premier-makhuras-move-to-appoint-forensic-investigator-in-deokarans-murder-investigation-welcomed-80140f3c-11bf-43b6-a314-b48b50ebb069.

Ntlama, N. & Chitsamatanga, B.B., 2020. The Human rights' response to the global impact of the COVID-19 virus on socio-economic rights in South Africa. StatsSA 2019; 90. https://www.researchgate.net/publication/347369778_The_Human_Rights_Response_to_the_Global_Impact_of_the_COVID-19_Virus_on_Socio-economic_Rights_in_South_Africa/link/5ffc2775a6fdccdcb846ca38/download

Office of the United Nations High Commissioner for Human Rights (OCHCHR), 2020. Emergency measures and Covid-19 guidance, 27 April. https://www.ohchr.org/Documents/Events/EmergencyMeasuresCovid19.pdf.

O'Neil, P.H., 2020. Bluetooth contact tracing needs bigger, better data. MIT Technology Review.https://www.technologyreview.com/2020/04/22/1000353/bluetooth-contracttracing-needs-bigger-better-data. (Accessed 25 August 2022).

Oukula, O., 2021. 7 things you should know about declaring a state of emergency in South Africa. Cape Talk, 13 July. http://www.capetalk.co.za/articles/421752/7-things-you-should-know-about-declaring-a-state-of-emergency-in-south-africa.

Oxfam International, 2020. Small group of rich nations have bought up more than half of the future supply of leading COVID-19 vaccine contenders, Oxfam International, 18 September. https://www.oxfam.org/en/press-releases/small-group-rich-nations-have-brought-more-half-future-supply-leading-covid-19.

Patel, F., 2022. We must ensure that govt doesn't smuggle regulations into law: EFF on National Health Act. The Citizen, 5 April. https://www.citizen.co.za/news/south-africa/we-must-ensure-that-govt-doesnt-smuggle-regulations-into-law-eff-on-national-health-act/.

Pheko v Ekurhuleni Municipality, 2012 (4) BCLR 388 (CC).

Pieraccini, M., 2019. Towards just resilience: Representing and including new constituencies in adaptive governance and law. Journal of Environmental Law 31; 213, 219.

Pieterse, M., 2014. Can rights cure? The impact of human rights litigation on South Africa's health system. PULP, 10-14; 151-174.

Pieterse, M., 2021. Balancing socio-economic rights: Confronting COVID-19 in South Africa's informal urban settlements. Nordic Journal of Human Rights, 33; 37-38. https://www.tandfonline.com/doi/abs/10.1080/18918131.2021.1918433.

Presidency of South Africa, 2021. Development of a country report on the measures implemented to combat the impact of Covid-19 in South Africa. South Africa Covid-19 Country Report [First edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria: June.

Quinot, G., Anthony, A., Bleazard, J., Budlender, S., Cachalia, R., Corder, H., Finn, M., Kidd, M., Madonsela, T. & Maree, P., 2021. Administrative Justice in South Africa: An Introduction (second ed). Oxford University Press Southern Africa [e-book].

Reichel, C., 2021. One year later: COVID-19. Human rights and the right of law in South Africa. Bill of Health, Harvard Law. https://blog.petrieflom.law.harvard.edu/2021/04/13/human-rights-rule-of-law-south-africa-covid/.

Runciman, C., Roberts, B., Alexander, K., Bohler-Muller, N & Bekker, M., 2021. UJ-HSRC Covid-19 democracy survey. Willingness to take a Covid-19 vaccine. A research briefing. https://hsrc.ac.za/uploads/pageContent/1045085/202125%20Vaccine%20briefing%20(final).pdf

SAHRCH v City of Cape Town, 2021 (2) SA 565 (WCC).

Schwartz, N., Buliung, R. & Wilson, K., 2019. Disability and food access and insecurity: A scoping review of the literature. Health & Place (57):107-121.

Seal, M., 2021. Legal obstacle course: Vaccinating children aged 12 to 17 with or without parental consent. Daily Maverick, 26 October. https://www.dailymaverick.co.za/opinionista/2021-10-26-legal-obstacle-course-vaccinating-children-aged-12-to-17-with-or-without-parental-consent.

Sithole, K., 2021. Can SA run a vaccine claims fund when the RAF is in such a mess? News24, 22 April. https://www.news24.com/fin24/opinion/khaya-sithole-can-sa-run-a-vaccine-claims-fund-when-the-raf-is-in-such-a-mess-20210422.

Slater, D., 2021. Government still remiss in its consultation with private sector on Covid-19 lockdowns, says BLSA. Engineering News, 5 July. https://www.engineeringnews.co.za/article/govt-still-poorly-consulting-with-private-sector-on-impacts-of-covid-19-lockdowns-says-blsa-2021-07-05.

Sobikwa, N. & Phooko, M.R., 2021. An assessment of the constitutionality of the COVID-19 regulations against the requirement to facilitate public participation in the law-making and/or administrative processes in South Africa. Law, Democracy and Development, (25); 313, 332. http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S2077-49072021000100011.

South African Breweries (Pty) Ltd v Minister of Cooperative Governance and Traditional Affairs and Another, 2021. 4 All SA 189 (WC).

South African Legal Information Institute (SAFLII), 2018.t https://www.saflii.org.za/cases/ZACC/2018/30.html.

South African Government, 2020. Media Statement: Remarks by Minister of Human Settlements Water and Sanitation, Hon. L.N. Sisulu, at the occasion of media briefing to outline interventions to curb the spread of COVID-19, 25 March. https://www.gov.za/speeches/minister-lindiwe-sisulu-interventions-curb-spread-coronavirus-covid-19-25-mar-2020-000.

Staunton, C., Swanepoel, C. & Labuschagne, M., 2020. Between a rock and a hard place: COVID-19 and South Africa's response. Journal of Law and the Biosciences, DOI: 10.1093/jlb/lsaa052. https://pubmed.ncbi.nlm.nih.gov/32908671/

Stenty, J., 2021. Court slams City of Cape Town for barring access to a homeless camp. GroundUp. https://www.groundup.org.za. (Accessed 17 March 2021).

Stern, O.M., Van Cutsem, G., Laurenson, D., King, J. & Jenkins, T., 2020. Independent report submitted to the South African Human Rights' Commission concerning the City of Cape Town's COVID-19 shelter for street-based people-Strandfontein, Cape Town, 11 April, 2020.

South African Human Rights Commission (SAHRC), 2021. Press statement: Media statement on the position of the SAHRC on the issue of mandatory COVID-19 vaccination, 4 October. https://www.sahrc.org.za/index.php/sahrc-media/news-2/item/2823-media-statement-on-the-position-of-the-sahrc-on-the-issue-of-mandatory-covid-19-vaccination.

Thaldar, D.W. & Shozi, B., 2021. Why a COVID-19 vaccine mandate is not the best policy option for South Africa. The Conversation, 18 August. https://theconversation.com/why-a-covi-19-vaccine-mandate-is-not-the-best-policy-for-south-africa-166195.

The Presidency, 2021. President Cyril Ramaphosa announces 27 October 2021 as date for local elections, 21 April, 2021. https://www.thepresidency.gov.za/newsletters/president-announces-27-october-2021-date-local-government-elections.

Theresa Mulderij v Goldrush Group, GAJB 24054-21.

Turok, I. & Visagie, J., 2021. COVID-19 amplifies urban inequalities. South African Journal of Science, 117; 1; 4.

United Nations' High Commissioner for Human Rights (UNHRC), undated. Emergency Measures and Covid-19 Guideline. Available at https://www.ohchr.org/Documents/Events/EmergencyMeasures_Covid19.pdf.

United Nations, 2000. UN Committee on Economic Social and Cultural Rights, General Comment No.14, The Right to the Highest Attaintable Standard of Health, on Article 12 of The International Covenant of Economic, Social and Cultural Rights, para 12.

United Nations' General Assembly, 1948. The Universal Declaration of Human Rights (UDHR). New York: United Nations General Assembly, Article 25.

United Nations' Habitat, 2020. Policy Statement on the Prevention of Evictions and Relocations during the COVID-19 Crisis. 14 May. https://unhabitat.org/sites/default/files/2020/05/un-habitat_policy_statement_on_prevention_of_evictions_and_relocations.pdf.

United Nations, 2020. COVID-19 Outbreak and Persons with Disabilities. Available at https://www.un.org/development/desa/disabilities/covid-19.html.

Van Zyl, G., Dramowski, A. & Preiser, W., 2022. Pandemic escape plan: Discontinuing policies that have reached their expiry date, South African Medical Journal 11(3): 192-193. http://www.samj.org.za/index.php/samj/article/view/13489/10020.

Various, 2020. An urgent call to rethink de-densification as the dominant proposed strategy in the context of Covid-19. Statement published on the website of signatory-organisations. https://planoct.org.za/an-urgent-call-to-rethink-de-densification-as-the-dominant-proposed-strategy-in-the-context-of-covid-19/.

Viljoen, I.M., Castelyn, C., Pope, A., Botes, M. & Pepper, M.S., 2020. Contact Ttacing during the COVID-19 pandemic: Protection of personal information in South Africa. South African Journal of Bioethics and Law 13(1); 15-20.

Viswanath, K., 2021. Fighting the spread of COVID-19 misinformation. Harvard TH Chan School of Public Health. https://www.hsph.harvard.edu/news/features/fighting-the-spread-of-covid-19-misinformation/ (Accessed 28 February 2023).

Wentzel, A., 2021. People living with disabilities struggle to overcome severe disruptions of life and health caused by the pandemic. Daily Maverick, 20 June. https://www.dailymaverick.co.za/article/2021-06-20-people-living-with-disabilities-struggle-to-overcome-severe-disruptions-to-life-and-health-caused-by-the-pandemic/.

Whittaker, Z., 2020. Hundreds of academics back privacy-friendly Coronavirus contact tracing apps. Techcrunch. https://techcrunch.com/2020/04/20/academics-contact-tracing/ (Accessed 25 August 2022).

World Health Organisation (WHO), 2005. Regional Office for South-East Asia. (2005). Access to medicines and vaccines. Report of the Twenty-Third Meeting of Ministers of Health of the Member States of WHO South-East Asia Region, Colombo, Sri Lanka, 4-5 September 2005. WHO Regional Office for South-East Asia. https://iris.who.int/handle/10665/127621.

World Health Organisation (WHO), 2020. Advanced Market Commitments for Vaccines. https://www.who.int/immunization/newsroom/amcs/en/. (Accessed 7 September 2020).

World Health Organisation (WHO), 2020. COVID-19 Technology Access Pool. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/global-research-on-novel-coronavirus-2019-ncov/covid-19-technology-access-pool. (Accessed 7 September 2020).

World Health Organisation (WHO), 2020. Endorsement of the solidarity call to action. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/global-research-on-novel-coronavirus-2019-ncov/covid-19-technology-access-pool/endorsements-of-the-solidarity-call-to-action. (Accessed 7 September 2020).

World Health Organisation (WHO), 2020. 172 countries and multiple candidate vaccines engaged in COVID-19 Vaccine Global Access Facility. https://www.who.int/news-room/detail/24-08-2020-171-countries-and-multiple-candidate-vaccines-engaged-in-covid-19-vaccine-global-access-facility. (Accessed 7 September 2020).

World Health Organisation (WHO), 2020. Call for action: Managing the infodemic. https://www.who.int/news/item/11-12-2020-call-for-action-managing-the-infodemic. (Accessed 28 February 2023).

World Health Organisation (WHO), 2020. Countering misinformation about Covid-19, 11 May. https://www.who.int/news-room/feature-stories/detail/countering-misinformation-about-covid-19.

World Health Organisation (WHO), undated. How to report misinformation online. https://www.who.int/campaigns/connecting-the-world-to-combat-coronavirus/how-to-report

World Health Organisation (WHO), 2021. Doha Declaration. https://www.who.int/medicines/areas/policy/doha_declaration/en/.

World Trade Organisation (WTO), 2020. Waiver from certain provisions of the TRIPS agreement for the prevention, containment and treatment of Covid-19. https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/IP/C/W669R1.pdf&Open=True.

CHAPTER 4
COMMUNICATION

Abstract

Whereas the South Africa Covid-19 Country Report, First edition's chapter on Communications investigated the capacity and effectiveness of government's communications strategy as South Africa went through the various stages of lockdown during the Covid-19 pandemic, the second edition probes four themes in greater depth and includes recommendations for policy consideration.

Theme 1 of the chapter explores how research was used to inform the communications' strategies of government during the vaccination phase, which intended to return society to a form of normality, where it became crucial to understand how messages were interpreted and to gauge the impact and threat of vaccine misinformation.

Theme 2 critiques the impact of Covid-19 on government communications' expenditure and asks critical questions about how taxpayers' money was allocated toward informing the public about Covid-19 and its impact on their health and well-being.

Theme 3 probes the experiences of scientists in the communication of scientific information during the pandemic, and its uptake by the community and by decision-makers.

Theme 4 reviews the efforts made by government to accelerate ICT infrastructure roll-out in an effort to close the access gap with a particular view to the role of South Africa's communication regulator, ICASA, in enabling the acceleration at regulation and policy level, in recognition that a digital divide contributes to increased inequalities within society – with damaging effects on vulnerable groups caused by digital exclusion.

The chapter includes a case study on the community of Swartkop in the Northern Cape which reports on the development of social confrontation, exclusion and community-level dissatisfaction caused by digital legislation.

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List of Abbreviations and Acronyms

Africa CDC	Africa Centres for Disease Control and Prevention
AG	Auditor-General
AIRA	Africa Infodemic Response Alliance
CCF	Community Constituency Front
CDCs	Centres for Disease Control and Prevention
CEPD	Centre for Epidemiological Studies Depression
CHC	Community Health Centre
COGTA	Department of Cooperative Governance and Traditional Affairs
COMRIC	Communication Risk Information Centre
CSIR	Council for Scientific and Industrial Research
CSIRTs	Computer Security Incident Response Teams
Covid-19	Coronavirus disease
DGMT	DG Murray Trust
DHET	Department of Higher Education & Training
DHIS	District Health Information System
EVDS	Electronic Vaccination Data System
GCIS	Government Communication and Information System
GSM	Government Segmentation Model
ICASA	Independent Communications Authority of South Africa
ICT	Information and Communications Technology
IFRC	International Federation of Red Cross and Red Crescent Societies
IHR	International Health Regulations
IPSOS	Institut Public de Sondage d'Opinion Secteur
ITC	Initial Test of Competence
JOC	Joint Operating Centres
KCAAA	Karoo Central Astronomy Advantage Areas
MAC	Ministerial Advisory Committee
MECs	Members of the Executive Council
NCC	National Command Council
NDoH	National Department of Health
NICD	National Institute for Communicable Diseases
NIDS–CRAM	National Income Dynamics Study-Coronavirus Rapid Mobile Survey
NGO	Non-Governmental Organisation
NPC	Non-Profit Company
NPO	Non-Profit Organisation
OECD	Organisation for Economic Co-operation & Development
PHQ	Patient Health Questionnaire
PMG	Parliamentary Monitoring Group
RCCE	Risk Communication & Community Engagement
SABC	South Africa Broadcasting Corporation
SACC	South African Council of Churches
SALDRU	South African Labour & Development Research Unit
SAMRC	South African Medical Research Council
SF	Solidarity Fund
SIP	Strategic Integrated Project
SIPs	Strategic Infrastructure Projects
SIU	Special Investigating Unit
SRD	Social Relief of Distress
TERS	Temporary Employment Relief Scheme
UCT	University of Cape Town
UJ	University of Johannesburg
UIF	Unemployment Insurance Fund
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNICEF	United Nations Children's Fund
WHO	World Health Organisation

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Theme 1: Researching the research:

In the first part of the pandemic (roughly the period until vaccination became a real possibility for the South African public), the research drawn on for the government communications' strategy (and described in the first edition of this report) was informed by the need to disseminate accurate scientific information about the virus and the disease it caused, and to recommend effective infection mitigation behaviours. But as soon as most of the country was out of strict lockdown, with millions of people moving around again and reverting to contact with others, understanding how those receiving messages about the virus acted on that information and knowledge became more urgent for further communication efforts. As the vaccination phase was entered to return society to a form of normality, it became crucial to understand message interpretations and to gauge the impact and threat of vaccine misinformation.

An early study that was used by the GCIS to inform their approach at the very beginning of the pandemic was the Edelman Trust Barometer Special Report of March 2020[1]. This study surveyed 10 countries (Brazil, Canada, France, Germany, Italy, Japan, South Africa, the UK and the US) to assess which outlets for information about the pandemic were trusted most. They confirmed the anecdotal knowledge that mainstream news organisations were relying on heavily for early news of the pandemic, and that people were not necessarily accessing the websites of the WHO or CDCs. They showed that the most trusted spokespeople were scientists and family doctors, while government officials and journalists evoked a low trust rate. Social media was only trusted significantly by young people, whereas older people felt it to be unreliable. People surveyed had high expectations that their employers would act to protect them by adapting business arrangements to keep people safe. According to Dr Ntombifuthi Nala, GCIS director of research, the Barometer was used as a baseline study to inform GCIS responses in the early stages of the pandemic. But then ongoing research – "research-tracking studies" – became key to modifying and staying on top of the subsequent communication challenges, particularly when the government set a target of vaccinating a minimum of 67% of the population. Assessing trust in government and its messages was a key concern of this research into "uptake" of messages. *Fighting Covid-19 Through Communication: A South African Story*[2] (2023: 48) reported high levels of trust in government which the GCIS put down to their particular approach of coordinating "communication efforts" across government, and in collaboration with churches, businesses, labour, mainstream and community media.

According to the overview, as mentioned above, the GCIS developed Media Coverage Analysis reports (70 were produced on a weekly and quarterly schedule) and the Government Communication Excellence Tool (G-CET, 52) to monitor the communication efforts of 32 national departments between March 2020 and March 2022. The intention was to ensure message coordination. Nearly

[1] This involved an online survey of 1 000 people in each country with data national representative based on age, gender and region.

[2] Fighting Covid-19 through Communication gives a helpful overview of communication efforts across government for a two-year time period March 2020 to March 2022. https://issuu.com/gcispsm/docs/fighting_Covid-19_through_communication-_a_south_a

6 000 messages per month were transmitted during this time period across a range of outlets. It was only later in the pandemic that studies started to be conducted to establish uptake, actual responses to messages, and whether attitude and behaviour change ensued. A further necessity for research to inform and support the messaging was the insight that to foster a long-term attitude of responsibility in each person (all 60 million South Africans) for stopping the spread of the pandemic, the GCIS and government communicators would have to engage in sustained, heightened communication. This could only be effective if messages were immediately responsive and tailored to meet concerns and experiences as they happened.

Studies that were conducted and therefore available to government communicators:

1. GCIS/Solidarity Fund (SF) Campaign Evaluation conducted by Ask Afrika. This study focused on:
   - vaccine campaign awareness
   - message recall and platforms
   - acceptance and hesitancy

2. NIDS–CRAM Wave 5 (Synthesis report, Working papers 2 and 8)
   - perception of vaccines
   - willingness to take vaccines
   - mental health and effects on vaccine hesitancy/openness

3. Human Science Research Council (HSRC)/University of Johannesburg (UJ) Democracy Survey
   - willingness to be vaccinated

4. SA Department of Health Social Listening and Infodemiology Team (part of the Risk Communications and Community Engagement Working Group of the NDoH) starting in May, 2021, they had released 83 weekly reports by completion of this chapter.
   - public discussion of vaccines and Covid-19
   - misinformation
   - recommendations for government communications

1. GCIS/SF – Ask Afrika GCIS Campaign Evaluation

Information regarding the phases of the vaccine rollout was shared by the presidency in February during the presidency's "family meetings", with additional media briefings being held in different formats such as Q&As and direct WhatsApp communication. Information was also published on various government websites. The GCIS relied on partnerships between government departments, businesses, civil society organisations, and the national broadcaster, South African Broadcasting Corporation (SABC) – among others – under the umbrella of the National Communication Partnership (NCP) (*Fighting Covid-19 Through Communication,* GCIS, 2022 :19).

Ask Afrika conducted research into the effectiveness of government and its partners' communications by working with the Solidarity Fund to reach all levels of South African society. The GCIS developed the Government Segmentation Model (GSM) to better represent segments of the South African population. The segmentation model represented South Africa in five segments from grassroots' level to the most affluent segments of the population to portray better the extent of message reach and recall of citizens, amongst other dynamics of behavioural change (*Fighting Covid–19 Through Communication,* GCIS, 2022:61).

Using the GSM as a framework for developing the study, the GCIS/SF study was able to show clearly how messages permeated the various levels of society and used this information to delineate their findings. Fieldwork was conducted amidst challenges such as poor road conditions, roadworks, difficult to reach areas and service delivery protests.

The Ask Afrika GCIS/SF Campaign Evaluation used a face-to-face survey method. The survey was co-designed by the GCIS and Ask Afrika to "ensure relevance and research rigour" (Ask Afrika webinar presentation, 2021: 3). The 28-minute survey was administered in English, which may have been a potential barrier for some respondents. The sample was drawn from South Africa from all communities across the nine provinces, including communities that were difficult to access, so as to gain a better representation of the entire population. The sample size was 2 000 respondents and was weighted to the entire South African population. The data collection took place from 14 May to 30 June 2021.

The Campaign Evaluation aimed at highlighting *individual attributes* and *communication attributes* which contributed to the larger mix of dynamics of behavioural change. Other elements taken into consideration, but not focused on in the study, include societal dynamics and demographic spread within South Africa. Seven attributes were marked as the focus for the study and were key indicators of behavioural change. Under the banner of *individual attributes,* the following were studied: 1) vaccine willingness, 2) agency to act, 3) reasons for acceptance/hesitancy, and 4) most trusted source of vaccine advice. Under communication attributes: 5) low reach/awareness, 6) best platforms used, and 7) message recall were analysed.

In regard to awareness of vaccine messaging, the study analysed who were the most trusted sources of vaccine advice, where respondents got their vaccine information, the provinces with the highest awareness of the vaccine roll-out plan, the age groups who were most aware of the roll-out plan, as well as the races of individuals who were aware of the vaccine roll-out messages. Particular behaviour change messaging was also analysed within various demographics. Messages regarding topics such as wearing a mask, washing hands, and social distancing even after being vaccinated, were only recalled by 15% of South Africans. Recall of issues such as who gets the vaccine, how the vaccine is administered, and why the vaccine is necessary, was also studied.

The research made recommendations for future vaccine messaging on four out of the seven behaviour change factors: namely, 3) reasons for acceptance/hesitancy – addressing mistrust of the vaccines by providing more transparent and engaging information on vaccines, as well as quelling citizen anxiety about the side effects of Covid-19 vaccines, 4) most trusted source of vaccine advice – leveraging doctors and nurses as the most trusted sources of information on vaccines to educate and inform citizens, 5) low reach/ awareness – age, geo-type/education and province must be used as vectors, while messaging should be adjusted to cater to those populations, and 7) message recall – focus on the WHY of getting vaccinated, as these message types were the least recalled.

2. NIDS–CRAM Wave 5 Working Paper 2

Burger, R., Maughan-Brown, M., Kohler, T., English, R., & Tameris, M. (2021) *Increased openness to accepting a Covid-19 vaccine is a shot in the arm for South Africa: Evidence from the NIDS-CRAM Wave 5 Survey*

The study analysed vaccine sentiment in April and May 2021. The survey was conducted by researchers from the universities of Cape Town, Stellenbosch and Witwatersrand. NIDS-CRAM (National Income Dynamics Study-Coronavirus Rapid Mobile Survey) was tasked to create a "rapid longitudinal data set representative of the South African population to help inform evidence-based policy-making during the social and economic turbulence of the Covid-19 pandemic" (Burger, R. et al. 2021). This study is a follow-up survey of a sub-sample of adults from households who took part in the last wave – conducted in 2017. SALDRU (South African Labour and Development Research Unit) was responsible for the survey data collection. The original NIDS survey comprised a wide variety of questions which covered income and employment, sociodemographic characteristics, and household welfare. The CRAM surveys included questions about Covid-19 and vaccines. Wave 4 of the NIDS-CRAM survey was conducted from 2 February to 10 March 2021, with a sample of 4 792, and Wave 5 was conducted from 6 April to 11 May 2021, with a sample of 4 996.

Respondents were informed that in Wave 5 of the survey, they would receive R40 airtime and be entered into a lucky draw where they could win 1 of 3 R4 000 vouchers as an incentive to participate in the survey. Respondents were also given contact information for the UCT Commerce Ethics Committee and were informed of the ethics clearance for the study. At the time of conducting the survey, 2% of the South African population had been vaccinated. Although, important to note, at this stage of the vaccine roll-out plan, vaccinations were only available to frontline workers in the Sisonke Protocol which was part of Phase 1a of the vaccine roll-out. Phase 1b and 2a, where the remaining health care workers not included in the Sisonke Protocol, and individuals aged 60 and older, were allowed to receive vaccinations, only began on 17 May 2021. The remaining phases of vaccination began after the conclusion of this study.

Preliminary questions on Covid-19 prevention behaviours were asked of the respondents, such as: "Are you behaving differently to protect yourself from Coronavirus. If yes, how?" and "When you went out in public in the last seven days, did you wear a mask some of the time, most of the time or all of the time?"

The survey introduced the section on vaccines by asking if respondents had been vaccinated. If the respondent answered yes, they skipped the rest of the vaccine section of the survey as the remaining questions would be redundant. Respondents who had not been vaccinated were then asked by interviewers about their potential acceptance of a vaccine. Respondents were asked – the same question posed by the Ipsos-World Economic Forum global survey – to what degree they agreed with the statement, "If a vaccine for Covid-19 were available, I would get it", with four options available: 'strongly agree', 'somewhat agree', 'somewhat disagree', 'strongly disagree'. Responses showed an increase in vaccine acceptance from 71% in February/March 2021, to 76% in April/May 2021. Respondents who strongly agreed with the statement skipped the rest of the vaccination section.

The remaining respondents were then taken through a series of questions regarding their hesitancy/interrogated regarding their acceptance of vaccines. A hypothetical scenario was employed to ascertain the respondents' willingness to be vaccinated if a trusted community leader were to be vaccinated and remained healthy. Additionally, respondents were asked if they felt the vaccines were unsafe or would result in harm to themselves. If the respondent answered 'no', 'don't know', or 'refuse to answer' they skipped the remaining vaccine questions.

Those who responded 'yes' were then queried about their degree of certainty that it would cause harm with three options read out by the interviewer: 'a little convinced', 'somewhat convinced' or 'very convinced'. The final question aimed at understanding how they came to believe that Covid-19 vaccines were harmful. Interviewers were provided eight categories into which they could place the respondents' answers, but these were not read out to the respondents. The categories were developed based on prior investigation into common vaccine beliefs. See below.

NIDS-CRAM Wave 5 Questionnaire, Reasons for believing Covid-19 vaccines are unsafe.

Responses that did not fit into the categories provided were written down by the interviewer.

NIDS-CRAM Wave 5 Working Paper 8

Kollamparambil, U., Oyenubi, A., & Nwosu, C. (2023). *Mental health, Covid-19 vaccine distrust and vaccine hesitancy in South Africa.*

Using the dataset developed in the NIDS-CRAM Wave 5 survey, Kollamparambi et al. (2023) were able to establish a link between depressive symptoms and vaccine behaviour. Although vaccine hesitancy had decreased from 29% in February 2021, to 24.5% in April/May 2021, depressive symptoms increased in the South African population. Increased mental distress and depressive symptoms have been shown to affect vaccine behaviour within the 5Cs' framework of vaccine behaviour (WHO, 2014; Razai et al., 2021). Individuals with higher depressive symptoms were found to be more vaccine hesitant.

Findings pointed to policy interventions such as strengthening vaccine confidence by developing better communication approaches to reach the South African population. It was noted that social media was a breeding ground for misinformation and distrust in the efficacy and intended purpose of the vaccine, and therefore increased hesitancy. Government was urged to counter rumours and fearmongering on social media platforms by presenting credible and fact-based information. Explanatory videos which communicated risk-benefit analyses of vaccines were recommended to calm heightened fears.

The researchers used a "systematic review and meta-analysis of the psychological and mental health impact of Covid-19" to show the increase of anxiety and depression in the South African population (Kollamparambi et al., 2023). The World Health Organisation Vaccine Hesitancy Working Group (WHO, 2014) introduced the 3Cs' model to understand vaccine hesitancy. The 3Cs' model considers complacency, convenience, and confidence. This paper draws on Razai et al. (2021) who included communication and context as additional Cs in the framework, as these have been shown to be as valuable in understanding vaccine hesitancy.

In Kollamparambi et al.'s (2023:6) Mental Health, Covid-19 Vaccine Distrust and Vaccine Hesitancy in South Africa: 5C's framework, the study uses the two-question Patient Health Questionnaire (PHQ-2), a shortened version of the PHQ-9, to derive data on mental distress. The PHQ-2 asks, 'Over the last 2 weeks, have you had little interest or pleasure in doing things?' and 'Over the last 2 weeks, have you been feeling down, depressed or hopeless?' to determine the likelihood of depressive symptoms. Responses are coded from 0 to 3 and given a depressive score of 0 to 6. Responses are limited to 'not at all', 'several days', 'more than half the days' or 'nearly every day'. The study uses both PHQ-2 thresholds of ≥2 and ≥3, as well as "the depressive score variable as a continuum of distress to navigate the uncertainty of relating to threshold determination" (Kollamparambi et al. 2023:6). Data on mental health prior to the Covid-19 pandemic were captured using the ten items on the Centre for Epidemiological Studies Depression (CEPD-10) scale from the NIDS Wave 5.

Vaccine intention is inferred from the NIDS-CRAM Wave 5 question, 'To what extent do you agree or disagree with the statement: If a vaccine for Covid-19 were available, I would get it?'. Two questions are used to determine the respondent's vaccine attitude: 'Do you believe that the vaccine is unsafe or could harm you?' (With response options of: yes/no) and 'How convinced are you of this?' (With response options of: a little/somewhat/very convinced).

Using the 5Cs' framework, the study drew on a variety of NIDS-CRAM Wave 5 questions to gather the necessary data. Complacency is determined from yes or no responses to, 'Do you think you are likely to get the coronavirus?'. Confidence is determined by yes or no responses to 'Can you avoid getting Coronavirus?'. Communication is inferred from the awareness of Covid-19 symptoms shown by respondents. Convenience was drawn from household income disclosed in the questionnaire as vaccine access (being able to travel to vaccination sites and other costs involved, viz. losing a day of work) can be linked to the ability to access surplus funds. Context is also considered, based on respondents' socio-economic factors.

3. Human Science Research Council/University of Johannesburg

Report 1 – Vaccine acceptance and hesitancy: Findings from the UJ/HSRC Covid-19 Democracy Survey, by Kate Alexander, Carin Runciman, Benjamin Roberts, Martin Bekker and Narnia Bohler-Muller.

Report 1 of the HSRC/UJ Democracy survey reported on the variety of factors affecting vaccine hesitancy and acceptance. Factors considered in the study included 1) demographic factors: age, race, and gender; 2) Class factors: education, income, employment status, settlement type, medical aid, and owned transport; 3) Politics and beliefs: political party support, evaluation of presidential and government performance, and religiosity; and 4) Vaccine knowledge and proximity to infections: vaccine knowledge, vaccine information sources, and proximity to Covid-19 infections.

The third and fourth rounds of the survey were analysed for the purpose of this study. Round three was conducted between 29 December 2020 and 6 January 2021. Round four was conducted between 25 June and 20 July 2021.

The survey was conducted online via the #datafree Moya Messenger App. It had 5 million monthly users and 800 000 daily users, when the questionnaire was distributed. The survey was available in six languages: English, Afrikaans, isiZulu, isiXhosa, Setswana, and Sesotho. The survey was completed by 7 631 participants. Smartphones were the primary means of completing the survey. Access to smartphones was skewed toward younger people. This gap was dealt with by conducting a telephone survey, undertaken by Ask Afrika. The telephonic survey was conducted between 14 July and 20 July 2021, and added to the respondent count an additional 258 individuals, bringing the total sample size to 7 889 for round four of the Democracy Survey.

Vaccine information sources were broken down into twelve options: 1) television, 2) radio, 3) medical professionals, 4) government health officials, 5) local government (municipality), 6) news sites on the internet or newspapers, 7) WhatsApp, 8) social media, 9) friends, family, and colleagues, 10) flyers, pamphlets, and information sheets, 11) medical aid, and 12) other.

4. SA Department of Health Social Listening and Infodemiology Team (part of the Risk Communications and Community Engagement Working Group of the NDoH)

The SA NDoH Social Listening and Infodemiology Team released a weekly report on feedback from the public regarding many facets of the pandemic. Covid-19 and the vaccines rolled out were often submerged in a well of confusion. In response to this, the team aimed to prevent the spread of misinformation that could result in unnecessary harm. The methodology employed was established by the WHO Africa Infodemic Response Alliance (AIRA) established in December 2020 to counter and study the spread of misinformation during the infodemic. AIRA followed a four-pillar framework (2020) to manage the infodemic developed at the ad hoc WHO technical consultation managing the Covid-19 infodemic: call to action webinar, hosted on 7-8 April 2020. The pillars are:

- Identify information gaps and misinformation.
- Simplify technical knowledge.
- Amplify correct information.
- Quantify the impact of interventions (AIRA online)

The Social Listening and Infodemiology Team applies a methodology guided by the first pillar, Identify. The identify process deals with two primary challenges: managing the creation and sharing of “trusted information so that it is not excessive, overwhelming or confusing” to citizens (WHO, 2020), and the countering of misinformation.

In addressing the challenges, first “scientific findings must be collated, reviewed, appraised and assessed for relevance to help form recommendations and policies that have an impact on the health of individuals and populations” (WHO, 2020). Secondly, international collaboration to flag and authenticate mis- and disinformation was implemented. Individual countries were called on to contribute to the process, and locally based projects were established to analyse social media content and submit their results. The overarching aim in this process is to understand the drivers of fake news in order to be better positioned to counteract them.

Organisations conduct their research by drawing on social media platforms where users have either tagged a specific government department or organisation with queries or opinions, as well as general commentary trending (based on location) on social platforms. Google search trends are also analysed to cover most of the digital spaces used by the population. Additional information is gathered from the Covid hotline call centre.

AIRA is made up of WHO AFRO, UNICEF, Africa CDC, International Federation of Red Cross, and Red Crescent Societies (IFRC), UNESCO, Verified, and UN Global Pulse. Participating and supporting entities include AFP Fact Check, Africa Check, Dubawa, Pesa Check, and Meedan.

Beginning in May 2021, the Social Listening and Infodemiology Team received and analysed reports from a range of contributors which grew over the weeks of 2021 (this list is not exhaustive):

- SA National Department of Health: DHIS and NDOH social media interaction
- UNICEF: analysing search trends on Google & YouTube, Twitter and Facebook posts, and digital news articles. Google and YouTube trends data are from Google Trends, Twitter, and digital news from Talkwalker and Facebook from Crowdtangle.
- Real411, Media Monitoring Africa: Running a misinformation response system.
- Red Cross: Network of 2,000 community volunteers reporting misinformation and concerns.
- Praekelt Foundation: Running the NDoH WhatsApp system.
- WHO Africa Infodemic Response Alliance.
- UJ/HSRC: Researchers
- Covid Comms: Produces media content on Covid, working with the SABC and many others.
- Covid Call Centre (Right to Care): Reports from the Covid Call Centre.
- Centre for Communication Impact.
- Community Constituency Front (CCF), Covid Hotline, Health Systems' Trust.
- Medical Research Council, National Institute for Communicable Diseases.
- SA Vaccination and Immunisation Centre.
- DG Murray Trust.
- Section 27.
- Centre for Analytics and Behavioural Change.
- Universities of Johannesburg, Cape Town, Witwatersrand, Stellenbosch, Sefako Makgatho.
- IPSOS.

Other organisations involved included: Government Communications & Information Service, SA Council of Churches, Clinton Health Access Initiative, Heartlines, Children's Radio Foundation, People's Health Movement, and Business for SA, SA Minerals Council, Wits Reproductive Health & HIV Institute, UN Verified, HealthEnabled, Deaf SA, SA National Council for the Blind, Treatment Action Campaign, and Disability SA.

Trends, misinformation, recommendations regarding vaccine communication are still being collated by month.

In relation to vaccine rollout, this research showed that reasons for not getting vaccinated related to faith, beliefs, traditions, government mistrust, fear of long-term side effects, rumours about vaccine deaths, belief that their immune systems were strong enough to fight off the virus. In relation to coerced and/or forced vaccinations, this research showed that there were people sceptical

about government Covid-19 interventions, their effectiveness, and the actual need for Covid-19 vaccinations. This research gave the team the ability to monitor organised groups driving anti-vaccination sentiments both online, and offline, so, for example, an investigation showed that ongoing protests against vaccines and anti-vaccine damaging sentiments through #NoVaccineDompass and #NoVaccinePassports were undermining the vaccination programme.

As issues arose, for example, negative reactions to the vaccination of children, or misinformation about people dying with inflammation of the heart muscle after a second dose of Pfizer, this monitoring enabled such concerns to be addressed speedily with new messages. Difficulties encountered in getting vaccinated, downloading the necessary documentation, were also reflected back to the DoH and GCIS via this research.

Conclusions

Research into trust, take-up, attitudes, and behaviour change was extremely important in adjusting assumptions that communicators might have made:

1. A more realistic understanding was gained of how Covid-19 and vaccine misinformation was circulating in society and the changing nature of its impact on vaccine take-up.
2. Trust was critical to behaviour: the fact that scientists, doctors were highly trusted and that social media influencers were not so highly trusted – helped adjust assumptions about who should be used as messengers.
3. Because of low trust in government, partnerships were crucial to managing the pandemic.
4. That physical barriers were critical to consider in vaccine messaging – availability, accessibility, transport, etc.

Recommendation

While the GCIS, the Solidarity Fund and Ask Afrika referred, in documentation, to studies in the plural, the researchers for this chapter could find only one study that was commissioned by government in order to survey people's reception and take-up of messages. This aspect of communication is absolutely vital and should be done as early as possible and repeated frequently throughout a disaster such as the Covid-19 pandemic. It was fortuitous that the other studies mentioned here were available to inform understanding about actual behaviours on the ground. The already established NIDS longitudinal study into social wellbeing was modified by its researchers to respond to the pandemic, and this allowed for insights from the study to be drawn on by government communicators.

Theme 2: Spending analysis of communications sector – Value for money and universal access

In the Communications chapter of the Covid-19 South Africa Country Report [First edition], which focused on the period from March 2020 to March 2021, the research team observed a lack of coordination among government departments regarding the implementation of government communications.

In this section, we examined the government's response to the Covid-19 crisis and its adherence to legislative responsibilities in delivering clear, decisive, credible, and transparent information to

the South African population between 2021 and 2022. In the First edition of the Covid-19 Country Report, it was revealed that a lack of overall coordination among government departments existed in the implementation of government communications. One of the primary inquiries tackled was the impact of Covid-19 on government communications' expenditure. Asking critical questions about how taxpayers' money was allocated toward informing them about Covid-19 and its impact on their health and well-being is of paramount importance.

Research focusing on government communication during the Covid-19 pandemic holds significant importance for the public interest. It will contribute to a better understanding, not only of government priorities during times of crisis, but also of the social and economic effectiveness of government communications at both national and international levels. This knowledge will enable the government and citizens to enhance their preparedness for future crises and communication challenges. Through this research, the scope of the government's national communication capacity will be revealed, allowing for a comprehensive analysis of its strengths, weaknesses, and areas requiring improvement and further investigation. Furthermore, the research will help evaluate whether the criticisms and scrutiny regarding the government's expenditure on communication are valid or not.

Additionally, the levels of misconduct that have been the subject of public debate following governance scandals in government communication surrounding Covid-19, can potentially be addressed through this research. It may provide insights into the extent of these issues' prevalence and suggest ways in which they can be resolved effectively.

While the Government Communication and Information System (GCIS) is intended to play a central role in managing communication strategies, service procurement, and media buying, many departments tend to overlook GCIS's expertise and services. Instead, they choose to independently develop, procure, and manage their own communication campaigns and services, which has led to the lack of coordination of government's messages.

The research team closely examined GCIS's policy of allocating 30% of media buying to the community media sector. Given the evidence of irregularities in the procurement process of Digital Vibes and the subsequent investigation by the Special Investigating Unit (SIU) into the Department of Health's communication activities, the research team for the Second edition of the Communications chapter (Chapter 4) in the Country report prioritised an analysis of government communication spending across national and provincial departments, as well as state entities.

In the National Department of Health's annual integrated report, Dr. Joe Phaahla, who assumed the role of Minister of Health following the dismissal of Dr. Zweli Mkhize due to alleged involvement in irregular expenditure and the awarding of a communication contract to individuals with close ties to him, shared insights on lessons learned from the Covid-19 pandemic.

> The Covid-19 pandemic is transforming how we think about our societies and our economies. The policy choices governments make today will determine their success in building a transition to a more inclusive, and more resilient tomorrow. It is an opportunity to chart a

> path that empowers everyone to face the future with confidence. In any emergency, leaders have two equally important responsibilities: solve the immediate problem and keep it from happening again. The Covid-19 pandemic is a case in point. We need to save lives now while also improving the way we respond to outbreaks in general. The first point is more pressing, but the second has crucial long-term consequences. The long-term challenge – improving our ability to respond to outbreaks – is not new. Global public health experts have been saying for years that another pandemic whose speed and severity rivalled those of the 1918 influenza epidemic was a matter not of if but of when. We can save lives and slow the global circulation of the virus by forging strong bonds of solidarity and fraternity with all nations of the world.
> (Phaahla, NDOH Annual Report, 2020-21:10)

In this sense, the department undertook to be the lead department in communicating with South Africans, in collaboration with other partners, including the Solidarity Fund, GCIS and the media. The department also embarked on several big projects because of Covid-19, which included the design, development, and roll-out of the COVIDConnect digital system. The system (app) provided an interactive self-help service to the public, for anyone with a cell phone who tested for Covid-19. The app could also send anonymous SMS messages to all those who were in close contact with persons who tested positive. The app was rolled out to all 9 provincial Departments of Health through the collaboration with the Solidarity Fund, all 52 district offices received extensive marketing material that was placed in hospitals, Community Health Centres (CHCs) and Primary Health Care facilities (NDOH Annual Report, 2020-21). Another system was introduced during this financial year, called the Electronic Vaccination Data System (EVDS), which digitally captured each vaccination event and provided data to its data analytics platform which monitored and reported on all vaccinations administered (Ibid).

Government Covid-19 Funding

Different government departments allocated budgets and spent funds on Covid-19 related public information. The highest expenditure was by the National Department of Health (NDoH) which provided regular infection figures quantifying infection rate and spread. This is followed by the Department of Cooperative Governance and Traditional Affairs (COGTA). Some press statements were released by the Department of Basic Education (DBE), the Department of Finance and the Department of Government Communication and Information Systems (GCIS), among others, all addressing Covid-19 and lockdown issues relating to their respective mandates. However, this chapter only examines how the NDoH, GCIS and the Solidarity Fund were spending their money on communications.

According to data released by Stats SA, the total expenditure of the South African government came close to reaching the R2 trillion mark during the 2019/20 financial year.

The recently published data, found in the Financial Statistics of Consolidated General Government statistical release, encompasses the period preceding the Covid-19 pandemic. It serves as a reference point for future comparisons once comparable data from

the pandemic era becomes available. In the 2019/20 financial year, the South African government spent a total of R1.97 trillion, indicating a 10% increase from the previous year's expenditure of R1.79 trillion. This release consolidates information from various surveys conducted throughout the year, encompassing 707 institutions such as national and provincial government departments, municipalities, extra-budgetary accounts and funds, and higher education institutions (Stats SA, 2021).

The National Department of Health, which is the custodian of the population health status and is given a mandate to ensure citizens know their health rights, has access to credible health information and is tasked to embark on behavioural change communications. In the Department's annual integrated report of 2020/21, the Auditor-General's report on the audit of the financial statements refers to irregular expenditure in awarding a communication contract to a supplier.

> The report states the following on the Department's internal control deficiencies: At the request of the accounting officer, an independent consultant investigated an allegation of irregularities relating to a multimillion-rand strategic communication contract awarded by *the department, which covered the period July 2019 to 31 March 2021. The investigation was concluded on 24 May 2021 and resulted in the contract being declared irregular. The department has disclosed payment made towards this contract as irregular expenditure. Further action was dependent on the outcome of the investigation by the Special Investigating Unit (SIU).* (NDoH Annual Report, 2020-2021:120)

The report from the Auditor-General (AG) refers to the matter being referred to the Special Investigation Unit (SIU).

> The SIU also investigated an allegation of irregularities relating to the strategic communication contract and financial misconduct, covering the same period as above. The investigation was concluded on 30 June 2021 and the report was presented to the Presidency for consideration and sign-off. The further outcome of the investigation will be assessed when the report is released. (Ibid: 120)

The multimillion-rand strategic communication contract was awarded to Digital Vibes. The NDOH spent an amount totalling R612, 316 million against the National Revenue Fund. This amount was under the Covid-19 special appropriation.

Table 4.1: Health Vote: Appropriation Statements for the year ended 31 March 2021

HEALTH VOTE 18									
APPROPRIATION STATEMENTS for the year ended 31 March 2021									
8									
	2020/21							2019/20	
	Adjusted appropriation	Shifting of funds	Virement	Final appropriation	Actual Expenditure	Variance	Expenditure as % of final appropriation	Final Appropriation	Actual expenditure
Programme	R'000	R'000	R'000	R'000	R'000	R'000	%	R'000	R'000
1. Administration	647 923	-	15 629	663 552	550 985	112 587	83,0%	588 743	542 426
2. National Health Insurance	1 235 974	-	(35 418)	1 200 556	1 021 911	178 645	85,1%	1 999 789	1 840 04
3. Communicable and Non-Communicable Diseases	28 137 397	-	24 400	28 161 797	27 886 124	275 673	99,0%	22 851 142	22 713 512
4. Primary Health Care	277 796	-	(711)	277 085	314 971	(37 886)	113,7%	219 651	216 857
5. Hospitals Systems	21 219 600	-	-	21 219 600	21 188 506	31 093	99,9%	20 432 634	20 413 709
6. Health System Governance and Human Resources	6 533 906	-	(3 900)	6 530 006	6 541 847	(11 841)	102,2%	5 103 204	5 046 221
Subtotal	**58 052 596**	**-**	**-**	**58 052 596**	**57 504 325**	**548 271**	**83,0%**	**51 195 163**	**50 772 771**
Statutory Appropriation	612 316	-	-	612 316	612 316				
COVID 19 Special appropriation	612 316	-	-	612 316	612 316				
TOTAL	**58 664 912**	**-**	**-**	**58 664 912**	**58 116 641**	**548 271**		**51 195 163**	**50 772 771**
Reconciliation with statement of financial performance									
ADD									
Departmental receipts				3 773				7 934	
Statutory Appropriation / Direct charge					-				
Aid assistance				938 856				1 118 297	
Actual amounts per statement of financial performance (total revenue)				**59 607 541**				**52 321 394**	
ADD					824 398				
Aid assistance									790 475
Actual amounts per statement of financial performance (total expenditure)					**58 941 039**				**51 563 246**

(Source: NDOH Annual Integrated Report, 2020-21: 122)

A further R461, 316 million was spent on purchasing Covid-19 vaccine under the Goods and Services entry. A further R150, 000 million was used toward research of the effectiveness of the Covid-19 vaccine. The department also received concurrent approval to deviate from the normal procurement process for the several procurement transactions, ranging from service providers for fogging and virus treatment hygiene services to the purchase of vaccine doses, to expanding a current contract for strategic communication services for a period of four months for Digital Vibes and a side-by-side radio show (drama) season 2 programme for the South African Broadcasting Corporation (SABC) (R3 363 290 million) and other services. (NDOH Annual Integrated Report, 2020-21: 18; 21)

The NDOH's annual report also provided an overview of its Covid-19 expenditure as seen below for 2020/21.

Digital Vibes Scandal: Irregular Expenditure (Covid-19 Corruption)

Suspected irregularities have come to light regarding payments related to a communication contract worth R150 million for Covid-19 and National Health Insurance (NIH). It is alleged that approximately R90 million was received by close associates of Health Minister Zweli Mkhize and other third parties. The contractor, Digital Vibes, is said to have charged the Department of Health millions of rands for organising Mkhize's media briefings during the Covid-19 pandemic. This case is one of the most alarming instances of alleged Covid-19-related corruption uncovered so far (Daily Maverick, 2021).

The Department of Health, under the leadership of Dr Zweli Mkhize, and its director-general, Dr Sandile Buthelezi, appointed Digital Vibes on 15 November 2019 to provide communications around National Health Insurance (NHI). The same company was also instructed to do Covid-19-related communication on 6 March 2020. Digital Vibes was owned by long-time friend of former Minister Zweli Mkhize, Tahera Mather, and former Minister Mkhize's personal assistant, Naadhira Mitha.

A report by the Auditor-General flagged possible overcharging by Digital Vibes on 2 October 2020. This resulted in an internal investigation by Ngubane & Co. in early February 2021. The Special Investigations Unit (SIU) began their investigation on 25 February 2021. As a result, the suspension of the Digital Vibes contract took place on 1 March 2021. The NDOH released its final internal report conducted by Ngubane on 24 May 2021. By 5 July 2021, the SIU sent their referral report to the NDOH (Parliamentary Monitoring Group (PMG), 2021).

Upon investigation into the contracts with Digital Vibes, the Special Investigating Unit (SIU) discovered several irregularities. It was determined that the tender had been awarded unlawfully, as procurement procedures, National Treasury regulations, and Public Finance Management Act regulations had not been adhered to. Additionally, it was found that certain officials involved had conflicts of interest. The SIU's findings revealed irregular expenditure amounting to R150 million, as well as fruitless and wasteful expenditure totalling R72 million (PMG, 2021).

Regarding the NDoH's expenditure for the fiscal year 2021/22, the following funds were allocated to Covid-19 communications as part of their comprehensive efforts to keep the nation informed. Minister Phaahla, in his executive summary of the annual report 2021/22, highlighted the following:

> The Covid-19 pandemic demonstrated to us that our economic, political, and social systems can serve our needs and purposes only when they induce us to cooperate at the appropriate scale. The pandemic demonstrated to us that if the public and private sectors and civil society join hands, many lives could be saved. The Departments of Health worked in partnership with local and international agencies and community members to tackle the spread and impact of the virus. The magnificent team response achieved during the past year has relied upon the strong networks we already have in our routine immunisation campaigns and other health programmes. I believe we have shown how, in a time of genuine crisis, our people can come together to work efficiently and creatively to provide support to those most in need.
> (Phaahla, NDoH Annual Report, 2021/22:11)

In South Africa, the urgent priority was to promote vaccination as a means to achieve population immunity. Communication initiatives were focused on encouraging citizens to be vaccinated, despite the challenges posed by misinformation and disinformation campaigns, as well as the emergence of new variants of the coronavirus. Additionally, the government had to address unintended consequences resulting from the Covid-19 pandemic. These included issues such as gender-based violence and restricted access to health care services for patients with chronic diseases due to the lockdown alert level measures which limited people's movement.

The NDOH communication team continued its work within the Risk Communication and Community Engagement (RCCE) Committee.

> It became evident that for effective communication in general, and especially in an emergency, that it is very important to identify or segment and target the sub-groups. With the support of partners, the following were used: broadcast media (TV, radio), social media (Facebook, Twitter, Instagram, and WhatsApp), websites (from trusted organisations/sources), influencers and community leaders.
> (NDOH Annual Report, 2021/22:28)

The NDOH effectively utilised social media platforms to achieve cost savings. They implemented a paid social media campaign that involved running advertisements on popular platforms such as Facebook, Twitter, and Instagram.

Table 4.2: Expenditure: Institutional Response to the Covid-19 Pandemic – Making use of Social Media Platforms to communicate with the public

Strategy to overcome areas of under performance

As soon as the SALRC has made their recommendations on the required reforms, then the legislative process to manage medico-legal claims in South Africa will be initiated. Tje Department has engaged the remaining Provinces and the Service Provider to ensure that they fast track integrating the provincial systems with the Department Case Management Systems. Both CAJV and Norton Rose Fulbright are continuing to assist the Provinces in the handling of Medico-Legal cases.

Institutional Response to the COVID-19 Pandemic

Budget programme	Intervention	Geographical locational (provincial, district/local municipality	no. of beneficiaries (where possible)	Disaggregation of beneficiaries (where possible)	Total budget allocated	Budget spent per intervention	contribution to the output of APP where applicable	immediate outcomes
Programme 1	Effectively engage communities through demand creation and social mobilisation, to address hesitancy and improve vaccine uptake	All 9 provinces and 52 districts	All residents in South Africa	Demographic segmentation; Youth (12-35 years), Men (18-49 years), People (50 years and older) Undocumented persons People living with chronic diseases	No budget allocated	Not applicable	Placement of health promotion messages on social media platforms	Paid social media campaign was set up. Ad placement is currently on Facebook, Twitter and Instagram. Newsfeeds targeting +2 million followers (Followers), 369 000 followers (Twitter) and 2 685 followers (Instagram). Monitoring conversations, concerns, sentiments and misinformtion to health messages, and produce a social listening report, which informs communication priorities and new messaging.

Source: NDOH Annual Report, 2021/22:31

Again, the AG reflected on irregular expenditure in the 2021/22 annual report and declared the following:

> A presidential proclamation (R.74 of 2022) was issued to investigate allegations of corruption and maladministration in the affairs of the national and all provincial health departments and to recover any financial losses suffered by the state or the departments through civil litigation relating to claims that took place between 1 January 2013 and 22 July 2022. The investigation will focus on unlawful or improper conduct by claimants or applicants relating to medical negligence claims that were fraudulent, improper, or unlawful by any person or entity that unduly benefited themselves or any other person.
> (NDOH Annual Report, 2021/22:103)

This is in reference to the Digital Vibes communications agency used by the Department.

The NDOH Covid-19 expenditure increased from R5.8 million to R9.3 million as depicted in the table below.

Table 4.3: NDoH Covid-19 Response Expenditure: Vaccines, PPEs, Communication Consultants, Advertising

National Department | Annual Report 2021/22						
HEALTH VOTE 18						
NOTES TO THE ANNUAL FINANCIAL STATEMENT for the year ended 31 March 2022						
Annexure 8						
COVID 19 RESPONSE EXPENDITURE						
Per quarter and in total						
Expenditure per economic classification	2021/22					2020/21
	Q1	Q2	Q3	Q4	Total	Total
	R'000	R'000	R'000	R'000	R'000	R'000
Compensation of employees	**-**	**-**	**-**	**-**	**-**	**-**
Goods and services	**3 962 716**	**1 671 780**	**1 206 231**	**896 210**	**7 736 937**	**725 531**
Administrative fees: Payment	-	3	4	1	8	-
Inventory: Medicine: Vaccines	9 962 716	1 650 627	1 140 238	831 078	7 584 659	462 316
Operating payment	-	21 150	65 989	20 543	107 673	4 954
Advertising	-	-	-	44 597	44 597	7 300
Catering: Departmental activites	-	-	-	-	-	582
Computer services	-	-	-	-	-	32 696
Consultants: Business and Advisory Servies	-	-	-	-	-	129 898
Agency & Support/ Outsourced Services	-	-	-	-	-	26
Fleet Services	-	-	-	-	-	2 086
Inventory: Clothing, Materials & Accessories	-	-	-	-	-	1 853
Consumable Suppliers: Washing/cleaning/detergents	-	-	-	-	-	3 502
Property payments	-	-	-	-	-	1 361
Travel & subsistence	-	-	-	-	-	78 918
Contractors	-	-	-	-	-	15
Consumable supplies: Government printer	-	-	-	-	-	24

National Department | Annual Report 2021/22						
HEALTH VOTE 18						
NOTES TO THE ANNUAL FINANCIAL STATEMENT for the year ended 31 March 2022						
Annexure 8						
COVID 19 RESPONSE EXPENDITURE						
Per quarter and in total						
Expenditure per economic classification	2021/22					2020/21
	Q1	Q2	Q3	Q4	Total	Total
	R'000	R'000	R'000	R'000	R'000	R'000
Transfers and subsidies	**400 003**	**399 997**	**365 275**	**434 725**	**1 600 000**	**5 054 966**
Departmental agencies	25 000	25 000	25 000	25 000	100 000	246 700
COVID-19: Provincial Conditional Grants	375 003	374 997	340 275	409 725	1 500 000	4 808 266
Expenditure for Capital Assets	**-**	**-**	**-**	**-**	**-**	**10 151**
Other expenditure and equipement	-	-	-	-	-	10 515
Total COVID-19 RESPONSE EXPENDITURE	**4 362 719**	**2 071 777**	**1 571 506**	**1 330 935**	**9 336 937**	**5 868 009**

Source: NDOH Annual Report, 2021/22:150

Solidarity Fund Communication Expenditure

In the 2022 Annual Report, Gloria Serobe, the Chairperson of the Solidarity Fund, emphasises that the fund's main objective during the previous year was to provide support and enhance the government's national vaccination program. Similar to government departments, the Fund acknowledged the importance of sharing lessons learned from tackling a global health crisis, and emphasised the significance of collaboration among South Africans. "The Fund is unique in how it brings government, business, and civil society together. It has shown that not only is this partnership possible, but that you can respond to a crisis and act with speed and can still adhere to best practice in governance. This is something we are very proud of." (Solidarity Fund Annual Report, 2022: 5). The Solidarity Fund employed various pillars to allocate funds. Specifically, within the context of this report, the Behaviour Change Pillar played a crucial role, with R393 million disbursed. Out of this amount, R172 million was allocated for Covid-19 messaging, while an additional R221 million was designated for Covid-19 Vaccine Demand Creation. In total, the Fund disbursed R3.4 billion, with the Health Pillar receiving R2 billion and the Humanitarian Pillar receiving R426 million. As mentioned in the Behaviour Change Pillar, the following milestones were reached in the creation of a demand for and promotion of vaccination uptake: 73.7 million people were reached through several campaigns on radio,

TV and digital channels with Covid-19 and vaccination messaging; 604 000 clicks to the official vaccination website from social media promotions; and 950 community mobilisers working in all 9 provinces achieved 670 000 direct engagements on average per month to encourage, support, and convert citizens to be vaccinated (Solidarity Fund Annual Report, 2022).

The report also states that their Covid-19 communications' efforts placed significant emphasis on developing, translating, and disseminating trustworthy and easily comprehensible public health materials throughout the behaviour change campaign. In the targeted campaign to stimulate vaccine demand, they executed community workshops at the grassroots level and forged collaborations with established community organisations to enhance vaccine acceptance within communities.

In addition, the Solidarity Fund collaborated with partners such as the South African Council of Churches (SACC) to establish an exclusive interfaith Covid-19 forum. The purpose of this forum was to engage interfaith leaders, disseminate crucial messages about the pandemic, and bolster vaccine demand. Launched in July 2021, the forum aimed to combat Covid-19 and promote vaccination. Furthermore, the Community Constituency Front (CCF) served as another valuable partner, facilitating the involvement of civil society sectors, networks, and constituent member organisations in the national Covid-19 response. Another significant partner involved in the efforts was the Seriti Institute NPC which received support from the Solidarity Fund to organise workshops. These workshops were conducted with the aim of disseminating accurate information about the vaccine, and addressing concerns and misinformation related to vaccination. Additionally, the Institute developed content for various platforms such as community radio, YouTube, and Cape Town TV, with the objective of promoting behaviour change and encouraging the uptake of vaccines.

The Fund initially allocated a media budget of R78 million, but through negotiations, they managed to secure added value worth R210 million. As a result, the total campaign value reached R288 million. This widespread support yielded impressive outcomes, including:

- Reaching 23.3 million individuals through television, with multiple exposures (six times) which accounted for 65% of TV viewers.
- Reaching 25.4 million individuals through radio, encompassing 71% of total listeners.
- Reaching 25 million individuals through digital channels, generating 33 million video views and driving 604,000 clicks to the official vaccination website.
- Utilising 1,266 Out of Home sites, including 1,019 in-taxi screens.
- Generating a total of 1,400 content pieces and earning an impressive 538 media clippings through PR efforts.
- On the ground, 950 community mobilisers were deployed across all 9 provinces, achieving an average of 670,000 direct engagements per month. Their primary objective was to encourage, support, and convince citizens to be vaccinated.

Following the conclusion of the community mobilisation programme at vaccine outreach sites, the health department observed a significant decline in vaccination rates due to the absence of mobilisers on-site. Consequently, the Solidarity Fund was approached by the health department to continue supporting this critical element of

the programme. The Fund readily agreed, and mobilisers resumed their on-site activities starting from February 14th, 2022. The renewed outreach site community mobilisation effort involved 240 community mobilisers operating in rural, peri-urban, and township areas, covering approximately 60 sites across 8 provinces (Solidarity Fund Annual Report, 2022).

Overall government communications on Covid-19 Crisis

Research into government communication on Covid-19 is crucial for the public interest, as it will provide a better understanding, not only of government priorities during the crisis, but also of the social and economic effectiveness of government communications at the national and international level. This knowledge will enable the government and citizens to be better prepared for future crises and communication challenges. It will also expose the extent of the government's communication capacity at the national level and allow for a comprehensive analysis of its strengths, weaknesses, and areas for improvement and future research.

Recent scrutiny and criticism of the South African government's ability to spend public funds has raised concerns. The research will provide an opportunity to examine whether the critique is valid or not, particularly in the context of communication spending. Furthermore, the level of misconduct has been a subject of intense public debate following recent governance scandals related to government communication about Covid-19. The research may shed light on the pervasiveness of the problem and suggest ways to address it more effectively.

A government's ability to effectively communicate, particularly during times of crisis, plays a critical role in establishing its legitimacy, reputation, disaster management capabilities, and ensuring the well-being of its citizens (John, Maama, Ojogiwa, and Mubangizi, 2022). These authors posit that the successful resolution of the Covid-19 pandemic and mitigating its effects on lives and livelihoods depend greatly on the government's capacity to communicate effectively within a digital environment characterised by widespread speculation, unreliable information, and a growing lack of trust in government (Ibid). One of the primary inquiries which was aimed at being addressed was the impact of Covid-19 on government communications' expenditure.

As is now common knowledge, on 5 March 2020, the first documented case of Covid-19 in South Africa was reported. In response to the escalating situation, a national state of disaster was declared on 15 March 2020. Subsequently, on 27 March 2020, a nationwide lockdown was implemented with the aim of preventing the initial wave of infections from overwhelming the health care system. After several months of lockdowns initiated through the Disaster Management Act, President Ramaphosa appointed a National Covid-19 Command Council (NCC) to combat the increasing infections and prevent community transmission. This NCC advised government on how best to mitigate loss of lives, and, along with the World Health Organisation (2022) regulations on how to combat the coronavirus 2 (SARS-CoV-2), the government instituted the compulsory wearing of face masks in public spaces. President Ramaphosa showed the nation on live television how to put on a face mask in his 'family meetings with the nation' on 25 April 2020.

Furthermore, John, Maama, Ojogiwa, and Mubangizi, (2022) posit that, as a response to

the pandemic, the South African government initiated several measures, including the establishment of an official website dedicated to providing Covid-19-related information. The website [https://sacoronavirus.co.za/] serves as a comprehensive resource, regularly updated, to ensure the public is well-informed with accurate and reliable information. It aims to educate the population and offers health and safety guidance in multiple languages. Additionally, the website provides contact information for individuals seeking further assistance or requiring access to Covid-19-related health care support (Ibid). The website is managed by the Department of Health.

According to the annual report of the National Department of Health (NDOH), their efforts in communicating about the Covid-19 pandemic were influenced by the World Health Organisation (WHO) and other development partners. In line with the International Health Regulations (IHR) for handling outbreaks and health emergencies, they put into action a Risk Communication and Community Engagement (RCCE) Strategy.

> According to the IHR, communication is at the centre of efforts to prevent and contain the spread of diseases. In support of the RCCE Strategy, the Department developed and implemented the Social Behavioural Change Strategy. The aim of this strategy is to encourage communities to establish sustainable networks for life-saving behaviour. The premise of our development and behavioural change communication is that real learning comes only with understanding the true nature of the pandemic and appreciation of what we do not know about Covid-19.
> (NDOH Annual Report, 2020-2021:30)

The communications directorate of the NDOH formulated several strategies to address various aspects of the Covid-19 pandemic in South Africa. These included the development of a Contact Tracing Communication strategy, a COVIDConnect communication plan, and a plan of action to mitigate a potential resurgence of Covid-19 in the country. Additionally, they crafted a comprehensive South African Covid-19 Vaccine Rollout Communication Strategy. These strategies intended to ensure the timely dissemination of accurate and transparent information about the vaccines, with the objective of alleviating concerns, promoting acceptance, encouraging uptake, building trust, and effectively managing misinformation, rumours, and misconceptions related to vaccines and face masks.

The Government Communication and Information System (GCIS) department plays a crucial role in driving government communications in South Africa. It serves as the entity responsible for establishing the framework and protocols for effective government communication throughout the country. GCIS Covid-19 communications' project leader and social and governance cluster representative, Ms Phumeza Bangani, welcomed the research into GCIS's communication economics and the continued concern they have regarding government departments still not fully utilising GCIS's coordinating role and expertise in the media buying services. GCIS was allocated a communication budget of R50 million for its management of government communications.

The R50 million was spent in the following ways:

- The television campaign reached an estimated 45 million viewers, representing 80.1% of the total population with access to television.
- Radio advertisements reached 69% of the population, reaching approximately 35.8 million listeners through over 800 advertisements. More than 60% of these advertisements were broadcast by SABC radio stations.
- Around 133 billboards were strategically placed across the country, including urban, peri-urban, and rural areas. This approach aimed at addressing the digital divide, ensuring that individuals in areas with limited digital infrastructure or data access were reached. In locations without billboards, wall murals were used instead. The billboards and murals primarily targeted urban, peri-urban, and township areas in five provinces, and their messages were translated into various languages to effectively reach their intended audiences. The translation process did not incur additional costs.
- Online campaigns were conducted through various websites such as IOL, News24, TimesLIVE, and all Media24 platforms, including print media, successfully reaching approximately 3.5 million people.
- The GCIS established partnerships with Pick n Pay, MTN, and Vodacom, sharing their toolkits and content for these businesses to utilise on their own platforms. This collaboration with the private sector in sharing government-generated Covid-19 content was a noteworthy achievement for the GCIS, as the private sector typically hesitates to distribute government messages under different circumstances.
- The same platforms and channels were also utilised for the vaccination campaign.
- About 85 roadshows were conducted nationwide, primarily as part of the vaccination campaign, with a focus on densely populated areas.

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In addition to the mentioned initiatives, GCIS secured an extra R60 million through the 2020 Special Adjustment Budget, to enhance the implementation of their Covid-19 Communication Strategy, ensuring a more impactful and effective approach. Furthermore, the country's communication expenditure was supplemented by the Solidarity Fund campaigns, which contributed a total of R119 million. The Citizens in Solidarity campaign, operational from March to December 2020, was a comprehensive nationwide communication initiative that aimed at educating South Africans on the importance of collective action and adopting behaviours to effectively combat the pandemic (GCIS e-Book, 2021). South Africa lagged behind the rest of the world in their Covid-19 communication budgets, with the USA spending 20.94 trillion USD in 2020, and spending 6.8 trillion USD in 2021, while The United Kingdom spent £184m in 2020 (GCIS, e-Book, 2021:93-95).

GCIS utilised a diverse range of communication platforms, including television, radio, outdoor advertising, online platforms, and newspapers, to disseminate Covid-19 messages effectively. To support its Covid-19 campaign between April 2020 and January 2021, GCIS received an additional budget of R60 million. However, considering the need to educate and empower all 60 million citizens in the fight against the pandemic, a budget more than double the allocation would have been required.

To maximise the impact of the allocated budget and reach all South Africans, the GCIS Media Buying unit collaborated with media owners and forged partnerships. This collaborative effort allowed the campaign to be executed within the allocated budget. Ms. Neli Shuping, the Chief Director of GCIS CSA, emphasised the collective responsibility to spread the Covid-19 message and educate South Africans. During negotiations with media owners, she emphasised the importance of each stakeholder's contribution to fighting Covid-19. As a result of these collaborative efforts, the GCIS received an added value of R29,755,016.29. This additional value translated into the implementation of a campaign worth R89,566,918.65 by GCIS.

On 25 November 2022, during the launch of the e-book titled "Fighting Covid-19 through Communication: A South African story," Phumla Williams, the Director-General of GCIS, took the opportunity to reflect on the multitude of mistakes and invaluable lessons learned by the government communicators who demonstrated unwavering dedication in their efforts to combat the spread of the coronavirus outbreak. “I think this book is history in the making for us. It showcases what worked and what didn’t. It’s also going to be a book about where we pat ourselves on the back and say, 'Job well done” (SA News, 2022).

Dr. Lwazi Manzi, the former Health spokesperson, reflected on the challenging nature of the pandemic and expressed gratitude for the opportunity to serve as the department’s spokesperson during such a tumultuous time. She emphasised the profound impact of Covid-19, noting that when a health crisis strikes, it has the potential to disrupt and dismantle various aspects of society, including the economy, social fabric, and infrastructure. However, Dr. Manzi highlighted the significance of prioritising health care and fortifying health systems, as doing so lays a foundation for addressing and mitigating the effects of any health crisis, thus allowing other areas to fall into place more effectively.

Television Spend:

The TV campaign was a resounding success, reaching an impressive, estimated viewership of 45 million people, which accounted for 80.1% of the total population. In total, the campaign targeted a viewership of 167.8 million, with most viewers recorded on SABC 1, amounting to 122.6 million. Additionally, community TV stations played a vital role in reaching an additional audience of over 18 million viewers. The widespread reach of the TV campaign demonstrates its effectiveness in delivering the intended messages to a large portion of the population.

Radio Spend:

The radio campaign was equally impactful, successfully reaching 69% of the population, which translates to approximately 35.8 million listeners. The GCIS implemented a strategic approach by targeting 36 stations, including 18 SABC stations, 18 regional commercial stations, and over 100 community stations. With the airing of more than 8,000 spots, the campaign effectively delivered its key messages to the intended audience. The radio platform played a crucial role in disseminating information and engaging a significant portion of the population as part of the Covid-19 public information campaign. Notably, Ukhozi FM and Umhlobo Wenene FM demonstrated the highest reach among all the radio stations.

Outdoor/Billboards/Wall Murals/ Airport Screens:

To implement a comprehensive and multi-platform Covid-19 campaign, the GCIS utilised various mediums, including billboards, murals, and airport screens. A total of 133 billboards were procured, strategically placed across all provinces to effectively reach individuals in suburban, peri-urban, and rural areas. These billboards were translated into multiple official languages, ensuring that the messages reached a diverse audience. It is estimated that approximately 30 million people were exposed to the campaign through the billboards in different regions of the country. In areas where billboards were not available, 52 wall murals were utilised as an alternative method to convey the campaign's messaging. These were translated into the languages spoken by the local communities.

During the campaign period, airport screens played a crucial role in disseminating information, with a total of 2,832 advertising spots aired. These screens effectively reached over 2.4 million passengers who utilised the airports. The allocation of funds for billboards, murals, and airport screens is illustrated in the graph on the left, showcasing the distribution of spending across these platforms.

Online Campaign

The online campaign – implemented on Independent Online, Times Live and Media24 platforms – reached 3 500 000 impressions. Media24 online magazines, You and Drum, achieved 5 216 page views. Moreover, the #StaySafe logo was widely used by the private sector and other partners to communicate the message of Covid-19 protocols. Vodacom, MTN, Telkom and CellC provided support in communicating the vaccine roll-out messages.

GCIS Vaccination Communication Campaign & Expenditure

The GCIS Media Buying unit was also allocated R50 million to implement the vaccine roll-out campaign from May 2021 to March 2022. The campaign continued under the theme of #StaySafe to #SaveSouthAfrica. This campaign was supported by the production of different elements such as TV and radio adverts, TV squeeze-backs, news clock, infographics, which were placed on various platforms.

The campaign roll-out took place in four phases as detailed below:

- The department continued to use multiple platforms – including TV, radio, online, social media and out-of-home advertising – to reach all segments of the population. The graph below sets out spend on the platforms used.
- The vaccine roll-out campaign was carried on national and pay TV broadcasters in the country in a phased approach that targeted different age groups.
- On TV, advertising on vaccination included a news clock, TV squeeze-backs on SABC, eTV, eNCA and Newzroom Africa.
- The campaign was also flighted on all African language stations, 18 commercial regional stations, national radio stations, 119 community radio stations, including four community TV stations.
- The campaign reach continued to be extended using billboards, wall murals and online platforms. The added value received was flighting on all stations of 48 spots per stations, and four weeks of social media posts on SABC TV and SABC Radio. There were also 407 added value spots, including social media posts and interviews with provincial Health MECs on commercial stations.

- A total of 256 spots were flighted on SABC 1, SABC 2 and SABC 3. The spots were valued at R4 500 250.00. The campaign had a frequency of 12.3, which meant 26 million viewers saw the advert 12 times.
- The messaging for each phase was aligned to each age group to communicate that vaccines were available to them. To enhance the communication reach, billboards and wall murals were used. The GCIS Media Buying unit had negotiated discounts with various media owners of over R20 million.

The campaign was further expanded and enhanced by various social partners such as Pick n Pay, MTN and Vodacom, who used their platforms and retail shops to communicate the message of vaccination.

A total of 85 roadshows targeting high traffic sites were undertaken across all provinces to encourage communities to take advantage of government's vaccine roll-out programme. Local influencers were also engaged to educate communities on registration, benefits and potential side-effects of the vaccines.

Our Influencer Campaign, which targeted persons aged between 35 and 49 years old, recruited, screened and appointed social media influencers within different industries, to use their social media platforms to share pro-vaccination content to their audiences. Over 2 000 people were vaccinated during the roadshows, and more than 1 000 people were vaccinated during the Thusong Service Centre Week held in September 2021.

The GCIS developed a digital Corporate Toolkit to provide businesses with digital elements with placeholders for their organisational logos to promote the Covid-19 vaccination key messages in their companies across the country.

Recommendations for coordination of government communication expenditure

Recommendations entail the prioritisation of several crucial considerations by the government to effectively prepare for and manage future pandemics similar to the disruptive impact of the Covid-19 pandemic across all aspects of society.

The following initiatives and steps are also proposed to enable the government and its stakeholders to respond swiftly to future crises:

- Establish an intergovernmental and civil society communication committee that reports directly to the President.
- Allocate a dedicated budget, centralised within the Government Communication and Information System (GCIS), for effective coordination in responding to future pandemics.
- Develop a comprehensive communication strategy that leverages community media, municipalities, ward councillors, civil society organisations, and street communities, with allocated budgets to achieve strategic outcomes.
- Prioritise community media in all content development, production, and dissemination processes.
- Provide supplementary budgets to local governments for the establishment of local Joint Operating Centres (JOCs) and appoint a dedicated communication team to lead the communications for the local municipality, similar to the current Covid-19 pandemic initiative, with dedicated funding for communicating in local dialects.

- Minimise reliance on consultants for content development and educational marketing materials.
- Initiate training and development programmes for community media, focusing on effective communication during future pandemics.
- Make use of the many strategies the government and its partners used and develop a comprehensive communication strategy that takes into effect how best to communicate with South Africans and visitors during a pandemic.
- Capitalise on the lessons learned from the current Covid-19 situation and instruct all government departments to work through GCIS as the coordinating body for government communications.

Conclusion:

The Covid-19 pandemic has not only caused global disruptions, it has also exacerbated the profound challenges faced by the most impoverished communities in South Africa, who found themselves without adequate resources during the lockdown measures necessitated by the pandemic. This crisis has once again underscored the deep-seated inequalities within the country. Tragically, the coronavirus has claimed the lives of thousands. South Africa's response to the pandemic should be evaluated based on the lives lost and the extent of its efforts to preserve lives. The pandemic has revealed the immense responsibility of the state to educate, inform, and communicate transparently, and with trustworthiness, to its citizens. We extend our commendation to all communicators who have worked tirelessly during the pandemic, despite the absence of a dedicated communication budget specifically allocated for such crises. We also urge the government to actively collaborate with the media, civil society groups, media educators, and social change communication professionals in a collective effort to inform, educate, and ultimately save lives. By joining forces, we can better respond to the challenges posed by future crises and ensure the well-being of our communities.

Theme 3: Use of science information in communication

The First edition of the Covid Country Report, (Presidency of SA, 2021) recognised the wealth of knowledge in the country's academic and research institutions, civil society organisations, and the public sector which should be leveraged during crises such as the Covid-19 pandemic. Specifically, this knowledge needs to be accessible to all sectors of the community, through realistic and appropriate communications' strategies, recognising that communications' approaches and content may need to be adapted to be comprehensible, if they are to bring about behavioural change.

The communication of scientific information, and its uptake by the community and by decision-makers, has been a critical aspect of the way in which the Covid-19 pandemic has been addressed in South Africa, especially in the early stages of the pandemic. Ensuring that the public received accurate information about the virus and how to respond was of paramount importance to scientists and science journalists. Of key concern to scientists was the need to provide evidence-based information and accessible, easily comprehensible explanations to individuals and communities who (at least initially) had little knowledge of the virus, mechanisms of infection, and the illness it might cause.

In the early stages of the pandemic, scientists were concerned with providing clear information to the public, and counteracting misinformation and rumours which were spread widely on social media. Scientists used the media to communicate directly with the public, and particularly social media, as avenues for direct communication.

Key to public acceptance of guidance has been the respect that the public have for the leading scientists and medical professionals, and their regular appearance in the media helped to build trust in the scientific information that they were reporting. Scientists themselves have reported that they sought to deliver scientifically sound information to the public, as clearly and timeously as possible. It was the experience of leading experts that most of the lay public received the messages well, understood most of the information, and trusted and appreciated receiving the information that was imparted (Abdool Karim, April,2023).

Similarly, an expert in statistical data reported great interest in data (on infection rates and numbers, testing and hospitalisation etc.), from the general public, with continuous requests for more:

> ...the public were quite interested in understanding more about the data: how the data on infections was influenced by our limited testing, what proportion of infections were leading to more severe outcomes, the impact of infections on hospitalisations, and the overall link between the different datasets ... I believe there was trust in what I shared as many times the information was quoted and shared widely. This trust had to build over time and there was also much responsibility in ensuring that whatever I shared was factual and correct. (Suliman, April, 2023).

A number of reports and scientific articles have now been published, in the academic press and in the more popular press, which give a broader view of the extent and impact of communication by scientists on many aspects of the Covid-19 pandemic. In a recently published report, Joubert et al. (2022) provided a comprehensive analysis of communications by the scientists who were most visible, and whose expert voices were most dominant in the media, during the pandemic. The article reports that out of some 430 professors whose voices were featured in the media, 33% of the articles cited the following 10 individuals who were the most frequently quoted.

> *[Health sciences and medicine experts: Salim Abdool Karim, Shabir Madhi, Glenda Gray, Cheryl Cohen, Marc Mendelsson, Charles Parry, Lingile Pepeta, Francois Venter. Economists: Alex van der Heever and Raymond Parsons].*

Perhaps the most prominent voice was that of Professor Salim Abdool Karim, a leading expert on epidemiology and infectious diseases, who became the country's most trusted public voice on Covid-19. His journey to this role, summarised in an article in the South African Journal of Science (Joubert, 2020), led to his being the most visible science communicator nationally, and his contribution to public understanding of the Covid-19 pandemic has been invaluable. He has been a regular presence in the media, delivering relevant information clearly and effectively. As another example, Prof Glenda Gray, Director of the South African Medical Council, has been the most visible female expert voice, in an environment where female voices have been in the minority (Schimke, Daily Maverick, 2020; SAMRC, May 2020; Joubert, 2022).

Information provided by scientists guided the national response by the government to the impacts of the pandemic. Professor Salim Abdool Karim served as the Chair of the South African Ministerial Advisory Committee (MAC) on Covid-19, from March 2020 to March 2021. Numerous other science leaders and health specialists served (and still serve) on the MAC, which has continued to provide regular Advisories to government departments to date, and, more recently, on vaccination strategies and processes (DoH, Covid-19 Online Resource and News portal).

The work of the MAC was not without some frustration, as was expressed by some members in 2020 (Gray et al., 2020), regarding the way in which the information provided to the Minister was conveyed to broader audiences (covered in the SA Covid-19 Country Report [1st ed] annex to Chapter 4) (Presidency of SA, 2021). Of considerable concern was the government directive in early March 2020 that all information to the public should be issued through the Department of Health.[3]

With respect to official information, initially, there was an apparent void in the official communication around the pandemic, from both the scientists (who often made the information too complicated) as well as government (where the information was at times contradictory).

Experts sought to simplify and communicate the results for a non-scientific general audience with the aim of making it as easy to understand as possible. (Suliman, April, 2023).

The role of the popular press has proved to be invaluable in conveying the views of scientists. The Daily Maverick published regular editorials and opinion pieces by science experts and science journalists (Daily Maverick Covid Archives), and it is likely that this channel (and other similar press media) reaches, and informs the public more effectively than official channels such as the DoH and the NICD portals. Similarly, daily tabloids such as the widely-read Daily Sun have played an important role in reporting information on dealing with the Covid-19 pandemic and reaching high readership figures.

The Centre for Health Journalism, Bhekisisa (https://Bhekisisa.org), has become a highly trusted source, both for the public and the government. Another valuable and important platform for expressing informed views and conveying specialist information on many aspects of the Covid-19 pandemic, has been The Conversation Africa, which has published 283 articles written by expert scientists, since March 2020. (The Conversation, Covid-19 – Articles, Analysis, Comment).

Social media platforms (such as Twitter and Instagram) provided a channel by means of which many scientists were highly active in the initial phases of the pandemic. The expert voices of public health experts, medical specialists, and journalists were clear and accessible, and were critically important in countering misinformation and fake news.

Also valuable to the public were regular updates on social media, on national

[3] This led to the formation of the Scientists' Collective, through which a number of leading scientists expressed views about the use of advice offered by the MACs, and the way in which information was used only for the government, with no independent voice for the scientific community. The Scientists' Collective subsequently published a series of health advisories through the Daily Maverick, as well as in the South African Medical Journal (Gray et al, 2021) – see References.

statistical data, giving accessible information on Covid-19 infection rates, etc. These data updates were well-received and considerable appreciation was expressed by readers. For example, CSIR expert, Ridhwaan Suliman, (47.9k Twitter followers) provided regular graphical information on Twitter, up until January 2023. Suliman stopped sharing information because there is currently no data available on hospitalisations and deaths due to Covid-19; there is still some data being published on infection rates, but it is seen as being unreliable due to inconsistent and low levels of testing (Suliman, April, 2023).

More recent developments relating to the Covid-19 pandemic, (since the completion of the 1st edition of the Country Report, published in June 2021) have required information to guide understanding of vaccination processes and protocols, the effectiveness of various vaccines, and different approaches taken to vaccine roll-out.

The national Covid-19 Vaccination Rollout Strategy was released by the Department of Health in February 2021, giving information about the plan to vaccinate the population, with priority being given to selected population groups. The strategy was guided by recommendations from international organisations (the WHO and the CDC), as well as local experts. It was widely communicated through government departments and agencies (e.g., the Department of Higher Education and Training (DHET), and the Department of Transport), by community leaders, including traditional and religious leaders, health care workers, and civil society organisations.

The Department of Health provided a Covid-19 Vaccine implementation Guide and Toolkit, while a Covid-19 Vaccination Messaging Guideline was developed by the Communication Work Stream of the Technical Committee of the Inter-Ministerial Committee on Vaccinations in May 2021, to assist with messaging regarding the vaccine rollout. Participation by business and NGOs included communication of plans for local area coordination of vaccination programmes. For example, the DG Murray Trust (DGMT) and Tshikululu Social Investments established a fund to encourage non-government organisations to participate in area-based plans for vaccination drives.

Current communication trends and updates

Although the Covid-19 pandemic has now settled and become less newsworthy, expert scientists have continued to present information on various platforms, and many presentations and webinars are available online. For example, Professor Mosa Moshabela's presentation, 'The Rise in Covid-19 cases in South Africa: Public Health Perspective' (April 2022) and other presentations are available on the DoH Covid-19 - https://sacoronavirus.co.za/.

The South Africa Covid-19 & Vaccines Social Listening Report is still being updated weekly. UNICEF were providing situation reports till April 2022, and the Department of Health (DoH) have retained the Covid-19 Online Resources and News Portal. The DoH remains active in communication with the media when this is called for, and the department remains responsive to media enquiries, although regular briefings are no longer taking place (Malan, April, 2023).

Understandably, there is far less frequent communication from scientists in the popular media in 2023 than was evident

during the previous three years. Also, there are now far fewer requests for information and briefing from the government (Abdool Karim, April, 2023). It is notable that while the national state of disaster was in place, various government departments met regularly through the different task teams to discuss the situation and response, and to give briefings. Since the termination of the national state of disaster there have not been any further engagements, and little interest in further information from the different government departments (Suliman, April, 2023).

A lesson to be learned is that communication by scientists and experts needs to be coherent and coordinated. It must also be delivered in appropriate language and style, and scientists need to be trained in media skills. They need to understand which are the most appropriate channels for delivering information at different levels of complexity. The media, in turn, need guidelines on how to best select appropriate experts to comment within their fields of specialisation, and to be prepared to advise scientists on skills and resources needed in offering information to the public (Malan, April, 2023). One view is that in the early stage of the pandemic, there was some competition between scientists to gain visibility and be heard broadly through their commentaries in the media, which led to confusion for the public regarding the emerging evidence (Malan, April, 2023).

Recently published reports on vaccine hesitancy continue to emphasise the ongoing lack of public trust in information available in the media, and the potential for conflicting messages from official sources to create suspicion (Steenberg et al., 2023). Very recently, there has been critical comment from experts regarding unclear and confusing messages emanating from government regarding Covid-19 incidence and vaccination programmes (IOL news, 2023). Prof Shabir Madhi, an expert in vaccinology and infectious diseases who led the first clinical trials of Covid-19 vaccines in South Africa, and who has been another dominant and trusted expert voice, has been particularly vocal in explaining the need for, and safety of, Covid-19 vaccines. Most recently, he has been active in discussing development and access to new (bivalent) vaccines (News 24, Feb, 2023).

Dissenting voices and misinformation

While many sectors of the population trusted and respected the information provided by South African scientists, there were instances (and still are) of dissenting voices, vaccine hesitancy and complacency, and resistance. When the B.1.351 variant of the virus was identified by South African scientists (in January 2020), and its high transmissibility was reported, for example, the recommendations by scientists for stricter precautions were met with some resistance, which was widely voiced on social media. While scientists were responsive to misinformation and fake news in some cases, there is perhaps a need for a more coordinated approach to providing official responses to misinformation.

There have been many concerns and criticisms raised regarding the need for vaccinations. The conversations, and misinformation, about potential harm of vaccinations have been as loud in South Africa as in other parts of the world, and our scientists have been resolute in helping to provide evidence to dispel the misinformation.

One view is that most people wish to put the difficulties, and in some cases, the traumatic experiences of the pandemic behind them,

and, as a result, are not seeking further information. As a result, disinformation has been allowed to fill the vacuum, and those who remain cynical are now posting more frequently on social media than well-informed experts.

A further viewpoint is that, with time, individual opinions have become more entrenched. Debates over the advantages and risks of vaccination remain polarised, particularly as clear information and evidence concerning the side-effects of the vaccine emerge. Debates on the benefits of lockdown, and even regarding the origins of the virus itself, are ongoing (Pepper, April, 2023).

Conclusion

It is clear that public understanding of issues related to Covid-19 has changed since the start of the pandemic, and that information provided by scientists, often translated in the popular press, has influenced that understanding across different sectors of the community.

Voices from the academic research sector have been noticeable, with some individuals being particularly visible in the popular press. The question as to what impact they may have had is related to which sectors of the community have been listening to the scientists, and through which media. The voices of scientists, and particularly the few most visible experts, have reached the broader community, and there has been trust in our scientists; their scientific messaging has generally been effective in relieving concerns and dispelling misinformation. However, that trust may have changed over the period of the pandemic, and how this may have changed behaviour in ways that will persist, is a critical question.

The responsibility of scientists and science journalists, to build trust, and to ensure that the public, and government can access accurate scientific information on Covid-19, will remain for as long as the virus remains in circulation in the global population.

Theme 4: The digital divide and its impact on Communications during the Pandemic

HOW FAST CAN YOU CLOSE THE GAP?[4]

Digital technology is central to the information society. Therefore, an understanding of its technological functions, as well as its commitment to the needs of, and its impact on, society, is essential. Its network of functions extends into Government policies, White Papers, legislation, and practical government-supported initiatives. Since South Africa is already an active participant in the Fourth Industrial Revolution (4IR), and with information being the central driving force of society, any disruption within the digital environment requires careful management and understanding (see Timeline of ICT-related white papers, policies & legislation).

The Covid-19 pandemic called for acceleration in the South African ITC sector. As indicated by the Minister of Communications and Digital Technologies in the 2021/2022 report:

[4] Mr Philemon Molefe (ICASA: Engineering Technology), from the Transcript of Interview: Second Edition COVID-19 Country Report.

> The pandemic brought to the fore the stark reality of the digital divide, as the world entered into a "new normal" driven by telecommunicating for both work, education and social interactions. The poor as well as people in townships and rural areas were negatively impacted by a lack of connectivity as work, schooling and general interactions became digital overnight. The affordability of data became a key concern [...][5]

The demand for Internet bandwidth at internet exchange points increased rapidly during the pandemic due to work and education taking place from home. It is reported that the COVID-19 crisis "has placed an unprecedented demand on communication networks"[6], and the OECD reported that operators in the global market experienced an increase of up to 60% in internet traffic. The Keeping the Internet up and running in times of crisis Report produced by the OCED (2020) called for short-term measures to "enhance network stability and resilience, and to reduce the digital divide".[7]

A digital divide contributes to the increased inequalities within society – with damaging effects between the so-called haves and have-nots, the advantaged and disadvantaged, the skilled and the unskilled, the information-rich and the information-poor; digital inclusion and digital exclusion. Socioeconomic divides within South Africa, identified as one of the most unequal societies in the world, raise relevant concerns that negatively affect social cohesion.

The Department of Communications and Digital Technologies (formed in April 2020) released a Strategic Plan (2020-2025) focused on the urgent needs of South African digital and digital economic transformation.[8] The policy directives allowed for rapid response and implementation of strategic plans to ensure continuation of exceptions in the period after the pandemic – such as the spectrum roll-out (ICASA, 2020).[9]

Connectivity

South Africa struggled with delivering Broadband services despite the national broadband policy SA Connect dating back to 2013.[10] The pandemic urged support for the roll-out of phase 2 to connect over 30 000 sites in the health, education, security and government and broader community sectors at a cost of R3.8 billion.[11]

The OECD advise that, "To close the connectivity divide, people not only need to have access to broadband, they need to be connected well, which means access the high-quality communication networks and services at competitive prices."[12] South Africans are challenged by limited infrastructure and services to the rural areas, high pricing in data costs, and e-literacy levels.

The Strategy Primer for South Africa's Digital Economy Report (2020) indicated that universal access is provided through wireless coverage with a penetration rate of 99.5% in 3G coverage. The price of smart phones is the cause for the rapidly growing, but lower

[5] Department of Communications and Digital Technologies 2020/21 Annual Report (2022:10).
[6] OECD (2020). Keeping the Internet up and running in times of crisis, p. 2.
[7] OECD (2020). Keeping the Internet up and running in times of crisis, p. 1.
[8] https://www.dcdt.gov.za/documents/strategic-plans/file/208-revised-strategic-plan-2020-2025.html
[9] https://www.icasa.org.za/news/2020/icasa-engages-with-licensees-to-open-their-services-to-all-south-africans-as-the-country-fights-the-scourge-of-the-covid-19-pandemic
[10] https://www.dcdt.gov.za/sa-connect-document.html
[11] https://www.itweb.co.za/content/Gb3Bw7WagoWq2k6V
[12] https://goingdigital.oecd.org/data/notes/No_16_ToolkitNote_ConnectivityDivides.pdf (p.9)

penetration rate, of 81.7%. More importantly, the Report highlights three hampering factors: (i) digital literacy or the ability to participate, (ii) the socio-cultural factors that influence the willingness and perceived benefits, and (iii) the language barrier with less than 1% of information available in vernacular language.[13]

Broadcasting services

Not all people have access to broadcasting and telecommunication services – and the more geographically marginalised the area you live in, the slimmer the chances of collectively using telecommunication or broadcasting services with other members of the community. Those who might be geographically marginalised should be just as able and empowered to participate in sharing and receiving information. As a collective, every citizen should be able to obtain access in a format that is appropriate, such as reading, hearing, or seeing the President address the nation in a time of pandemic.

The following extract serves as an example of the importance of radio to the communities:

> On the Genadeshoop farm, just outside Piketberg in the Western Cape, cattle farmer Whernit Dirks, his father, Galant Toontjies, and six of their farm workers are huddled up next to a fire. It is just after 20:30 on Thursday, 23 April 2020 and they are anxiously waiting for Pres. Cyril Ramaphosa to start his address on their battery-powered radio. [...] "We are fortunate however, that we can move freely on the farm and are not confined to our homes like people in the suburbs. When the president speaks over the radio, it is my duty to listen. So, I make sure that I am well informed about his decisions to lockdown the country," Waggenstroom further elaborates.[14]

More importantly, they need to be informed about the spread and treatment of COVID-19. The tech-smart mobile health (m-health) government services that was developed for COVID-19 does not speak to the needs of the marginalised to be connected. Connectivity is needed for using WhatsApp to register for UIF; to follow the government's national COVID-19 updates, to receive COVID-19 test results via WhatsApp, or to be part of cellphone tracking and tracing after a trip to town, clinic and hospital (see also the National e-Governance Strategy and Road Map (2017)[15]; and the National Digital Health Strategy for South Africa 2019–2024 (2019)[16]).

Information divide

It is important that a distinction is made between the different sub-communities to ensure that the voices of all parties are heard equally to provide for their diverse information and communication needs. This includes the workforce, vulnerable communities, women and children, the elderly and the disabled. This aspect should also be understood in the context of disability grants, due to the large number of vulnerable people having medical conditions (both physical and mental) that exclude them from the job market.

[13] https://genesis.imgix.net/uploads/Pathways-to-Digital-Work-SADA-Strategy-Primer-full-report.pdf
[14] Genadeshoop farm workers Piet Smit and Mias Waggenstroom – FOOD FOR MZANSI, https://www.foodformzansi.co.za/farm-living- during-covid-19-weve-always-been-in-lockdown/
[15] https://www.gov.za/sites/default/files/gcis_document/201711/41241gen886.pdf
[16] https://www.health.gov.za/wp-content/uploads/2020/11/national-digital-strategy-for-south-africa-2019-2024-b.pdf

Rural areas demand the means to communicate critically important information during a health pandemic effectively. The identified characteristics of these areas highlight the potential challenges that might arise due to the high levels of unemployment, literacy and poverty, the lack of basic infrastructure (including roads and communication networks) and access to basic services. Furthermore, the rural areas are dominated by "agricultural and mining activities as compared to secondary industry and manufacturing as in urban areas", exasperating the needs of women and the youth.[17]

Considering the significant internal migration to urban areas, the Report of the Presidential Commission on the 4th Industrial Revolution (PC4IR) (2020) warns against the "failure to plan for and adequately provide social and economic services linked to urbanisation poses a critical challenge for improving human wellbeing."[18]

Concerning the elderly, service providers make provision for a bottom-up, rather than a top-down approach to catering for specific needs. Although technological literacy forms an important part of building a knowledgeable society, cognisance is taken of vulnerable groups for whom this is both an emergency device and a lifeline to the outside world. There is a range of (affordable) products on the market aimed at the specific needs of senior citizens – a device that allows for basic functionalities "for elderly customers to make easy access voice calls and SMS when connecting with friends, family and during emergencies"[19]

Spectrum roll-out

ICASA released the Covid-19 ICT Regulation (February 2020) in support of the release of the temporary spectrum and ensure the continuation of broadcasting services.[20]

BOX | ICT National State of Disaster Regulations[21]

The purpose of these Regulations is to prescribe minimum standards that Licencees must adhere to only during the subsistence of the National State Disaster in order to –
(a) facilitate the dissemination of information required for dealing with the National Disaster;
(b) enable the facilitation of the national response to the National Disaster and post-disaster recovery and rehabilitation;
(c) enable implementation of measures that may be necessary to prevent an escalation of the National Disaster or to alleviate, contain and minimise the effects of the National Disaster; and
(d) ensure that there is continuation of the provision of services in the Republic.

[17] https://africacheck.org/sites/default/files/Rural-Safety-Strat.pdf p.9.
[18] https://www.gov.za/documents/report-presidential-commission-4th-industrial-revolution-23-oct-2020-0000 p. 13.
[19] Online at, https://www.vodacom.co.za/vodacom/services/specific-needs-senior-citizens
[20] https://www.icasa.org.za/legislation-and-regulations/final-regulations
[21] ICASA from the Transcript of Interview: Second Edition COVID-19 Country Report.

The Regulations (which also took into consideration the spectrum auction), covered three crucial domains[22]:

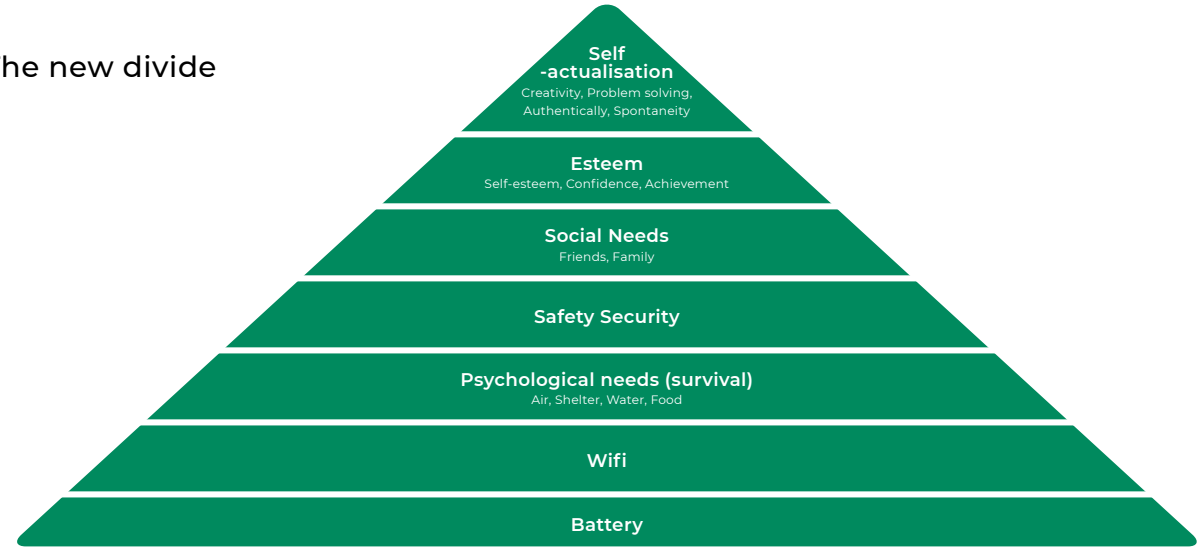
- Social obligations in respect of the connecting of the unconnected public service institutions such as clinics, police stations, schools, government departments, at an average speed of no less than 5 megabits per second.
- Coverage obligations, in particular, in respect of providing coverage in the rural areas as a priority, as well as the zero rating of dot gov.za websites.
- Throughput obligations in respect of the timelines that are set for the percentage of the population that should be covered in the next three (80%) and five years (98%).

South Africa did not complete the digital migration and spectrum release by June 2015. The roll-out of a temporary spectrum during the pandemic, exasperated the long-awaited radio frequency spectrum auction that took place in March 2022.

The issue of affordability was addressed by the Competition Commission in the Data Service Market Inquiry published in 2020. The commission recommended:

> ...immediate relief on data pricing focusing on the level and structure of pricing. The Commission also calls for agreement across operators for a commitment to offer all prepaid subscribers a lifeline package of daily free data to ensure all citizens have data access on a continual basis, regardless of income levels as well as an industry wide approach to zero-rating of content from Public Benefit Organisations. Telkom (Openserve) must also reach agreement with the Commission on substantial price reductions for the IP Connect products.[23]

The new divide



As the National Development Plan predicted, the digital divide will create its internal divide. "The real divide over the next 20 years will be between those who have access to reliable electricity to power these devices and those who do not."[24] The Integrated Energy Plan[25] and the South Africa's Just Energy Transition Investment Plan[26] aim to supply "national energy security in a form of reliable energy production, distribution and storage".

[23] https://www.compcom.co.za/wp-content/uploads/2019/12/DSMI-Non-Confidential-Report-002.pdf
[24] National Development Plan [2012: pp. 93–94].
[25] https://www.energy.gov.za/files/iep/2016/integrated-energy-plan-report.pdf
[26] https://www.thepresidency.gov.za/download/file/fid/2649

Timeline of ICT-related white papers, policies & legislation

1994	The Reconstruction and Development Programme (RDP) of the Government of National Unity (GNU) (replaced by the National Development Plan)
1996	1996 White Paper on Science and Technology Sentech Act, 1996 (Act No. 63 of 1996) Telecommunications Act, 1996 (Act No. 103 of 1996)
1999	Broadcasting Act, 1999 (Act No. 4 of 1999) National Research and Technology Foresight (1999)
2000	Independent Communications Authority of South Africa Act, 2000 (Act No. 13 of 2000)
2002	The South African National System of Innovation National Research and Development Strategy (2002)
2003	Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003)
2006	Black Economic Empowerment Charter for the ICT Sector Council
2007	Broadband Infraco Act 33 of 2007
2008	DST's Ten-Year Innovation Plan (2008-2018) Broadcasting Digital Migration Policy for South Africa
2011	New Growth Path Draft Under-Serviced Area Definition Regulations and the Explanatory Memorandum Spectrum Policy Directions
2012	The Presidential Infrastructure Coordinating Commission (PICC) launched Strategic Integrated Project (SIP) 15: Expanding Access to Communication Technology National Development Plan
2013	South Africa Connect: Creating Opportunities, Ensuring Inclusion – South Africa's Broadband Policy ICT RDI Roadmap
2014	Electronic Communications Amendment Act 1 of 2014 ICASA Amendment Act 2 of 2014 Infrastructure Development Act No. 23 of 2014 Broadcasting Amendment Bill 2015

2015	South African Research Infrastructure Roadmap
2016	National Integrated ICT Policy White Paper (2016) National research and development strategy of South Africa National e-government strategy and roadmap
2017	ICT SMME Development Strategy Electronic Communications Amendment Bill 2018 [letter of withdrawal, 13 February 2019] White Paper on Science, Technology and Innovation (2019)
2019	Data Services Market Inquiry Final Report (2 December 2019) Presidential Commission on the 4th Industrial Revolution (PC4IR) Audio and Audio-visual Content Services Policy Strategic Infrastructure Projects (SIPS) which include: • Strategic Integrated Project No 22: Digital Infrastructure • Sub-project: a. National Spatial Infrastructure Hub Strategic Integrated Project No 30: Digitising of Government Information Programme Strategic Integrated Project No 35: SA Connect Phase 1B Programme South African Science, Technology and Innovation Indicators Report
2020	Electronic Communications Act, 2005 (ACT NO. 36 OF 2005) Invitation to provide written comments on proposed policy and policy direction on rapid deployment of electronic communications networks and facilities • National Digital and Future Skills Strategy Report of the Presidential Commission on the 4th Industrial Revolution Decadal Plan for White Paper on STI (2020–2030) 4IR Strategic Implementation Plan (SIP) Draft Data and Cloud Policy, which was published on 01 April 2021 for public comments Mobile Broadband Services Regulations 2021 Cybercrimes Act, Act 19 of 2020
March 2021	ICT Covid–19 National Disaster Regulations
April 2021	Sector Computer Security Incident Response Teams (CSIRTs) established through the Communication Risk Information Centre (COMRIC) National Radio Frequency Plan 2021 (NRFP-21) | 8.3 kHz – 3000 GHz
May 2021	Department of Communications and Digital Technologies | Revised 2020-2025 Strategic Plan
Nov 2021	Establishment of a State Digital Infrastructure Company

Jan 2022	Policy Direction on 5G Spectrum (draft)
March 2022	South African Broadcasting Corporation SOC Ltd Bill
May 2022	Electricity Directions Regarding the Communications and Digital Technologies Sector
June 2022	Digital Transformation Strategy for Africa (2020-2030)
Sep 2022	Media and Digital Platforms Market Inquiry | Terms of Reference (17 March 2023)
Nov 2022	National Policy on Rapid Deployment of Electronic Communications Networks and Facilities
March 2023	Draft White Paper on Audio and Audiovisual Media Services and Online Content Safety: A New Vision for South Africa 2023 Broadcasting Digital Migration Programme | Analogue switch-off
May 2023	Broadcasting Digital Migration Programme | Final switch-off

CASE STUDY | Swartkop, Northern Cape

The case study reports on the development of social confrontation, exclusion and community-level dissatisfaction caused by the relevant digital legislation – Astronomy Geographic Advantage Act, 21 of 2007, and the KCAAA regulations.[27] Developing a concrete, mid-term, sustainable, and affordable alternative telecommunication solution seems far more complex than initially expected. As a result, the delay in finding and implementing a successful solution caused the available commercial service providers' existing infrastructure to fail. Coupled with that, the undertaking of SKA SA to "[...] manage its brand and information to stakeholders through SKA provided Internet services: to communicate information on the SKA project; to set up Wi-Fi hotspots in the affected area; and to create a similar presence at the Farmsteads, Libraries and Schools"[28] (2018:8) was only partially fulfilled when the Covid-19 pandemic expedited the need for accessible and affordable means of communication services.

The case of Swartkop, Northern Cape

According to the population records, when a housing project was investigated in 1994, Swartkop had approximately 220 residents. Only 120 individuals, adults and children, in approximately 42 households. Many moved away, and many of the older people passed away. The Swartkop community consists mainly of elderly people (pensioners) who retired here after they stayed and were employed at surrounding farms, as well as employed agri-workers with their families.

[27] Karoo Central AAAs, as published in the Government Gazette on 12 March 2014.
[28] SKA1_MID IEMP [2018] "SKA Stakeholder Engagement Programme" [p. 8], online at https://www.environment.gov.za/sites/default/files/docs/SKAIEMPChapter4.pdf

Some of the women remain in Swartkop while their husbands work on farms. A group of farmworkers also leave for farms on Sunday evenings to return on Friday evenings.

Previously, Swartkop was still part of a private hand exchange – until the service was down more often than it was in operation. Swartkop's only reception is via MTN's LUS 12 tower on the Sishen-Saldanha railway line. Fortunately, these "extended" range towers of up to 120 km provide Swartkop with reception. A 15-meter Yagi antenna on the roof boosted the signal in every home. MTN donated approximately 50 of these antennae to Swartkop. The phone was then situated inside the house on a "pad" (the local term was "plakkie"), which is connected via a cable to the antenna. Several hills surround the settlement where the Swartkop inhabitants could go to phone, and the areas where one could find reception were marked with white stones, referred to as the telefoonhokkies [phone booths].

The SKA project threatens the future of Swartkop's already weak cellphone reception. Swartkop nestles in the so-called "Advantage Area 1", where the reception grew gradually weaker until it disappeared one day. In telecommunication (and broadcasting) challenges, landowners and farmland inhabitants are situated in a geographical area that increases their vulnerability. This sparsely populated region's farming population still accounts for thousands of individuals for whom there should be a means to ensure platforms where they can express their needs, and not be placed in a position where a dependency relationship for access to basic rights such as telecommunication creates inequality.

References

Abdool Karim, S., 2023, [3 April. [Director: CAPRISA; CAPRISA Professor of Global Health: Columbia University;Special Advisor to the Director-General of the World Health Organisation] [Interview for South Africa Covid-19 Country Report, [Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Alexander, K., Runciman, C., Roberts, B., Bekker, M. & Bohler-Muller, N., 2021. Report 1 – Vaccine acceptance and hesitancy: Findings from the UJ/HSRC Covid-19 Democracy Survey, Round 4, 18 August. https://hsrc.ac.za/news/latest-news/uj-hsrc-covid-19-democracy-survey/

Baleta, A., (undated). Why SA is not getting the new bivalent Covid-19 vaccine anytime soon, News 23, 13 February. https://www.news24.com/news24/health/spotlight/why-sa-is-not-getting-the-new-bivalent-Covid-19-vaccine-anytime-soon-20230213

Bosch, T. & Wasserman, H., 2023, Tabloid newspapers are seen as sensationalist - but South Africa's Daily Sun flipped that script during Covid-19, The Conversation, 3 March. https://theconversation.com/tabloid-newspapers-are-seen-as-sensationalist-but-south-africas-daily-sun-flipped-that-script-during-Covid-19-199911

Burger, R., Maughan-Brown, M., Kohler, T., English, R., & Tameris, M., 2021. Increased openness to accepting a Covid-19 vaccine is a shot in the arm for South Africa: Evidence from the NIDS-CRAM Wave 5 Survey. Working Papers, 2.1. Vaccines. https://www.cramsurvey.org/reports/ (Accessed 24 October 2023).

Competition Commission South Africa, 2019, Data Services Market Inquiry, Final Report, 2 December. https://www.compcom.co.za/wp-content/uploads/2019/12/DSMI-Non-Confidential-Report-002.pdf

Daily Maverick Archives, (undated) Daily Maverick. https://www.dailymaverick.co.za/section/Covid-19/

Davis, R., 2021. Digital Vibes scandal: The story behind the story, Daily Maverick, 19 October. https://www.dailymaverick.co.za/article/2021-10-19-digital-vibes-scandal-the-story-behind-the-story/.

D.G Murray Trust (DGMT) and Tshikululu Social Investments, 2021. Mobilising local communities in support of the COVID-19 vaccination program, 7 July. https://tshikululu.org.za/wp-content/uploads/2021/09/Support-for-NGO-In-Area-Based-Teams.pdf

Edelman Trust Barometer, 2020, Special Report, March, (data collected between March 6 and March 10) https://www.edelman.com/sites/g/files/aatuss191/files/2020-03/2020%20Edelman%20Trust%20Barometer%20Brands%20and%20the%20Coronavirus.pdf

Genesis Analysis & The Gordon Institute of Business Science & Pathways for Prosperity Commission on Technology & Inclusive Development, (undated), South Africa in the Digital Age: A strategy primer for South Africa's digital economy. https://genesis,imagix.net/uploads/Pathways-to-Digital-work-SADA-strategy-primer-full-report.pdf.

González Fanfalone, A., Reisch, M.,Naito ,M,. Lee, J. & Weber, V., 2021, Bridging Connectivity Divides: Going Digital Toolkit Note, No.16. (further to OECD Digital Economy Paper No. 315). http://goingdigital.oecd.org/data/notes/No_16_ToolkitNote_ConnectivityDivides.pdf.: 9.

Gopalakrishan, S & Ganeshkumar, P., 2013. Systematic reviews and meta-analysis: Understanding the best evidence in primary healthcare. J Family Med Prim Care, Jan-Mar 2(1):9-14. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3894019/

Government Communication and Information System (GCIS), 2021. Covid-19 Vaccination Messaging Guideline developed by the Communication Work Stream of the Technical Committee of the Inter-Ministerial Committee on Vaccinations, 3 May. https://www.gcis.gov.za/vaccine-guideline

Government of South Africa, 2018. Karoo Central AAAs. Astronomy Advantage Areas Regulations in terms of the Astronomy Geographic Advantage Act, Act 21 of 2007, Government Gazette No. 420851, 5 December. https://www.gov.za/sites/default/files/gcis_document/201812/42085gon1337.pdf

Fighting Covid-19 Through Communication: A South African Story. https://issuu.com/gcispsm/docs/fighting_covid-19_through_communication-_a_south_a

Government of South Africa, 2012. Natiomal Development Plan, 2030. https://www.gov.za/issues/national-development-plan-2030

Government of South Africa, 2022. South Africa's Just Energy Transition Investment Plan (JET IP) 2023-2027, November. https://www.thepresidency.gov.za/content/south-africa%27s-just-energy-transition-investment-plan-jet-ip-2023-2027

Gray, G., van der Heever, A., Madhi, S., McIntyre, J., Kana, B., Stevens, W., ... Venter, F., 2021, The Scientists' Collective 10-point proposal for equitable and timeous access to Covid-19 vaccine in South Africa. South African Medical Journal, 111(2): 89–94. doi: 10.7196/SAMJ.2021.v111i2.15498.

Human Science Research Council (HSRC)/ University of Johannesburg (UJ), 2021. Democracy Survey, 26 October. https://hsrc.ac.za/news/latest-news/uj-hsrc-covid-19-democracy-survey.

Independent Communications Authority of South Africa (ICASA), 2020, ICASA engages with licensees to open their services to all South Africans as the country fights the scourge of the Covid-19 pandemic, News/Events/Latest News, 19 March. https://www..icasa.org.za/news/2020/icasa-engages-with-licensees-to-open-their-services-to-all-south-africans-as-the-country-fights-the-scourge-of-the-covid-19-pandemic.

Independent Communications Authority of South Africa (ICASA), (2020), Point 7: ICT Covid-19 National Disaster Regulations, Government Gazette No. 43207, 6 April. https://www.icasa.org.za/legislation-and-regulations/ict-covid-19-national-disaster-regulations.

John, Sokfa & Maama, Haruna & Ojogiwa, Oluwaseun & Mubangizi, Betty. (2022). Government communication in times of crisis: The priorities and trends in South Africa's response to COVID-19. The Journal for Transdisciplinary Research in Southern Africa. 18. 10.4102/td.v18i1.1146.

Joubert, M., 2020, From top scientist to science media star during Covid-19 – South Africa's Salim Abdool Karim. South African Journal of Science, 116(7/8). https://doi.org/10.17159/sajs.2020/8450.

Joubert, M., Guenther, L., Rademan, L., 2022, Expert voices in South African mass media during the Covid-19 pandemic. S Afr J Sci. 2022;118(5/6), Art. #12480. https://doi.org/10.17159/sajs.2022/12480.

Kollamparambil, U., Oyenubi, A., & Nwosu, C., 2023, Mental health, Covid-19 vaccine distrust and vaccine hesitancy in South Africa: A causal mediation regression analysis. Plos One 18(3) https:doi.org/10.1371/journal.pone.0278218

Malan, M., 2023, [4 April]. [Mia Malan, Editor-in-chief of Bhekisisa Centre for Health Journalism, South Africa. [Science communication related to Covid][Interviewed for South Africa Covid-19 Country Report [Second edition]]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Molefe, P., [Interviewed for South Africa Covid-19 Country Report, [Second edition]]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Moshabela, M., 2022, The Rise in Covid-19 cases in South Africa: Public Health Perspective, 29 April, Department of Health, Covid-19 Online Resource and News Portal Webinars & Presentations. [https://www.health.gov.za/wp-content/uploads/2022/04/The-Rise-in-Covid-19-cases-in-South-Africa-Public-Health-Perspective-29-April-2022.pdf]

Mzekandaba, S., (IT in government editor), 2023, R36bn budget boost for SA Connect, Phase Two, Business Technology Media Community, 22 February. https://www.itweb.co.za/content/Gb3Bw7WagoWq2k6V

National Department of Communications and Digital Technologies, (DCDT) 2020, SA Connect: Overview, Phase 1 & Phase 2. https://www.dcdt.gov.za/sa-connect-document.html.

National Department of Communications and Digital Technologies (DCDT), 2022, Revised Strategic Plan 2020-2025, 26 May, https://www.dcdt.gov.za/documents/strategic-plans/file/208-revised-strategic-plan-2020-2025.html.

National Department of Communications and Digital Technologies(DCDT), 2021, 2020/21 Annual Report, 30 September. https://www.gov.za/documents/department-communications-and-digital-technologies-annual-report-20202021-30-sep-2021-0000

National Department of Energy, 2016, Integrated Energy Plan. https://www.energy.gov.za/files/iep/2016/integrated-energy-plan-report.pdf

National Department of Government Communication & Information System (GCIS), 2022, Fighting Covid-19 Through Communication: A South African Story, 21 November. https://issuu.com/gcispsm/docs/fighting_Covid-19_through_communication-a_south_a

National Department of Health, (undated), National Digital Health Strategy for South Africa, 2019-2024. https://www.health.gov.za/wp-content/uploads/2020/11/national-digital-strategy-for-south-africa-2019-2024-b.pdf

National Department of Health, 2021. NDOH Annual Integrated Report 2020-21. https://www.health.gov.za/wp-content/uploads/2021/11/Annual-Report-2020-2021.pdf.:11.

National Department of Health, (undated). Covid-19 Online Resource and News Portal, Resources, SAcoronavirus.co.za. https://www,sacoronavirus.co.za.

National Department of Health, (undated). Covid-19 Vaccine implementation Guide and Toolkit https://knowledgehub.health.gov.za/system/files/elibdownloads/2022-03/DGM%20DOH%20Vaccination%20Manual%20FINAL%20FOR%20WEB%20(1).pdf

National Department of Telecommunications & Postal Services, 2017, National e-Government Strategy and Roadmap [Electronic Communication and Transactions Act, 25 of 2002]. https://www.gov.za/sites/default/files/gcis_document/201711/41241gen886.pdf.

National Income Dynamics Study-Coronavirus Rapid Mobile Survey (NIDS–CRAM), 2021. Wave 5 Synthesis report, Working papers 2 and 8. https://www.cramsurvey.org/reports

Ngcakani, N., 2020, Farm-living during Covid-19: 'We've always been in lockdown', Food for Mzansi.co.za: The new face of South African agriculture, News, 28 April. https://www.foodformzansi.co.za/farm-living-during-covid-19-weve-always-been-in-lockdown/

Nkgadima, R.,2021, Experts say government's mixed coronavirus messages cause confusion, IOL News, 11 February.https://www.iol.co.za/news/south-africa/western-cape/experts-say-governments-mixed-coronavirus-messages-cause-confusion-9ea44d28-a022-4c1b-a137-457615c38746 (Accessed April 2023).

Organisation for Economic Cooperation & Development (OECD), 2020, Keeping the internet up and running in times of crisis: Policy responses to Coronavirus (Covid-19), updated 4 May. https://www.oecd.org/coronavirus/policy-responses/keeping-the-internet-up-and-running-in-times-of-crisis-4017c4c9/

Parliamentary Monitoring Group (PMG), 2021. Department's response to SIU Digital Vibes Report; with Minister & Deputy Minister, 1 October. https://pmg.org.za/page/Department%E2%80%99s%20response%20to%20SIU%20Digital%20Vibes%20Report;%20with%20Minister%20&%20Deputy%20Minister

Pepper, M., 2023, [4 April] [Communication with scientists] [Interviewed for South Africa Covid-19 Country Report [Second edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Phaahla, J. (Dr)., 2021. National Department of Health, NDOH Annual Integrated Report 2020-21. https://www.health.gov.za/wp-content/uploads/2021/11/Annual-Report-2020-2021.pdf.:11.

Presidency of South Africa, 2021, Development of a Country Report on the Measures to Combat the Impact of Covid-19 in South Africa. South Africa Covid-19 Country Report [First edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria: June.

Presidency (The) of South Africa, 2022, South Africa's Just Energy Transition Investment Plan (JET IP) for the initial period 2023-2027, November. https://www.thepresidency.gov.za/download/file/fid/2649

Razai, M.S., Oakeshott, P., Esnail, A., Wiysonge C.S., Viswanath, K., and Mills, M.C. 2019. COVID-19 vaccine hesitancy: the five Cs to tackle behavioural and sociodemographic factors. Journal of the Royal Society of Medicine 114(6): 295–298

Schimke, K., 2020, Glenda Gray: the woman heading up South Africa's sub-team of Covid-19 pandemic research advisors, Daily Maverick, Maverick Citizen: Friday Activist, 14 May, https://www.dailymaverick.co.za/article/2020-05-14-glenda-gray-the-woman-heading-up-south-africas-team-of-50-expert-Covid-19-pandemic-advisors/ ; https://www.samrc.ac.za/news/glenda-gray-woman-heading-south-africa%E2%80%99s-sub-team-Covid-19-pandemic-research-advisors .

Solidarity Fund (SF), 2022. Annual Report, March 2021-Febuary 2022. https://solidarityfund.co.za/media/2022/09/SF_IAR_2022_vFinal19.9.22.pdf.

South African Government, 2020, Report of the Presidential Commission on the Fourth Industrial Revolution – Summary Report & Recommendations (presented by the Presidential Commission on the Fourth Industrial Revolution), January, (Government Gazette No. 43834, 23 October). https://www.gov.za/documents/report-presidential-commission-4th-industrial-revolution-23-october-2020-0000 (13).

South African News, 25 November 2022 [https://www.sanews.gov.za/south-africa/gcis-unveils-covid-19-e-book)]

South African Police Service (SAPS), (undated), National Rural Safety Strategy. https://africacheck.org/sites/default/files/Rural-Safety-Strat.pdf. (9)

South African Radio Astronomy Observatory (SARAO), 2018. SKA Stakeholder Engagement Programme. https://www.sarao.ac.za/wp-content/uploads/2019/03/SKA-IEMP-Chapter-4.pdf.

Steenberg, B., 2023. Vaccine hesitancy in South Africa: COVID experience highlights conspiracies, mistrust and the role of the media, South African Medical Research Council (SAMRC), The Conversation, 26 January. https://theconversation.com/vaccine-hesitancy-in-south-africa-covid-experience-highlights-conspiracies-mistrust-and-the-role-of-the-media-198002.

Suliman, R., 2023, April. [Interviewed for South Africa Covid-19 Country Report [Second edition]]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

The Presidency, 2021, Government and civil society join hands and resources for Vooma Vaccination Weekend, South African Government Media Statements, 29 September. https://www.gov.za/speeches/government-and-civil-society-join-hands-and-resources-vooma-vaccination-weekend-29-sep-2021.

UNICEF, 2022, Covid-19 Situation Report: A snapshot of current needs and response. Reporting period 1 January to 30 April 2022. https://www.unicef.org/southafrica/documents/Covid-19-situation-reports-2022.

Various authors, 2023, The Conversation, Covid-19 – Articles, Analysis, Comment. https://theconversation.com/africa/Covid-19/articles.

Vodacom, 2023, Senior Citizens Specific Needs: Services and Information. https://www.vodacom/shopping/v/specific-needs-senior-citzens.

World Health Organisation. 2014. Strategies for addressing vaccine hesitancy: A systematic review. WHO SAGE working group dealing with vaccine hesitancy .World Health Organisation, October. https://cdn.who.int/media/docs/default-source/immunization/sage/2014/october/3-sage-wg-strategies-addressing-vaccine-hesitancy-2014.pdf?sfvrsn=b632b81e_4 (Accessed 24 October 2023).

World Health Organisation. 2014. World Health Statistics 2014, 14 May. https://www.who.int/publications/i/item/9789240692671.

World Health Organisation. 2020. Managing the COVID-19 infodemic: promoting healthy behaviours and mitigating the harm from misinformation and disinformation [online]. https://www.who.int/news-room/detail/23-09-2020-managing-the-covid-19-infodemic-promoting-healthy-behaviours-and-mitigating-the-harm-from-misinformation-and-disinformation (Accessed 24 October 2023).

World Health Organisation. 2020. Africa Infodemic Response Alliance (AIRA). https://www.who.int/publications/i/item/9789240010314

CHAPTER 5.1
HEALTH SECTOR

ABSTRACT

Surveillance was instrumental in managing the COVID-19 pandemic. Various methods helped track cases, variants, and disease severity. In addition, the data aided authorities in identifying waves, gauging control measures, and estimating transmission rates. Genomic analysis tracked SARS-CoV-2 variants, and hospital surveillance assessed health care impact. Despite low testing, wastewater monitoring caught outbreaks, but excess mortality showed unreported COVID-19 deaths. Household studies highlighted asymptomatic transmission and vaccination's importance. Serosurveys revealed increasing immunity across waves. Emerging variants, like Omicron, demonstrated the virus's dynamic nature, emphasising the need for ongoing surveillance and global collaboration. The Delta variant strained South Africa's health care systems, revealing vaccine rollout challenges. Disruptions to routine services occurred and were worsened by societal unrest. Vaccination efforts targeted high-risk groups, but hesitancy persisted due to safety concerns and misinformation. Advisory committee transparency and clear communication were vital. Overall, continuous surveillance, adaptive responses, and public cooperation were essential in managing the pandemic's multifaceted challenges.

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ABBREVIATIONS AND ACRONYMS

AEFI	Adverse Events following Immunisation
Africa CDC	Africa Centres for Disease Control and Prevention
AHRI	Africa Health Research Institute
AIRA	Africa Infodemic Response Alliance
AU3S	African Union Smart Safety Surveillance
COGTA	Department of Cooperative Governance and Traditional Affairs
Covid-19	Coronavirus disease
DSI-NRF	Department of Science and Innovation-National Research Foundation
EPI	Expanded Programme on Immunisation
EVDS	Electronic Vaccination Data System
GCIS	Government Communication and Information System
HSRC	Human Sciences Research Council
ICU	Intensive Care Unit
IFRC	International Federation of Red Cross and Red Crescent Societies
IPC	Infection Prevention and Control
KRISP	KwaZulu-Natal Research and Informatics Sequencing Platform
MAC	Ministerial Advisory Committee
NDoH	National Department of Health
NEMLC	South African Essential Medicines List Committee
NGS-SA	Network for Genomics Surveillance in South Africa
NICD	National Institute for Communicable Diseases
NICD DATCOV	National Institute for Communicable Diseases – Hospital Surveillance for COVID-19
NICD/SACEMA	National Institute for Communicable Diseases/ South African Centre of Excellence in Epidemiological Modelling and Analysis
NIDS–CRAM	National Income Dynamics Study-Coronavirus Rapid Mobile Survey
NISEC	National Immunisation Safety Expert Committee
PCC	Post COVID-19 Condition
PPE	Personal Protective Equipment
R	Effective Reproductive number
rT-PCR	Reverse Transcription Polymerase Chain Reaction
SACEMA	South African Centre of Excellence in Epidemiological Modelling & Analysis
SACMC	The South African COVID-19 Modelling Consortium
SAHPRA	South African Health Products Regulatory Authority
SAMRC	South African Medical Research Council
SANBS	South African National Blood Service
SARS	Severe Acute Respiratory Syndrome
SF	Solidarity Fund
SIU	Special Investigating Unit
SRD	Social Relief of Distress
TERS	Temporary Employment Relief Scheme
UIF	Unemployment Insurance Fund
UJ	University of Johannesburg
UNESCO	United Nations Educational, Scientific, and Cultural Organisation
UNICEF	United Nations Children's Fund
VOC	Variant of Concern
WHO	World Health Organisation

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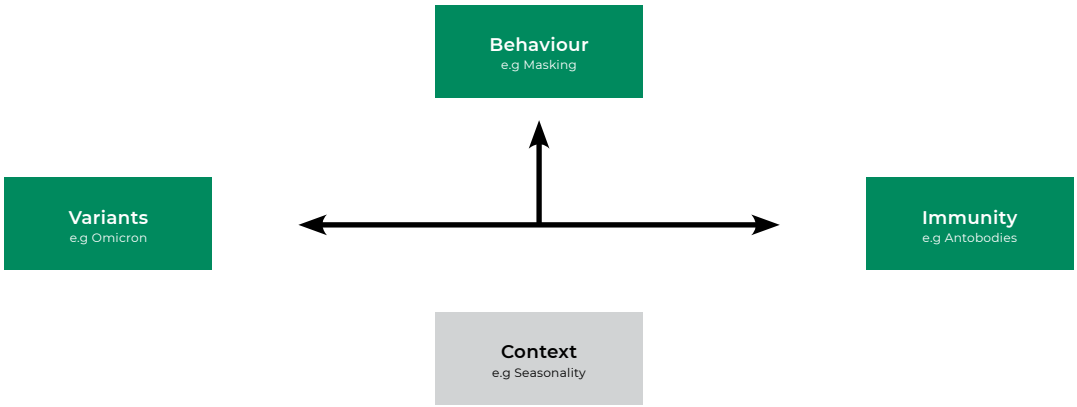
INTRODUCTION

In this edition of the South African COVID-19 Report, the section on the health sector response to the COVID-19 pandemic extends on the work previously reported in the first edition of the Country Report (Presidency of South Africa, 2021), to now include developments beyond the second (Beta) wave of the COVID-19 Pandemic in South Africa. In this regard, we focus on Stage 8 of the South African response framework to COVID-19, namely 'Ongoing Vigilance' (refer to previous edition). The eighth and final stage of the framework places emphasis on surveillance of new cases/waves, population immunity and the national COVID-19 vaccine programme, and we include in this report surveillance of new variants, disease severity measured by hospitalisation and mortality, and socio-behavioural aspects of vaccine acceptance and vaccine hesitancy. The report further describes how surveillance activities contributed to informing the national pandemic response.

The emergence of new variants in the reporting period for this edition imposed the most significant impact on the country's experience of the COVID-19 pandemic, particularly during the third (Delta) wave, and, to some extent, during the fourth (Omicron) wave. Vaccines for COVID-19 were, by all accounts, the most important intervention, following their introduction by the health sector at the tail end of the second (Beta) wave of the pandemic. There was also recognition that increasing antibody levels in the population, from vaccine and/or infection immunity, contributed immensely to the reduction of the negative impact of COVID-19 in South Africa, observed increasingly from the fourth (Omicron) wave onward. However, the role of socio-behaviour was also observed to greatly influence the response to the pandemic, mediated largely through masking, vaccine hesitancy, misinformation/disinformation and mandatory vaccination. Therefore, we can convey in this report that, in a particular context, environment or period, we found that the severity of the subsequent waves in South Africa were influenced predominantly by characteristics of circulating variants, population immunity and behaviour, but not seasonality, as shown below in Figure 5.1.1. These aspects will emerge as common running themes in the rest of this chapter.

Figure 5.1.1: Influence of variants, immunity and behaviour on COVID-19 waves



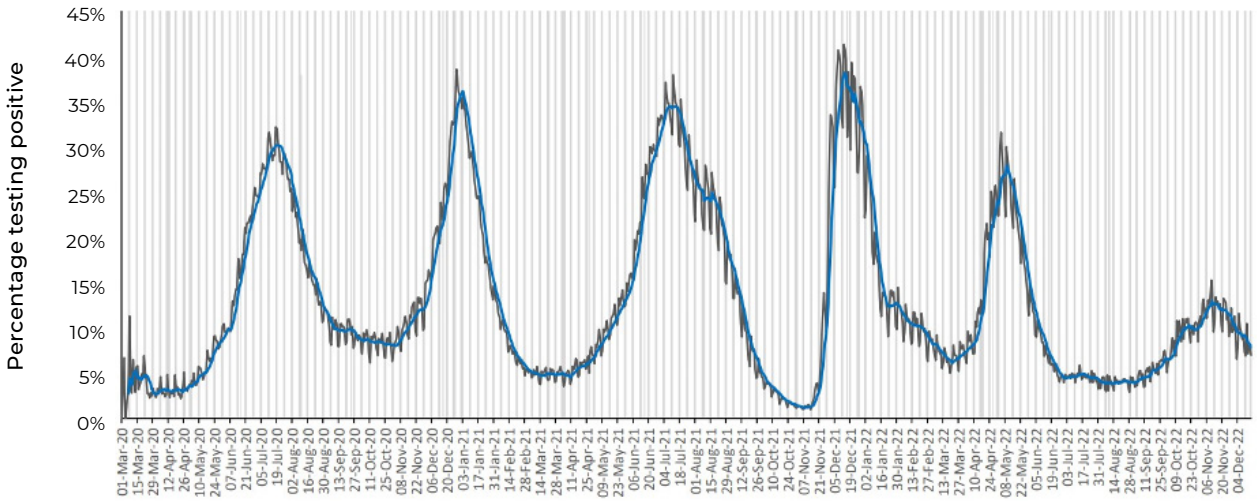
SURVEILLANCE

From 5 March 2020 to 31 December 2022, a total of 4,049,006 SARS-CoV-2 cases (NICD weekly epidemiological report), 546,703 COVID-19 hospitalisations and 104,648 in-hospital deaths (NICD DATCOV report) were reported in South Africa. Following the first two waves predominated by D6014G mutation and Beta variant, the latter waves were dominated by Delta, Omicron BA.1 and Omicron BA.4/BA.5. Surveillance was crucial in identifying resurgences, describing the characteristics of emerging variants, and in defining COVID-19 severity, which informed the national response in each wave.

Testing and case-based surveillance

In March 2020, the National Institute for Communicable Diseases (NICD) established a surveillance system of SARS-CoV-2 tests and cases (Silal, 2022). Data were initially submitted by public and private laboratories on RT-PCR assay for SARS-CoV-2, but subsequently, positive SARS-CoV-2 antigen tests were also reported, although there were challenges in under-reporting of antigen tests. NICD reported daily and weekly on the numbers of SARS-CoV-2 tests conducted, and the percentage testing positive (NICD testing reports), and positive SARS-CoV-2 cases in South Africa (NICD weekly epidemiological reports) and were able to monitor trends in resurgences and the emergence of COVID-19 waves (Figure 5.1.2). Laboratory data were useful in classifying circulating variants using the detection of the S gene target on the TaqPath COVID-19 PCR test. During the Omicron wave, non-detection of the S gene target was utilised as a proxy to identify Omicron infection (Wolter, 2022).

Figure 5.1.2: Percentage of PCR tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 5 March 2020-31 December 2022. Blue line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.



Modelling

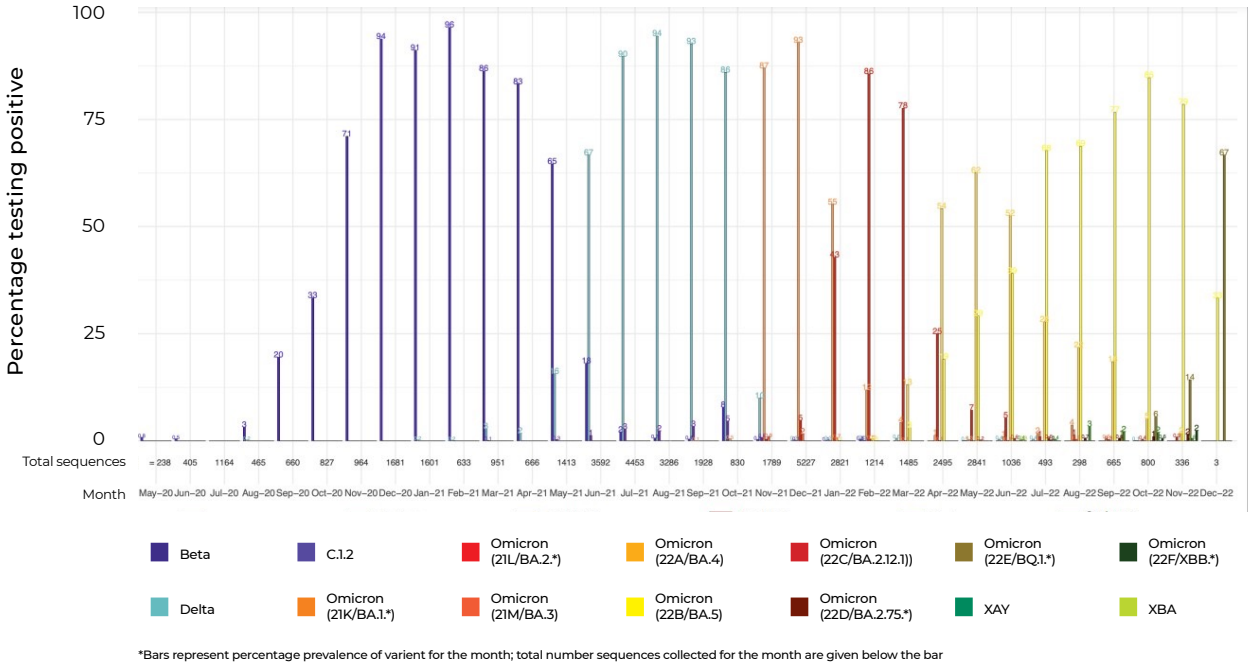
The NICD and the DSI-NRF Centre of Excellence in Epidemiological Modelling and Analysis (SACEMA) analysed data on rT-PCR-confirmed COVID-19 cases, hospital admissions, and deaths, to estimate the effective reproductive number (R) of SARS-CoV-2 over time in South Africa, at the national and provincial levels (NICD/SACEMA reports). R is the average number of secondary cases per infectious case, in a population composed of both susceptible and non-susceptible hosts (once the infectious agent is circulating). If R>1, the number of new cases per time unit will increase, such as at the start of an epidemic. Where R=1, the number of new cases is stable over time, and where R<1, there will be a decline in the number of new cases per time unit.

The South African COVID-19 Modelling Consortium was established to project the spread of the disease to support policy and planning in South Africa. They produced reports on modelling the emergence of new waves (SACMC reports). They also reported on trends in re-infection (NICD re-infections reports; Pulliam, 2021). Modelling estimates were particularly helpful during the peaks of the third wave when hospitals were under pressure, and provided projections on hospitalisations which guided the response at provincial and district levels.

Genomic surveillance

The Network for Genomics Surveillance in South Africa (NGS-SA), which includes the NICD, KwaZulu-Natal Research and Informatics Sequencing Platform (KRISP), University of Cape Town, Stellenbosch University, the University of the Free State, the University of Pretoria, the University of the Witwatersrand and the National Health Laboratory Service, continued to monitor and assess the evolution of SARS-CoV-2. They conducted sequencing of a sample of positive cases, reporting on the variants of concern that circulated in South Africa throughout the pandemic (NGS reports) (Figure 5.1.3). Sequencing was important particularly in late 2021, when the NGS were among the first to report on the emergence of the Omicron variant in South Africa, and the continued analysis provided early data to the rest of the world on the characteristics of the Omicron variant, including transmissibility and immune escape.

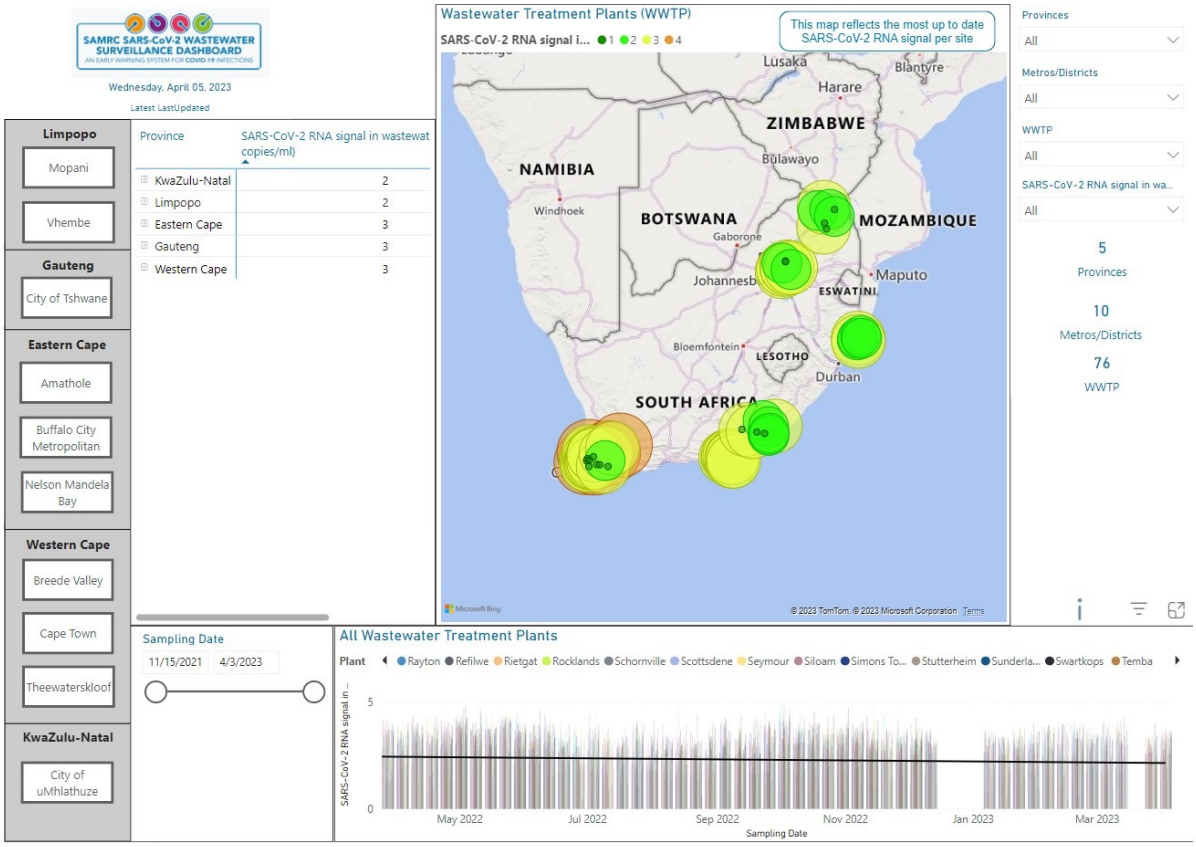
Figure 5.1.3: Detection rates of variants of concern being monitored, South Africa, May 2020-23 December 2022. Bars represent percentage prevalence of variant for the month; total number sequences collected for the month are given below the bar.



Wastewater surveillance

SARS-CoV-2 is shed from symptomatic and asymptomatic persons and can be monitored in wastewater. A consortium of partners, including the NICD Centre for Vaccines and Immunology and the South African Medical Research Council (Figure 5.1.4), collected and interpreted findings from detection and quantification of SARS-CoV-2 levels in influent (untreated) wastewater in over 80 wastewater treatment plants across all provinces. Levels of SARS-CoV-2 in wastewater correlated with population levels of SARS-CoV-2 over time and indicated the geographic distribution of disease (NICD Centre for Vaccines and Immunology reports). Variants of SARS-CoV-2 identified in wastewater through detection of single-nucleotide polymorphisms that are specific to each variant, were shown to correspond to variants prevalent in clinical cases, across time and place. Wastewater surveillance has proven to be an important early detection metric and will enable continued monitoring for SARS-CoV-2 when testing numbers are low.

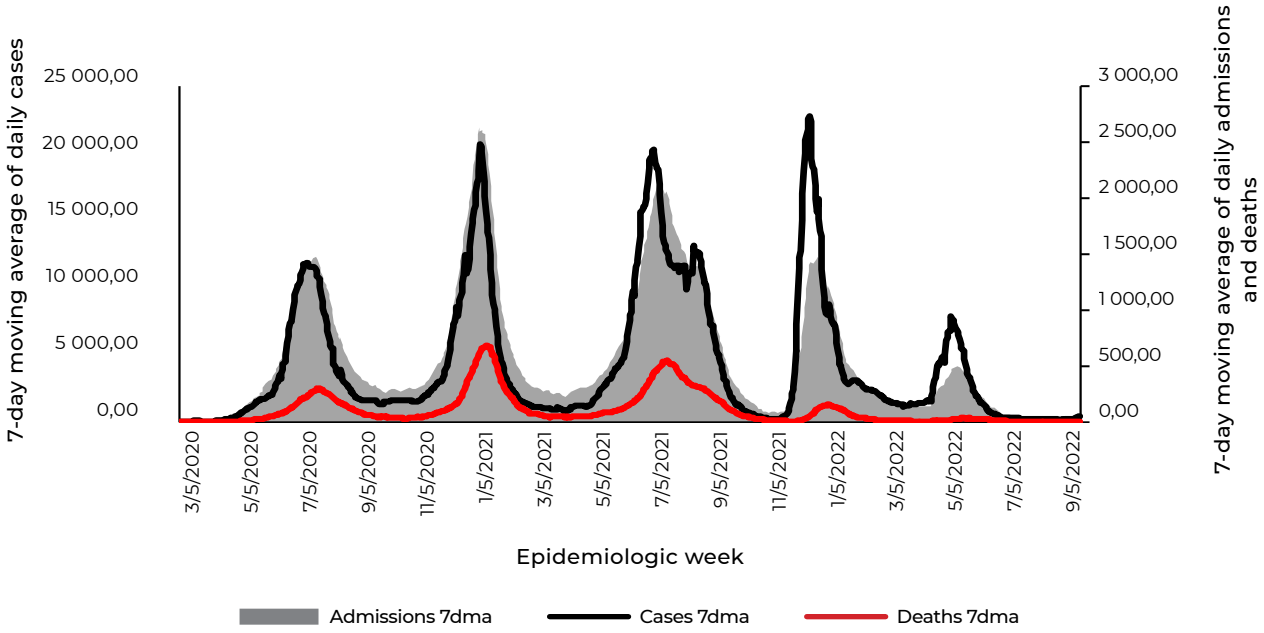
Figure 5.1.4: SARS-CoV-2 wastewater surveillance dashboard, South African Medical Research Council (10 August 2023).



Hospital surveillance

The NICD established DATCOV, a hospital surveillance system for COVID-19 in March 2020. DATCOV was adopted by the National Department of Health (NDoH) as a national hospital surveillance system which, by December 2022, received data from 408 public and 262 private hospitals in all 9 provinces of South Africa, and provided daily and weekly reports on hospitalisation and deaths (Figure 5.1.5) (NICD weekly hospitalisation reports). Analysis of DATCOV data revealed risk factors for in-hospital COVID-19 mortality included older age, male sex, Black, Coloured and Indian race, admission in the public sector, and in certain provinces, as well as pre-existing comorbidities including hypertension, diabetes, chronic cardiac and renal disease, malignancy, HIV and tuberculosis (Jassat et al., 2021a). With the emergence of new variants, it was important to characterise disease severity, and DATCOV publications reported increased mortality in the Beta-dominated second wave (Jassat et al., 2021b); decreased severity in the Omicron BA.1 dominated fourth wave (Jassat et al., 2022a); and decreased mortality in the Omicron BA.4/BA.5 dominated fifth wave, as well as the protective benefit of COVID-19 vaccination and prior infection (Jassat et al., 2022b). Further analyses of DATCOV data revealed disparities related to race and socio-economic status in COVID-19 treatment and outcomes (Jassat et al. 2022c).

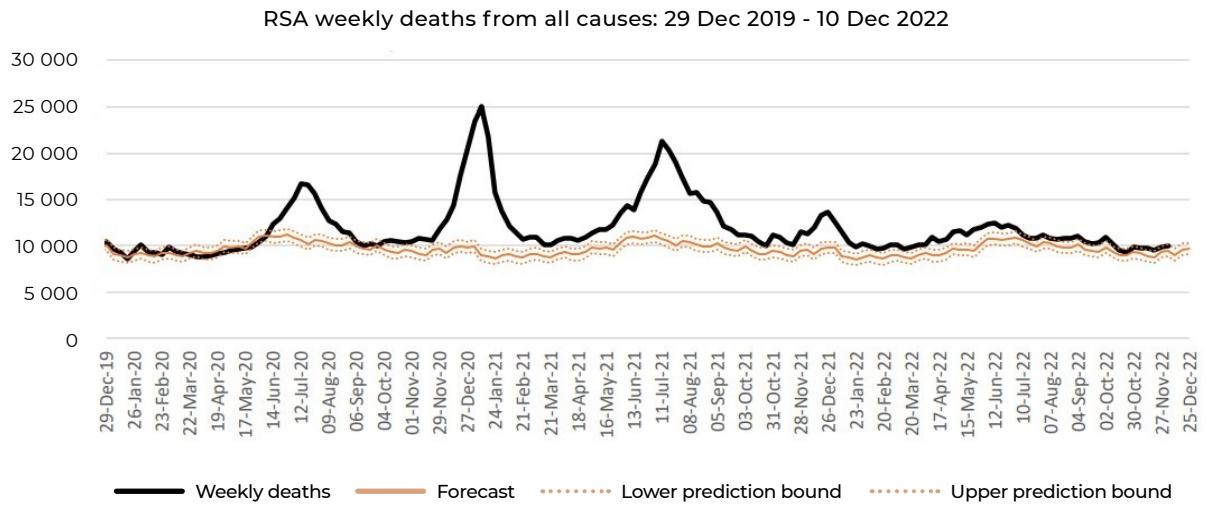
Figure 5.1.5: 7 day moving average (DMA) of SARS-CoV-2 cases, COVID-19 admissions and in-hospital deaths, South Africa, 5 March 2020 - 17 September 2022



Excess mortality

The South African Medical Research Council (SAMRC) reported on excess mortality during the COVID-19 pandemic. In the context of the emerging COVID-19 pandemic, it became essential to track the weekly number of deaths that occurred. Deaths recorded on the National Population Register were provided to the SAMRC on a weekly basis. The estimated numbers were compared with the number that would be expected, based on the historical data from 2014-2019. While official reports placed the total reported COVID-19 deaths for South Africa, by 31 December 2022, at just over 104,000, the MRC reported excess deaths of 339,000 during the same period (Figure 5.1.6), suggesting that the true toll of COVID-19 deaths was significantly higher than the reported deaths (SAMRC, excess death reports, *last accessed 4 December 2023).*

Figure 5.1.6: Number of weekly deaths from all causes, South Africa, 29 December 2019-10 December 2022.



Serosurveys

A number of studies reported on seroprevalence of SARS-CoV-2 using antibody surveys in different communities at different timepoints in the pandemic. These sero-surveys suggested increasing population immunity with each successive wave, reaching over 90% after the Omicron BA.1 dominated fourth wave. The reduced mortality in the Omicron waves was presumed to be related to the high prevalence of humoral and cell-mediated immunity in South Africa, from prior infection and vaccination.

After the second (Beta) wave, SARS-CoV-2 antibody sero-prevalence estimates were 47% in blood donors in South Africa (SANBS, 2021). After the third (Delta) wave, seroprevalence was estimated at 71% in blood donors (Cable, 2022) and 73% in Gauteng (Madhi et al., 2022b). After the fourth (Omicron BA.1/BA.2) wave, seroprevalence was estimated at 97% in blood donors (Bingham, 2022) and 91% in Gauteng (Madhi et al., 2022b). The latter serosurvey indicated that 61% of individuals had serological evidence of SARS-CoV-2 infection during the Omicron BA.1/BA.2 wave in South Africa. A South African study demonstrated that prior infection, whether symptomatic or not, provided durable protection against reinfection beyond a year, and resulted in a complex immune landscape (Sun et al., 2022).

These studies were valuable in demonstrating the increasing population immunity over time, from natural infection and COVID-19 vaccination, which conferred protection against disease severity in the two Omicron waves.

Household cohort studies

Cohort studies provided important information on asymptomatic infection, household transmission and the development of immunity. The prospective household cohort study of SARS-CoV-2, influenza, and respiratory syncytial virus community burden, transmission dynamics, and viral interaction in South Africa, included households in

Agincourt, Mpumalanga province (rural site) and Klerksdorp, North West province (urban site) from July 2020 to August 2021. They reported a high rate of SARS-CoV-2 infection, with most infections being asymptomatic in individuals of all ages (Cohen, 2022). Asymptomatic individuals transmitted SARS-CoV-2 at similar levels to symptomatic individuals, suggesting that interventions targeting symptomatic individuals, such as symptom-based testing, and contact tracing of individuals tested because they report symptoms, might have limited effects as control measures. Increased household transmission of Beta and Delta variants was likely to have contributed to recurrent waves of SARS-CoV-2 infection, with more than 60% of individuals infected by the end of follow-up. Increased attack rates, reinfection, and acquisition in adolescents, and prolonged SARS-CoV-2 shedding in people living with HIV who were not virally suppressed, suggests that prioritised vaccination of individuals in these groups could affect community transmission.

SARS-COV-2 VARIANTS

Since the identification of the first mutations in the spike protein (S) of SARS-CoV-2 (the main target of vaccines against COVID-19), several variants of concern (VOC) emerged. According to the World Health Organization (WHO, 2022) a SARS-CoV-2 strain is considered to be a VOC if it has at least one of the following changes: 1) Increase in transmissibility or detrimental change in COVID-19 epidemiology; 2) Increase in virulence or change in clinical disease presentation; and 3) Decrease in effectiveness of public health and social measures or available diagnostics, vaccines and therapeutics.

These variants of concern are named according to their genetic lineages, but in order to facilitate public discussions of variants, an expert group convened by the WHO recommended using letters of the Greek alphabet as a more practical naming system. In the previous report the variants now designated as Alpha (B.1.1.7), Beta (B.1.351) and Gamma (P.1) were discussed. This report will therefore focus on variants Delta (B.1.617.2) and Omicron (B.1.1.529).

Delta (B.1.617.2)

During October 2020, a new variant (now named Delta) was identified in the state of Maharashtra, India. From there it quickly spread throughout the world, outcompeting existing circulating variants (Mlcochova et al., 2021). In South Africa, genomic data indicated that the occurrence of Delta increased from 14% in May 2021, to 49% in June 2021 (NICD, 2021). During this time, Gauteng had the highest incidence of this variant in South Africa.

Sequencing revealed that Delta had 23 new mutations compared to Alpha (Mohammadi et al., 2021). These mutations have been linked to the increased ability of Delta to bind to the ACE2 receptor (Starr et al., 2021), causing higher replication efficiency in host cells (Mlcochova et al., 2021). This variant also proved to be more transmissible than the Alpha variant, which could be attributed to its higher replication efficiency, resulting in a decrease in the generation time of this variant (Hart et al., 2022). In addition, these mutations allowed Delta to escape from immune cells (Shiehzadegan et al., 2021). This variant was also significantly less sensitive to neutralising antibodies from both previously infected individuals, as well as from vaccination.

However, the NICD still found that vaccines remained effective in preventing severe disease.

Omicron (B.1.1.529)

The B.1.1.529 variant (now named Omicron), with more than 50 mutations compared to the original SARS-CoV-2 virus isolated in Wuhan, China, was first reported to the WHO by South Africa on 24 November 2021, from a specimen collected on 9 November 2021 (WHO, 2021). However, retrospective testing found earlier samples from individuals in England on 1 and 3 November, and in South Africa, Nigeria and the United States on 2 November (Mallapaty, 2022). By December 2022, this variant had spread around the world faster than any previous variant. It also replaced the Delta variant in South Africa from November 2021 (NGS-SA, 2022).

The replacement of the original Omicron variant could be explained by the ability of BA.4 and BA.5 to evade neutralising antibodies generated by both prior infections by BA.1 (7.5-7.6-fold lower antibody levels) as well as vaccination (2.6-3.6-fold lower antibody levels) as found in a preliminary study by Khan et al. (2022).

Severity of disease caused by Omicron in South Africa

One of the important aspects regarding Omicron, in the light of its highly infectious nature and ability to evade the immune response, was the severity of disease it causes, as this would contribute to the clinical outcome of infections. This aspect was important in planning a public health response, including the allocation of resources and guiding clinical management. Initial data suggested that, although Omicron was more transmissible than Delta, it caused less severe disease (Ledford, 2021; Wolter et al., 2022; Wang et al. 2022). It was also found that Omicron preferentially infects the upper respiratory tract and therefore causes less infection and damage to the lungs (Hui et al., 2022).

South African studies suggested reduced risks of hospitalisation and severe disease among Omicron-infected individuals when compared to Delta-infected individuals, in part, due to high population immunity (Wolter et al., 2022). The trend of increasing cases and admissions across South Africa's first three waves shifted in the Omicron fourth wave, with a higher and quicker peak, but fewer admitted patients, who experienced less clinically severe illness and had a lower case-fatality ratio (Jassat et al., 2022a).

The WHO cautioned that this data should not be seen as supporting the narrative that Omicron was a mild variant, as significant numbers of patients still developed severe disease and died. All variants of concern continue to contribute to substantial morbidity and mortality, especially among vulnerable populations.

Continued emergence of new variants

As stated in the previous report, it is important to remember that new variants continue to emerge as mutations are still occurring. Since the emergence of Omicron in 2021, a shift occurred in that Omicron sub-variants continued to emerge and dominate during 2022. Examples of these were the Omicron subvariant (BA.5.2.1) identified in Shanghai, China on 8 July 2022 (Reuters, 2022) and BA.2.75, which was found in many countries, including India, Australia, Germany, the United

Kingdom, Canada and the United States of America (Ungar and Goshal, 2022). Omicron BA.4 and BA.5 were detected in South Africa in February 2022, and both jointly dominated the fifth wave from April 2022 to June 2022. Although it is still too early to know how these variants will impact the course of the pandemic, the ongoing emergence of new variants again emphasises the importance of ongoing surveillance in order to monitor and respond effectively to the pandemic.

Global responses to the emergence of new variants

Omicron was identified in Botswana and South Africa, resulting in much of the world banning travellers from South Africa from entering their countries, particularly in the Global North (Mendelson et al., 2021). These restrictions on travel were not guided by science, and it emerged that community transmission was already occurring in many of these countries. South Africa faced the punitive response of curtailment to economic activity as a response of these travel restrictions, despite excellent science that enabled early detection and reporting of the new variant. The WHO, in a statement of the tenth meeting of the International Health Regulations Emergency Committee regarding the COVID-19 pandemic, "praised South Africa for their rapid identification, and transparent and rapid sharing of information on the Omicron VOC. The Committee was concerned about the reaction of States' Parties in implementing blanket travel bans, which are not effective in suppressing international spread, and may discourage transparent and rapid reporting of emerging VOC".

Variant Consortium

A consortium was established in early 2021 to facilitate sharing of information and collaboration between South African researchers around the emergence and characteristics of new variants of concern (VOC). Chaired by Africa Health Research Institute (AHRI), meetings were held weekly, or bi-weekly, attended by NICD, SAMRC, KRISP, private hospital groups, researchers and academic organisations. Four working groups were established, (1) Clinical/ epidemiology/modelling; (2) Diagnostics; (3) Virology; and (4) Vaccines. The Variant Consortium enabled collaboration across institutions, with early data sharing resulting in rapid dissemination of information during periods of new variant emergence.

LONG COVID OR POST COVID-19 CONDITION

Post COVID-19 Condition (PCC) as defined by the World Health Organisation (WHO), "occurs in individuals with a history of probable or confirmed SARS-CoV-2 infection, usually 3 months from the onset of COVID-19 with symptoms that last for at least 2 months and cannot be explained by an alternative diagnosis" (Soriano, 2022). It is estimated that 30% of people who have been infected with SARS-CoV-2 may go on to develop PCC (Fernandez-de-Las-Penas, 2021). Longitudinal studies have reported persistent symptoms up to two years after acute COVID-19 (Huang, 2022).

The most common symptoms reported include fatigue, shortness of breath, joint/ muscle pain and weakness, headache, cough, chest pain, sleep disturbance, depression/

anxiety, and cognitive deficits ('brain fog') including loss of memory and difficulty concentrating (Aiyegbusi, 2021; Crook, 2021; Parums, 2021; Nguyen et al., 2022; Han et al,, 2022; Alkodaymiet al., 2022; van Kessel et al., 2022). Systematic reviews have reported impaired functional status and reduced quality of life among adults with PCC (Aiyegbusi et al., 2021; Michelen et al., 2021; Amdal et al., 2021; Pizarro-Pennarolli et al., 2021; Ceban et al., 2022).

A Western Cape retrospective cross-sectional study included adults diagnosed with mild COVID-19 who were called, two months post-diagnosis. It was found that 60% of patients with mild COVID-19 had ≥ 1 PCC symptom, while 35% had ≥ 3 ongoing symptoms for two months (Mendelsohn et al., 2022). Dyspnoea and fatigue were the most common symptoms. The findings revealed that 52% of employed patients missed work, and 25% of patients self-reported non-recovery from their COVID-19. Moreover, 24% of patients consulted a clinician for PCC, but only 7% of patients received PCC care in the public sector.

The Department of Physiological Sciences at Stellenbosch University established an online registry for PCC. The study showed that plasma samples from PCC still contain large anomalous (amyloid) deposits (microclots) and that these microclots in both acute COVID-19 and PCC plasma samples were resistant to fibrinolysis, even after trypsinisation (Pretorius et al., 2021). Various inflammatory molecules were substantially increased in samples from individuals with acute COVID-19 and PCC.

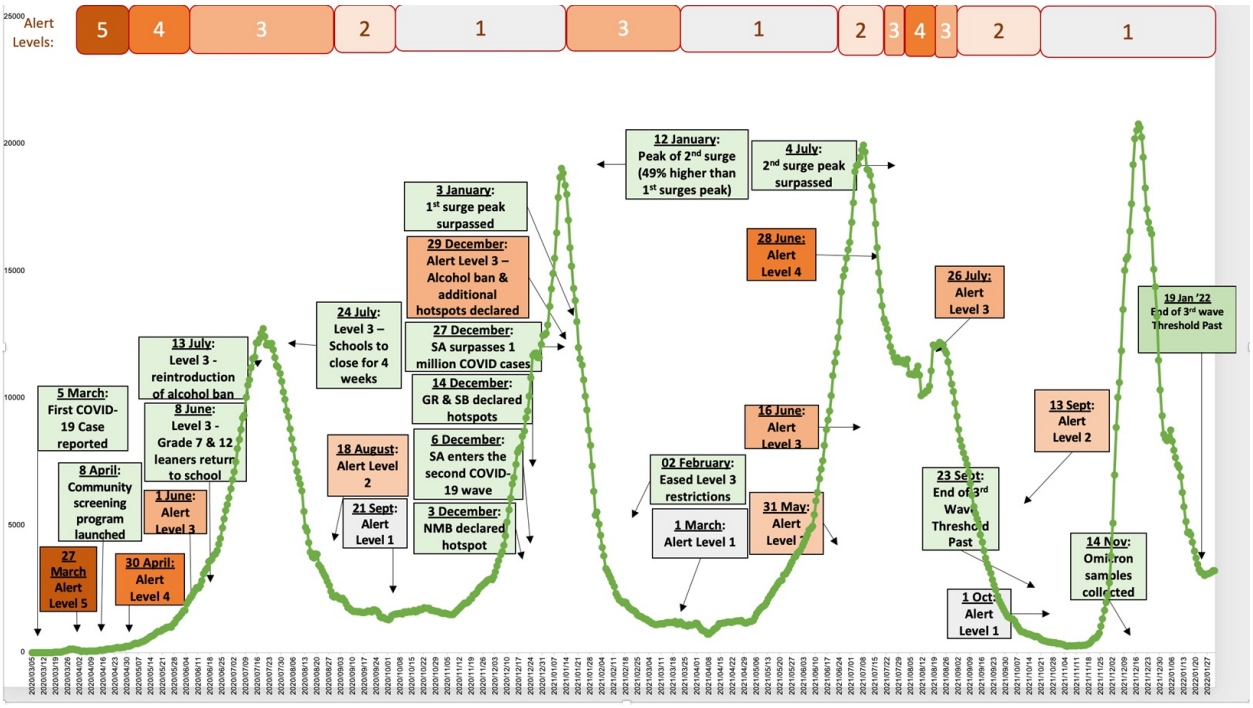
A longitudinal observational cohort study by the NICD recruited almost 5,000 hospitalised, and non-hospitalised participants, infected during the periods that D614G, Beta, Delta and Omicron BA.1 variants dominated in South Africa. The study reported a high prevalence of PCC at 6 months following SARS-CoV-2 infection. Overall, 46.7% of hospitalised participants, and 18.5% of non-hospitalised participants, experienced persistent symptoms at 6 months. Extrapolating the prevalence of PCC to the total hospitalised COVID-19 patients (from hospital surveillance) and likely total infected individuals (from serosurveys), it is possible that over 250,000 hospitalised, and 6.3 million non-hospitalised individuals have persistent symptoms at 6 months after SARS-CoV-2 infection in South Africa.

Prevalence differed by the variant period (lower prevalence of PCC among those infected during the Omicron period), and also the severity of acute COVID-19 (higher prevalence of PCC with more severe acute COVID-19). Risk factors for PCC in the study included older age, female sex, non-black race, the presence of a comorbidity, greater number of acute COVID-19 symptoms, and hospitalisation/ COVID-19 severity. The study also demonstrated the impact of PCC on quality of life, with participants still reporting fatigue (38%), disability (24%), and pain/ discomfort (16%) at 6 months.

NATIONAL RESPONSE AND IMPACT OF COVID-19 ON THE HEALTH SYSTEM

Surveillance data brought together knowledge of case load, circulating variants and their characteristics, and reported severity of disease, to inform the national pandemic responses, in particular with regard to imposing of national alert levels (Figure 5.1.7).

Figure 5.1.7: SARS-CoV-2 cases and national alert levels and responses, South Africa, 5 March 2020 – 31 December 2022 (courtesy of Ministerial Advisory Committee)



When the third (Delta) wave began in South Africa, there was much fear and concern about its potential impact on the health system and health outcomes, after the world had witnessed the collapse of the health systems in much of Asia, particularly in India. The images that were shared globally by the media sent a wave of shock throughout the world, and South Africans were also fearful of what the impact would be when the variant arrived in the country. At the time, the country was still in its infant stages of the vaccine rollout, and most recipients were health workers and some of the elderly citizens, translating into relatively low levels of population immunity. As a result, the Delta variant caused very high levels of infection, hospitalisation and mortality in the country, the highest levels the country had seen up to that point. Gauteng was the province most affected, and the health system encountered so much strain that the country lockdown alert levels were increased from alert level 3 to alert level 4 at the height of the increased case load. As the third wave was receding, the country alert level was reduced to alert level 3, which contributed to increased infection through increased mobility and a prolonged tail of a high case load. Although the health system in Gauteng was severely affected and strained, there was no evidence to suggest collapse of the health system at the time of the pandemic. The dysfunction of hospitals such as Charlotte Maxeke Johannesburg Academic Hospital, which suffered damage from fire during the same period, did not help, as the capacity for care was greatly reduced. However, the coordinated efforts of both private and public sector assisted in absorbing the burden of care throughout the province, using surge hospital facilities, together with the referral of severely ill patients to other provinces in the country when acute care was at full capacity.

Social unrest in KwaZulu-Natal during July 2021 also negatively impacted the provision of essential health care services by preventing patients from accessing testing and care, and also preventing health care staff from entering health care facilities and critical supplies from reaching health care facilities (Makoni, 2021). The vaccination programme also experienced significant disruptions as a result.

When the fourth (Omicron) wave began in South Africa in October and November of 2021, the levels of population immunity were estimated at about 73% (Madhi et al., 2022a;2022b), attributed to both vaccine coverage and infection immunity largely from the third (Delta) wave. Although early evidence from Tshwane suggested a milder form of illness than expected, given the nature of the mutations, the questions around severity of disease remained inconclusive for a while, even when the Omicron variant was increasingly spreading globally. Ultimately, the variant still had the potential to cause large numbers of infections due to high transmissibility, and to cause severe disease in vulnerable individuals, but at a broader population level, the data showed a less severe form of illness compared to previous variants (Wolter et al., 2022). However, the burden on the health system was limited, and, as a result, South Africa stayed on alert level 3 throughout the fourth wave, even reducing some of the restrictions such as mask restrictions in outdoor spaces. The lack of strain on the health system was cautiously taken as a sign that the pandemic might be releasing its hold on the country. The evidence of this was seen in what can be considered the fifth (Omicron BA.1/BA.5) wave of the pandemic in South Africa, which was not officially declared by NDoH, although all the thresholds of a wave that were previously used for defining a new wave, were met. There was such slight impact on the health system that most of the restrictions were relaxed, and emphasis was placed on the importance of ventilation. At this point, the national vaccination programme had also slowed significantly.

The pandemic also profoundly impacted routine health services, reducing the utilisation of health care. Globally, routine services were interrupted by strict quarantine measures, transport lockdowns, ART shortages, and diversion of health care workers to provide COVID-19 care (Pillay et al., 2021). A study conducted by the Human Sciences Research Council (HSRC) reported that 13% of people living in informal settlements, rural areas, and farms could not easily access their chronic medications during lockdowns (Mputing, 2020). Ironically, while South Africa's investments in its HIV and tuberculosis programmes allowed the country to rapidly respond to COVID-19, it negatively impacted these programmes due to the temporary suspension of research, diversion of key resources, and lack of patient access to health care facilities (Abdool Karim & Baxter, 2022). This was also seen in a study by Benade et al. (2022) which found that the COVID-19 pandemic and responses resulted in substantial declines in the number of HIV-infected individuals starting treatment in South Africa (Benade et al., 2022).

THE NATIONAL COVID-19 VACCINE PROGRAMME

South Africa implemented the COVID-19 vaccine programme in a phased approach, with prioritisation guided by available evidence on high-risk groups as older individuals and those with comorbidities, including HIV. The vaccine rollout was strengthened by partnerships between the public sector, private sector and NGOs, allowing vaccine to be delivered at a large number of sites. Preparation of the health care workforce for rollout involved training using the Knowledge Hub as a virtual platform and e-Library.

The South African Health Products Regulatory Authority (SAHPRA) regulates the use of all Health Products throughout the country (allowed by Section 21 of the Medicines and Related Substances Control Act, Act 101 of 1961), and was responsible for approval and registration of COVID-19 vaccines. Although a number of vaccines were registered, Ad26.COV2.S (Janssen) and BNT162b (Pfizer) were adopted for national rollout based on the availability of the vaccines in the country. With large volumes of vaccine available and slow uptake, there was limited need for introduction of other vaccine options.

Phase 1 commenced on 17 February 2021 and ended on 16 May 2021, with the rollout of Ad26.COV2.S (Janssen) through the Sisonke 1 Programme, targeting 1.2 million health care workers in the public and the private sector. The South African government was able to make the COVID-19 vaccine immediately available to health care workers using a real-world Phase 3b clinical trial, while application for market authorisation and full registration and licensing with SAHPRA was in process.
Phase 2 commenced in May 2021, with vaccination using BNT162b or Ad26.COV2.S introduced for individuals older than 60 years, then expanding to those aged 35-50 years in July 2021, 18-35 years in August 2021, and 12-18 years in October 2021. In December 2021, booster doses were introduced for adults older than 50 years, and those who were immunocompromised. Access to booster doses was later expanded to include all adults over 18 years. Advisories were circulated regarding the safety and efficacy of the vaccines in pregnant and lactating women, and the necessity to vaccinate, given the higher risk for severe maternal and foetal outcomes in pregnancy. COVID-19 vaccines were introduced for children 5-12 years in February 2023.

Table 5.1.1: Prioritisation and introduction of COVID-19 vaccine in South Africa

Type of vaccine	Time period	Groups for vaccination
Janssen	Feb – May 2021	Health care workers
Janssen or Cominarty Pfizer	May 2021	Adults ≥ 60 years
Janssen or Cominarty Pfizer	July 2021	Adults 35-60 years
Janssen or Cominarty Pfizer	August 2021	Adults 18-35 years
Cominarty Pfizer	October 2021	Children 12-18 years
Booster: Janssen or Cominarty Pfizer	December 2021	Adults ≥ 50 years and immunocompromised individuals
Cominarty Pfizer	February 2023	Children 5-12 years (high risk of severe disease)

The Oxford/AZ vaccine (Covishield™) was granted emergency use authorisation by SAHPRA in January 2021. Rollout was planned for February 2021, but was halted by the NDoH due to concerns around reduced vaccine efficacy for the B.1.351 (Beta) variant circulating in South Africa at the time. Available data was based on a small South African placebo-controlled trial of 2026 people, which did not show good protection against mild-to-moderate COVID-19 due to the B.1.351 variant (Madhi et al., 2021). At that time, the findings were inconclusive in terms of whether the vaccine would still provide protection against severe COVID-19 infection caused by the B.1.351 variant because of the design and size of the study, the type of participants (relatively young and healthy), with no subjects in either arm of the study developing severe disease or requiring hospitalisation.

A South African study demonstrated that COVID-19 vaccines protect against severe COVID-19 (Jassat et al. 2022b). Being partially vaccinated (aOR, 0.9; 95% CI: 0.9–0.9), fully vaccinated (aOR, 0.6; 95% CI: 0.6–0.7), and boosted (aOR, 0.4; 95% CI: 0.4–0.5) were associated with reduced risks of mortality.

Electronic Vaccine Data System (EVDS)

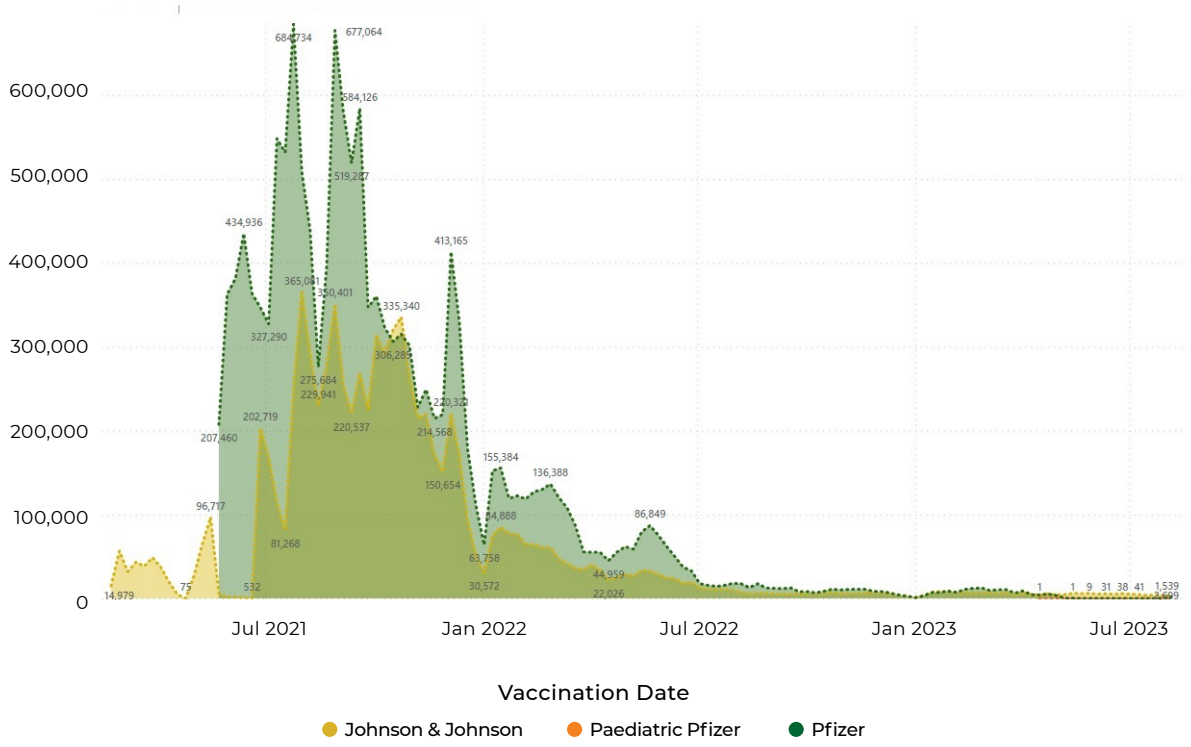
The NDoH launched the Electronic Vaccine Data System (EVDS) system in April 2021. EVDS is a complete vaccination health information system from registration to certification, to ensure facilities are accredited, to co-ordinate the supply of vaccines, enable a pre-booking and vaccination system, record vaccinations administered, and enable vaccine programme monitoring. The EVDS self-registration portal is an online application that can be accessed via cell phone, or via a computer, with an internet connection, and is available in five languages. It captures basic information to be able to assign date of vaccination and vaccination site. Information submitted during registration is used to: Identify eligible vaccination beneficiaries; Plan supply of vaccines and ancillary items; Allocate

beneficiaries to their nearest available service point; Communicate with enrolled individuals about the vaccination programme, including, but not limited, to eligibility, when and where they will be vaccinated, including follow-up vaccination appointments. A digital vaccination certificate, available for download in PDF format and updated with vaccinations received, was introduced in October 2021. The design of the Vaccination Certificate will be updated in line with local and international standards.

Vaccine coverage surveys

The South African government reports vaccination doses administered on the sacoronavirus website. The uptake of vaccine increased with each group offered vaccination in mid to late 2021, then decreased until the new group was eligible, until vaccine for the last eligible group, 12-17 years, was introduced. From December 2021, when additional doses for immunocompromised and booster doses were introduced, the weekly number of individuals vaccinated has remained low and decreased throughout 2022 (Figure 5.1.8).

Figure 5.1.8: Number of individuals vaccinated per week, South Africa, 1 April 2021-10 August 2023



The programme was announced with highly ambitious targets of vaccinating 70% of the South African adult population by the end of December 2021. Despite COVID-19 vaccines becoming widely available over time, and being freely provided in South Africa, by the end of August 2023 only about 50% (22.8 million) of adults were fully vaccinated (sacoronavirus, 2022). A further 3.7 million booster vaccines have been administered. Among 12- to 17-year-olds, 2.2 million children have been vaccinated (Table 5.1.2).

Table 5.1.2: Vaccination status among individuals 12 years and older, by age group and sex, South Africa, August 2023

Age Group	Total Population	Total number of Individuals Vaccinated	Individuals Vaccinated as a % of the Population
12-17	6,242,798	2,201,758	35.27%
18-34	17,788,511	7,256,086	40.79%
35-49	11,686,937	6,487,398	55.51%
50-59	4,817,271	3,171,832	65.84%
60+	5,505,482	3,677,907	66.80%
Total	**46,040,999**	**22,800,907**	**49.52%**

Sex	Total Population	Total number of Individuals Vaccinated	Individuals Vaccinated as a % of the Population
Female	23,816,786	12,767,822	53.61%
Male	22,224,213	10,027,159	45.12%
Total	**46,040,999**	**22,800,197**	**49.52%**

Vaccination rates varied by province, with highest coverage reported in Free State (61%) and lowest coverage in KwaZulu-Natal (42%) (Table 5.1.3).

Table 5.1.3: Number and coverage of COVID-19 vaccination by province and age group, South Africa, 10 August 2023

Province	Total Population	Total number of Individuals Vaccinated	Individuals Vaccinated as a % of the Population
Western Cape	5,620,020	3,039,045	54.08%
Northern Cape	986,444	493,104	49.99%
North West	3,137,724	1,502,606	47.89%
Mpumalanga	3,556,709	1,608,244	45.22%
Limpopo	4,420,648	2,467,924	55.83%
Kwazulu-Natal	8,525, 507	3,616,438	42.42%
Gauteng	12,609,293	6,039,222	47.90%
Free State	2,239,073	1,358,188	60.66%
Eastern Cape	4,945,581	2,670,210	53.99%
Total	**46,040,999**	**22,800,197**	**49.52%**

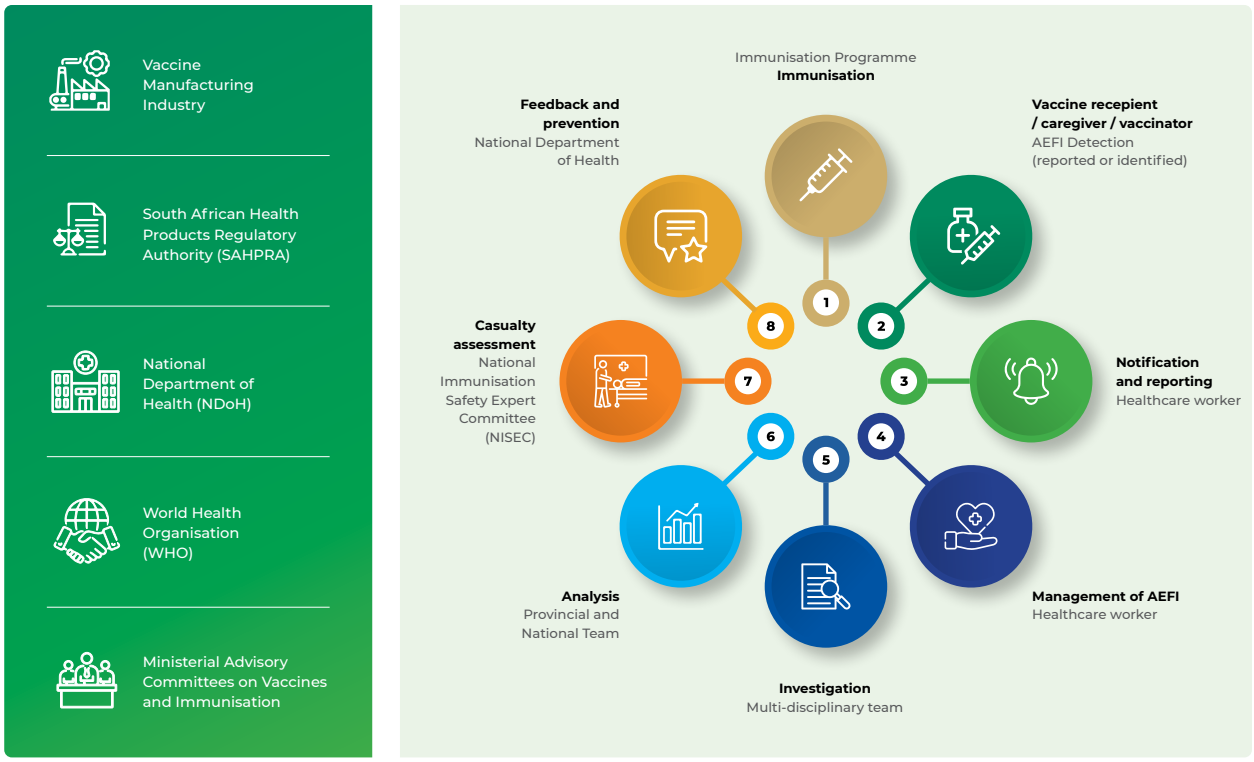
Vaccine safety surveillance

The South African Health Products Regulatory Authority (SAHPRA) is mandated to ensure the safety, efficacy and quality of all COVID-19 vaccines used in the country, working in close collaboration with the NDoH. When the COVID-19 vaccines were rolled-out in 2021, the existing vaccine safety surveillance system was strengthened through various activities and collaborative efforts from all stakeholders (Figure 5.1.9). Having a well-functioning safety surveillance system in place is essential for building trust and confidence in the vaccines and the immunisation programme. Vaccine pharmacovigilance was strengthened through the introduction of the Med Safety App, allowing electronic reporting of adverse events following immunisation (AEFI) by health care workers and members of the public (https://medsafety.sahpra.org.za/). This was made possible through South Africa's participation in the African Union Smart Safety Surveillance (AU-3S) programme. Any AEFI could also be reported directly to a health facility or through the COVID-19 hotline. Following the launch of the Med Safety App in April 2021, SAHPRA, in collaboration with the NDoH-EPI, and other stakeholders, provided training on the use

of the Med Safety App, using the NDoH's online training platform, Knowledge Hub. Furthermore, public webinars were held to promote the use of the Med Safety App and collaboration with Media Houses intensified promotion of the use of the Med Safety App on various platforms, including social media. Since then, introduction of the Med Safety reporting of AEFIs in South Africa has increased, illustrating the benefits of making reporting resources available electronically. SAHPRA, in collaboration with the NdoH, also launched a microsite, hosted on the SAHPRA website, where all information pertaining to AEFI reports is communicated to the public, to demonstrate transparency and build confidence in vaccination.

SAHPRA has recently been ranked by the WHO at a functional level of maturity (Level 3) according to WHO's global classification system for national medical products' regulatory authorities. This means that SAHPRA has a stable, well-functioning and integrated regulatory system to ensure the quality, safety, and efficacy of vaccines that are registered by SAHPRA. Furthermore, SAHPRA reached Level 4 maturity for the Lot Release function through the National Control Laboratory, ensuring that the vaccines made available in the country meet the highest quality requirements (SAPHRA, 2022).

Figure 5.1.9: Vaccine safety surveillance system, South Africa (Kariem, 2021)



Adverse events following immunisation reporting and causality assessment

The National Immunisation Safety Expert Committee (NISEC), appointed by the Minister of Health, determines the role of vaccines causing adverse events using the WHO's methodology for causality assessment. Experts on the committee include pharmacists, pharmacovigilance experts, infectious disease specialists, paediatricians, expanded programme on Immunisation (EPI) programme experts, immunologists, microbiologists, pathologists, neurologists and public health specialists. All AEFI that are reported as severe, are fully investigated by a dedicated team of health officials in the provinces and districts, using a specific 'case investigation form'. Important information collected during case investigation includes vaccination details and procedures, immunisation practices at the place where the vaccine was administered, cold chain storage and vaccine transport, community investigations (to identify clusters of cases), patient medical history, clinical examination and results of investigations. These reports are submitted to NISEC to determine whether the AEFI is causally linked to the vaccine. The NISEC committee reports its findings to the Minister of Health through the NDoH which, in turn, reports to the Provincial Departments of Health and to SAHPRA. By 31 May 2023, 7782 AEFI had been reported amongst more than 38 million doses administered from May 2021, equivalent to 20.1 events per 100 000 vaccine doses. It should be noted that not all of these AEFIs were of a serious nature, and only three deaths following immunisation were causally related to the vaccine. These are the three deaths from Guillain-Barré syndrome related to the COVID-19 Vaccine Janssen. This was communicated by SAHPRA and NDoH in media briefings and press releases, to ensure high levels of vaccine confidence amongst the public, which demonstrated transparency in the reporting of AEFI and highlighted the importance of pharmacovigilance and having a functional vaccine safety surveillance system in place. It is important to note that the true incidence of AEFI is unclear, and should be compared with the incidence of similar events after SARS-CoV-2 infection in order to balance the risks against the benefits. South Africa set up a 'No-fault' compensation scheme to pay for any claims that may be linked to vaccines following proper investigations by NDoH, SAHPRA and NISEC.

COVID-19 TREATMENT IN SOUTH AFRICA

Due to the need to make urgent decisions regarding treatment options during the rapid emergence of new evidence, the South African Essential Medicines List Committee (NEMLC) established a subcommittee to quickly review evidence (within 7 to 10 days) in order to inform the NDoH regarding COVID-19 treatment guidelines (Leong et al., 2020). Based on evidence from international studies including the Recovery Trial, drugs that were proven to reduce COVID-19 severity, including Remdesivir and corticosteroids, were approved in South Africa, although these rapid reviews did find limited benefits in certain patients (NDoH, 2023).

The COVID-19 oral antiviral Molnupiravir received approval from SAHPRA in February 2022 under Section 21 of the Medicines and Related Substances Act 101 of 1967, for compassionate use, for the treatment of mild to moderate disease, taken with five

days of symptom onset. Although approved by SAHPRA and recommended by the WHO, the NEMLC found that the evidence showed that, although the drug is safe, the level of benefit it provides is evidenced only in naïve (unvaccinated or unexposed) patients with mild disease. within five days of the first appearance of symptoms. In addition, the safety during pregnancy was a concern (NDoH, 2023) Given these practical issues, Molnupiravir was not procured by the NDoH for the public sector.

Table 5.1.4 below shows other drugs that are recommended by the WHO (Abdool Karim and Devnarain, 2022). The WHO has a recommendation against the use of Ivermectin, but its use was prevalent in South Africa, often prescribed by General Practitioners. Certain lobby groups also advocated greatly for the use of this drug, to the extent of lodging cases with the courts in South Africa. When SAHPRA observed excessive use of Ivermectin in South Africa, the regulator released guidelines on the use of Ivermectin, in spite of the lack of evidence to support the use of Ivermectin. The aim of SAHPRA was not necessarily to authorise the use of Ivermectin for COVID-19, but rather to regulate the use in order to protect citizens, due to increased reports of toxicity from the use of Ivermectin. This step by SAHPRA was often misinterpreted by the lobby groups as authorisation to use Ivermectin. A coincidental authorisation of topical ivermectin for human use by SAHPRA also added to the public confusion, which was seen by lobby groups as a loophole to advocate for use of Ivermectin for COVID-19.

Table 5.1.4: WHO recommendations on recommended medications to treat COVID-19 (adapted from WHO living guidelines for therapeutics and COVID-19, 14 July 2022

	Strong recommendation against	Recommendation against	No recommendation for or against	Recommendation for	Strong recommendation for
Non-sever disease	• Convalescent plasma • Hydroxychloroquine • Lopinavir-ritonavir • Colchicine	• Corticosteroids[a] • Ivermectin[b] • Fluvoxamine[b] • Nirmatrelvir and ritonavir[a,c]	• Heparin • Metformin	• Molnupiravir[a,d] • Sotrovimab[a,d,e] • Remdesivir[a,d] • Casirivimab and imdevimab[a,f]	• Nirmatrelvir and ritonavir[a,c]
Sever disease	• Hydroxychloroquine • Lopinavir-ritonavir	• Ruxolitinib and tofacitinib[a] • Ivermectin[b] • Convalescent plasma[b]		• Casirivimab and imdevimab[a,f]	• Corticosteroids • IL-6 receptor blockers or Baricitinib

Note: Severe disease is defined as oxygen saturation <90% on room air, pneumonia or respiratory distress
[a] Conditional recommendation
[b] Only recommended for use within the context of a clinical trial
[c] In non-severe patients at low risk of hospitalisation
[d] In non-severe patients at high risk of hospitalisation
[e] Excluding pregnant or breastfeeding women, and children
[f] If seronegative for SARS-CoV-2 antibodies (note: evidence of limited efficacy for omicron BA. 1 varient)

8Agarwal A, Rochwerg B, Lamontagne F, Siemieniuk RA, Agoritsas T, Askie L, et al. A Living WHO guideline on drugs for COVID-19. BMJ. 2020;370:m3379.

SOCIO-BEHAVIOURAL RESPONSE TO COVID-19

In the early stages of the pandemic, the Minister of Health set up the COVID-19 Ministerial Advisory Committee (MAC) in March 2020. Despite the common understanding that the COVID-19 pandemic was largely driven by human behaviour in response to a novel respiratory pathogen in a naïve population, the original MAC predominantly consisted of people who were not social and behavioural sciences experts and therefore could not provide much insight on how to deal with socio-behavioural issues (Singh, 2020) There were calls for the Minister of Health to relook at the composition of the MAC, as it was dominated by clinical experts, by bringing on board members who were more experienced in socio-behavioural interventions. Eventually this process led to the reconfiguration of the MAC, and the inclusion of two additional teams on socio-behavioural and vaccine-related aspects, in order to advise the Minister and the NDoH on how the country should be handling the COVID-19 pandemic.

Several problems were experienced with regard to the operation of the MACs, which decreased public confidence in the government's handling of the pandemic. The advice and recommendation of the MACS were provided to the minister in the form of memoranda, or advisories. Although it was the minister's prerogative to publish these, they were initially not open to the public, despite calls to do so in the interests of openness and accountability (Richter et al., 2022). The minister stated that they did not "represent the government's final position on the issues under discussion". However, after continued pressure from various sectors of society, the NDoH announced on 27 August 2020 that it would publish the MAC advisories. However, it was found that significant delays existed in the publication of recommendations on important aspects of the pandemic response, including on vaccine prioritisation and selection. This should be seen against the background of misinformation which threatened vaccine uptake, as well as the low levels of trust in the government, which negatively impacted the national response.

In addition, the vaccine MAC did not include eminent vaccinologists, leading to criticism of the lack of transparency regarding the government's decision-making and procurement, the poor communication and the delayed vaccine roll-out by academics in the field (Venter et al., 2021a). This led to public argument between scientists and the chair of the MAC (Schoub, 2021; Venter et al., 2021b) Although the academic discourse in itself should not be seen as increasing vaccine hesitancy, this did not increase public confidence in the MAC.

The socio-behavioural MAC, which consisted of leaders from faith-based organisations, civil society and labour unions, was a critical structure that could potentially provide valuable advice and guidance as the country was gradually moving toward less restrictions and reduction in lockdown alert levels. Furthermore, with the introduction of COVID-19 vaccines in the country, the success or failure of the roll-out was highly dependent on people's behaviour such as acceptance, perceptions, as well as addressing the multitude of misinformation that was being peddled about the safety of the vaccines. Thus, according to the minister, the function of this MAC was to provide advice on social

and cultural factors and interventions that might influence the spread of COVID-19. Examples of the advisories of this MAC are the analysis of the barriers to adherence to public health measures and the offer of practical strategies to achieve increased self-adherence to COVID-19 prevention and mitigation measures. Currently, its impact remains unclear.

COVID-19 communication

Science communication was arguably at the core of a successful fight against the outbreak of COVID-19 right from the beginning of the pandemic. Earlier on, the various reports by in the NIDS-CRAM survey (https://cramsurvey.org/reports/) indicated that the rapport between the government and the public was perceived as positive, based on goodwill, and most surveys showed that civil society accepted most of the decisions that were being implemented in the national COVID-19 response (Runciman et al., 2021). Eventually, increasingly poor communication and draconian decisions probably led to a significant "trust deficit" between the government and local communities. The emergence of reports on rampant corruption in personal protective equipment tenders, mostly driven by politically connected individuals and government officials, led to even further erosion of trust in the government. However, the straw that broke the camel's back was the emergence of the scandal around the NDoH COVID-19 communications' contract with a dubious company called *Digital Vibes*. This scandal almost explained why the country's communications' programme fell apart, and, unfortunately, also involved the then Minister of Health, his associates, and his family members, as per allegations. The corruption-laden communication strategy may have had a strong impact on the COVID-19 vaccination roll-out in the country which has been less than optimal, with South Africa having lower vaccination rates, compared to neighbouring countries such as Botswana, Mozambique and Namibia.

Vaccination behaviour, acceptance and uptake

The acceptance and uptake of new innovations, such as the COVID-19 vaccine, is driven by complex factors, both at the individual and social level, influencing how people make the decision to either adopt or reject the new innovation, regardless of the claimed benefits. The stages of change theory outline the various stages within which individuals or communities can be categorised in the process of adopting innovations, namely Pre-contemplation, Contemplation, Preparation, Action and then Maintenance (LaMorte, 2022). Within this broad spectrum there are various levels of vaccine acceptance as well as vaccine hesitancy. Vaccine hesitancy is generally defined as the reluctance and delay in acceptance or refusal of vaccination despite the availability of vaccination services (Machingaidze & Wiysonge, 2021; Macdonald, 2015). Misperceptions of COVID-19 vaccine safety, efficacy, risks, and mistrust in institutions responsible for vaccination campaigns have been reported as factors contributing to vaccine hesitancy (Lazarus et al., 2022). Several surveys were conducted in South Africa aimed at measuring vaccine hesitancy in the general population. The data showed that vaccine hesitancy was reported by about a third of respondents. The University of Johannesburg/Human Sciences Research Council Democracy surveys reported vaccine hesitancy of between 28% and 33% measured over a series of surveys during 2021 (Runciman et al., 2021) and findings from the VaxScenes

study reported hesitancy in about 32% of the people who responded to the survey (Katoto et al., 2022). Data from the National Income Dynamics Study — Coronavirus Rapid Mobile Survey (NIDS/CRAM) reported vaccine hesitancy constantly below 30% among respondents, while acceptance increased over time (Spaull et al., 2021). Some of the key determinants cited for vaccine hesitancy in the various studies included safety concerns, misinformation, fear of needles, distrust of the government, beliefs in conspiracy theories, and religious reasons. In almost all the surveys young people were the most hesitant sub-population and this is clearly evident in the vaccination statistics for South Africa.

In the South African context, vaccine hesitancy has been described as "a complex social phenomena" that is driven by various constructs such as fear, doubt, indecision and even mistrust of the vaccine (Cooper et al., 2022). Vaccination hesitancy in South African indigenous communities, especially, may have been strongly driven by the cultural context and social spaces that people occupy, grounded in their socio-economic situation, cultural and religious beliefs, as well as historical inequalities and disparities. Addressing long term hesitancy and improved acceptance and uptake of the COVID-19 vaccine will require that all strategies take stronger cognisance of the "context", and the non-homogenous nature of the so called 'vaccine hesitant' as we continue to live with the virus in its endemic phase (Sifunda et al., 2022).

Vaccine mandates

The South African government never adopted the strategy and policies of mandatory vaccinations which were adopted in many countries in Europe such as Austria, Germany, and Italy, and several states in the United States of America. Mandatory vaccination was a controversial policy that received a lot of resistance both in South Africa and across the world. However, in the course of 2021, as part of the vaccine roll-out and COVID-19 mitigation, many institutions and organisations introduced mandatory vaccinations, and only vaccinated individuals could be allowed into workplaces and campuses. The decision to implement vaccine mandate policies was left at the discretion of the companies and to campuses. Though controversial, several employers and universities did require people to be fully vaccinated before they could be allowed to return to work or campuses. Some strong supporters of vaccine mandates have provided various arguments as to why vaccine mandates can be positive in the fight against COVID-19, such as improving vaccine uptake, protecting the rights of others, especially people who are already immunocompromised.

CONCLUSIONS

It is clear that surveillance played a critical role in monitoring and responding to the COVID-19 pandemic. Through various surveillance methods, authorities were able to identify resurgences of cases, describe the characteristics of emerging variants, and assess the severity of the disease in different waves. The establishment of a surveillance system and case reporting provided valuable insights into the trends of the pandemic, which could be used by authorities to track the dynamics of the pandemic, identify waves, and to assess the effectiveness of control measures.

The use of epidemiological modelling allowed for the estimation of R, which is crucial for understanding the rate of transmission, while

genomic surveillance allowed for tracking the evolution and spread of SARS-CoV-2 variants. By analysing the genetic makeup of the virus, researchers were able to identify and characterise emerging variants, such as the Omicron variant, which was first reported in South Africa. Crucially, hospital surveillance allowed for the monitoring of the burden of COVID-19 on health care facilities. Analysing hospitalisation and mortality data revealed risk factors associated with severe outcomes, which could be used to help allocate resources effectively.

Interestingly, although wastewater surveillance correlated with population infection levels, and helped to identify areas with potential outbreaks, even when testing numbers were low, excess mortality analysis revealed a significant discrepancy between reported COVID-19 deaths and the actual toll of the pandemic. This discrepancy suggests that the impact of COVID-19 on mortality was likely higher than reported. Excess mortality data emphasised the need for accurate surveillance to capture the full extent of the pandemic's effects.

Household cohort studies shed light on the transmission dynamics of SARS-CoV-2 within households. These studies demonstrated the role of asymptomatic individuals in transmission and suggested that targeting symptomatic individuals alone might not be sufficient for control. The findings also underscored the importance of prioritising vaccination for specific groups to reduce community transmission. However, the increase in immunity of the community was evident from serosurveys, which provided insights into the prevalence of antibodies against SARS-CoV-2 in the population over time. These surveys indicated increasing population immunity with successive waves, driven by both natural infection and vaccination. The data also suggested that immunity contributed to reduced disease severity during subsequent waves.

Variants of concern (which may significantly impact the epidemiology, clinical presentation, and response measures) have emerged over time. The emergence of new variants, including subvariants of Omicron, highlighted the dynamic nature of the virus. Thus, continued surveillance is crucial for monitoring the evolution of the virus, tracking new variants, and assessing their potential impact on disease severity, transmission, and vaccine effectiveness. The ongoing emergence of variants underscores the need for rapid and adaptive public health responses. In this regard, collaboration between researchers, institutions, and nations, as exemplified by the Variant Consortium, is crucial for understanding and responding effectively to new variants.

The need for an agile response is exemplified by the strain that the Delta variant placed on the South African health care system. Despite the strain, the health system did not collapse, and coordinated efforts between public and private sectors helped manage the burden of care, although hospitals like Charlotte Maxeke Johannesburg Academic Hospital faced capacity issues. An important contributing factor to the strain on public resources was the fact that the Delta wave occurred while the vaccination rollout was still in its early stages, primarily targeting health care workers and the elderly. This translated to relatively low levels of population immunity. In contrast, during the fourth (Omicron) wave, population immunity was estimated at around 73%, a combination of vaccine coverage and immunity from previous infections. Although indications are that Omicron caused a milder

form of illness at the population level, the variant's high transmissibility still posed a risk of large-scale infections and severe disease in vulnerable individuals.

The COVID-19 pandemic had a profound impact on routine health services. Strict quarantine measures, transport lockdowns, and diversion of health care resources to manage COVID-19 cases led to interruptions in accessing routine health care services. This affected the availability of chronic medications and led to declines in health care access for HIV and tuberculosis patients. Social unrest in KwaZulu-Natal in 2021 further disrupted health care services by hindering patient access to testing, care, and health care facilities. The disruptions also extended to the vaccination program, showcasing how societal and political events could exacerbate health care challenges during a pandemic. All of these factors emphasise the complex interactions between public health measures, health care capacity, immunity, and societal factors during a pandemic.

South Africa implemented a phased COVID-19 vaccination programme with prioritisation guided by evidence of high-risk groups, primarily older individuals and those with comorbidities including HIV. The vaccine rollout strategy which was facilitated by collaborations between the public sector and private sector, targeted health care workers in the initial phase, followed by age-based expansion, and eventually, inclusion of younger individuals and children. Vaccine coverage initially increased with the introduction of new eligible groups, but later declined until the next eligible group became eligible. The introduction of booster doses did not lead to a sustained increase in the number of vaccinations administered. Thus, despite aiming to vaccinate 70% of the adult population by the end of December 2021, only around 50% of adults were fully vaccinated.
The South African Health Products Regulatory Authority (SAHPRA) played a key role in approving and registering COVID-19 vaccines, and established a robust vaccine safety surveillance system to ensure the safety, efficacy, and quality of COVID-19 vaccines. The system included mechanisms for reporting adverse events following immunisation (AEFI) electronically, investigating severe AEFI cases, and assessing causality. The latter was facilitated by NISEC. Vaccination, whether partial, full, or boosted, was associated with reduced risks of mortality and protection against severe COVID-19. This underscores the effectiveness of the vaccine in preventing severe outcomes.

The NEMLC established a subcommittee to rapidly review emerging evidence and inform the National Department of Health (NDoH) about COVID-19 treatment guidelines. This agile approach allowed for timely adjustments to treatment protocols based on the latest evidence. One controversial medicine used by many was Ivermectin, Despite the WHO's recommendation against the use of Ivermectin for COVID-19, it was commonly prescribed in South Africa, often by General Practitioners, due to advocacy and lobbying efforts. SAHPRA responded by releasing guidelines to regulate Ivermectin use, not as an endorsement, but as a measure to safeguard citizens from potential toxicity. The regulator's intent was misconstrued by lobby groups, leading to confusion and misinterpretation. This clearly underscores the importance of clear communication from regulatory bodies to mitigate misinformation. The early response to the COVID-19 pandemic by creating the COVID-19 Ministerial Advisory Committee (MAC), demonstrated an awareness of the need for expert advice.

However, the initial composition of the MAC limited its ability to effectively address socio-behavioural issues. In addition, concerns were raised regarding the transparency of their recommendations, and the lack of public access to the advisories contributed to decreased public confidence in the government's pandemic response. Delays in publishing crucial recommendations and poor communication between the government and the public eroded trust and hindered the national response. Instances of corruption and scandal surrounding communication contracts exacerbated this erosion of trust, potentially impacting the success of COVID-19 vaccination rollout.

Vaccine hesitancy, influenced by concerns about safety, misinformation, fear of needles, distrust of institutions, and cultural or religious beliefs, was a significant challenge. Surveys indicated varying degrees of vaccine hesitancy, particularly among young populations. The heterogeneous nature of vaccine hesitancy underscored the need for context-specific strategies to address this complex phenomenon.

REFERENCES

Abdool Karim, S.S. & Devnarian, N. 2022. Time to Stop Using Ineffective Covid-19 Drugs. New England Journal of Medicine 387:654-655.

Abdool Karim, Q. & Baxter, C., 2022. COVID-19: Impact on the HIV and Tuberculosis Response, Service Delivery, and Research in South Africa. Curr HIV/AIDS Rep. Feb;19(1):46-53. doi: 10.1007/s11904-021-00588-5.

Aiyegbusi, O.L., Hughes, S.E., Turner, G., Rivera, S.C., McMullan, C., Chandan, J.S., Haroon, S., Price, G., Davies, E.H., Nirantharakumar, K., Sapey, E., 2021. Symptoms, complications and management of long COVID: a review. Journal of the Royal Society of Medicine. Sep;114(9):428-42.

Alkodaymi, M.S., Omrani, O.A., Fawzy, N.A., Abou Shaar, B., Almamlouk, R., Riaz. M.,... Kashour. Z., 2022. Prevalence of post-acute COVID-19 syndrome symptoms at different follow-up periods: A systematic review and meta-analysis. Clinical Microbiology and Infection. Feb 3.

Amdal, C.D., Pe, M., Falk, R.S., Piccinin, C., Bottomley, A., Arraras, J.I., ...Kulis, D., 2021. Health-related quality of life issues, including symptoms, in patients with active COVID-19 or post COVID-19; a systematic literature review. Quality of Life Research. Dec;30(12):3367-81.

Antonelli, M., Pujol, J.C., Spector, T.D., Ourselin, S., Steves, C.J., 2022. Risk of long COVID associated with delta versus omicron variants of SARS-CoV-2. The Lancet. Jun 18;399(10343):2263-4.

Ayoubkhani, D., Bermingham, C., Pouwels, K.B., Glickman, M., Nafilyan, V., Zaccardi, F., ... Walker, A.S., 2022. Trajectory of long COVID symptoms after COVID-19 vaccination: community based cohort study. BMJ. May 18;377.

Benade, M., Long, L., Rosen, S., Meyer-Rath, G., Tucker, J.M., Miot, J., 2022. Reduction in initiations of HIV treatment in South Africa during the COVID pandemic. BMC Health Serv Res, 22(428). https://doi.org/10.1186/s12913-022-07714-y.

Bingham, J., Cable, R., Coleman, C., Glatt, T.N., Grebe, E., Mhlanga, L., ... Sykes, W., 2022. Estimates of prevalence of anti-SARS-CoV-2 antibodies among blood donors in South Africa in March 2022. Research Square. Doi: 10.21203/rs.3.rs-1687679/v2.

Cable, R., Coleman, C., Glatt, T., Grebe, E., Mhlanga, L., Nyoni, C., ... van den Berg, K., 2022. Estimates of prevalence of anti-SARS-CoV-2 antibodies among blood donors in eight provinces of South Africa in November 2021. Research Square. Feb 15. Doi: 10.21203/rs.3.rs-1359658/v1.

Castanares-Zapatero, D., Chalon, P., Kohn, L., Dauvrin, M., Detollenaere, J., Maertens de Noordhout, C., ... Van den Heede, K., 2022. Pathophysiology and mechanism of long COVID: a comprehensive review. Annals of Medicine. Dec 31;54(1):1473-87.

Ceban, F., Ling, S., Lui, L.M., Lee, Y., Gill, H., Teopiz, K.M., ... Lin, K., 2022. Fatigue and cognitive impairment in Post-COVID-19 Syndrome: A systematic review and meta-analysis. Brain, behavior, and immunity. Mar 1;101:93-135.

Chen, C., Haupert, S.R., Zimmermann, L., Shi, X., Fritsche, L.G., Mukherjee, B., 2022. Global Prevalence of Post COVID-19 Condition or Long COVID: A Meta-Analysis and Systematic Review. The Journal of Infectious Diseases. Apr 16.

Cohen, C., Kleynhans, J., von Gottberg, A., McMorrow, M.L., Wolter, N., Bhiman, J.N., ... Martinson, N.A., 2022. SARS-CoV-2 incidence, transmission, and reinfection in a rural and an urban setting: results of the PHIRST-C cohort study, South Africa, 2020–21. The Lancet Infectious Diseases. Mar 14.

Cooper, S., Van Rooyen, H., Wysonge, C.S., 2022. Addressing COVID-19 vaccine hesitancy in South Africa- moving beyond a reliance on information-based responses, Human Vaccines and Immunotherapeutics 18(6):2107851. doi: 10.1080/21645515.2022.2107851

Crook, H., Raza, S., Nowell, J., Young, M., Edison, P., 2021. Long COVID—mechanisms, risk factors, and management. BMJ. Jul 26;374.

Dryden, M., Mudara, C., Vika, C., Blumberg, L., Mayet, N., Cohen, C., ... Jassat, W., 2022. Post-COVID-19 condition 3 months after hospitalisation with SARS-CoV-2 in South Africa: a prospective cohort study. The Lancet Global Health. Sep 1;10(9):e1247-56.

Fernandez-de-Las-Penas, C., Palacios-Cena, D., Gomez-Mayordomo, V., Florencio, L.L., Cuadrado, M.L., Plaza-Manzano, G., Navarro-Santana, M., 2021. Prevalence of post-COVID-19 symptoms in hospitalized and non-hospitalized COVID-19 survivors: A systematic review and meta-analysis. Eur. J. Intern. Med. 92, 55–70.

Gatechompol, S., Avihingsanon, A., Putcharoen, O., Ruxrungtham, K., Kuritzkes, D.R., 2021. COVID-19 and HIV infection co-pandemics and their impact: a review of the literature. AIDS research and therapy,18(1):28. https://doi.org/10.1186/s12981-021-00335-1.

Han, Q., Zheng, B., Daines, L., Sheikh, A., 2022. Long-Term sequelae of COVID-19: A systematic review and meta-analysis of one-year follow-up studies on post-COVID symptoms. Pathogens. Feb 19;11(2):269.

Hart, W.S., Miller, E., Andrews, N.J., Waight, P., Maini, P.K., Funk, S., Thompson, R.N., 2022. Generation time of the alpha and delta SARS-CoV-2 variants: an epidemiological analysis. Lancet Infect Dis 22:603–610.

He, X., He, C., Hong, W., Zhang, K., Wei, X., 2021. The challenges of COVID-19 Delta variant: prevention and vaccine development. MedComm 2:846–54.

Huang, L., Li, X., Gu, X., Zhang, H., Ren, L., Guo, L., ... Zhang. X., 2022. Health outcomes in people 2 years after surviving hospitalisation with COVID-19: a longitudinal cohort study. The Lancet Respiratory Medicine. May 11.

Hui, K.P.Y., Ho, J.C.W., Cheung, M., Ng, K., Ching, R.H.H., Lai, K., ... Chan, M.C.W., 2022. SARS-CoV-2 Omicron replication in human bronchus and lung ex vivo. Nature 603:715-720.

Human Sciences Research Council (HSRC), Responds to the COVID-19 Outbreak. https://hsrc.ac.za/uploads/pageContent/11529/COVID-19%20MASTER%20SLIDES%2026%20APRIL%202020%20FOR%20MEDIA%20BRIEFING%20FINAL.pdf (Accessed 7 March 2023).

Jassat, W., Abdool Karim, S.S., Mudara, C., Welch, R., Ozougwu, L., Groome, M.J., ... Rousseau, P., DATCOV author group, Blumberg, L., Cohen, C., 2022a. Clinical severity of COVID-19 in patients admitted to hospital during the omicron wave in South Africa: a retrospective observational study. Lancet Glob Health. May 18:S2214-109X(22)00114-0. Doi: 10.1016/S2214-109X(22)00114-0. Epub ahead of print. PMID: 35597249; PMCID: PMC9116895.

Jassat, W., Abdool Karim, S.S., Ozougwu, L., Welch, R., Mudara, C., Masha, M., ... Govender, S., DATCOV author group, Blumberg, L., Cohen, C., Groome, M.J., 2022b. Trends in cases, hospitalisation and mortality related to the Omicron BA.4/BA.5 sub-variants in South Africa. medRxiv. https://pubmed.ncbi.nlm.nih.gov/36453094/

Jassat, W., Cohen, C., Tempia, S., 2021a. Risk factors for COVID-19-related in-hospital mortality in a high HIV and tuberculosis prevalence setting in South Africa: a cohort study. Lancet HIV. Doi: 10.1016/S2352-3018(21)00151-X.

Jassat, W., Mudara, C., Ozougwu, L., Tempia, S., Blumberg, L., Davis, M.A., ... Cohen, C. 2021b. Difference in mortality among individuals admitted to hospital with COVID-19 during the first and second waves in South Africa: a cohort study. The Lancet Global Health 9, pp. e1216-e1225.

Jassat, W., Ozougwu, L., Munshi, S., Mudara, C., Vik, C., Arendse, T., ... Blumberg. L., 2022c. The intersection of age, sex, race and socio-economic status in COVID-19 hospital admissions and deaths in South Africa. South African Journal of Science, 118(5/6).

Kariem, S. 2021. Adverse effects following immunisation (AEFI) monitoring for COVID-19 vaccination. Circular H 22 /2021 Western Cape Government.

Katoto, P., Parker, S., Coulton, N., et al, 2022. Predictors of COVID-19 Vaccine Hesitancy in South African Local Communities: The VaxScenes Study, Vaccines, https://doi.org/10.3390/vaccines10030353.

Khan, K., Karim, F., Ganga, Y., Bernstein, M., Jule, Z., Reedoy, K., ... Sigal, A., 2022. Omicron sub-lineages BA.4/BA.5 escape BA.1 infection elicited neutralizing immunity. medRxiv 2022.04.29.22274477. https://doi.org/10.1101/2022.04.29.22274477.

Kuodi, P., Gorelik, Y., Zayyad, H., Wertheim, O., Wiegler, K.B., Jabal, K.A., ... Edelstein, M., 2022. Association between vaccination status and reported incidence of post-acute COVID-19 symptoms in Israel: a cross-sectional study of patients infected between March 2020 and November 2021. MedRxiv. Jan 1.

LaMorte, W.W., 2022. The Transtheoretical Model (Stages of Change). Boston University School of Public Health Available at https://sphweb.bumc.bu.edu/otlt/mph-modules/sb/behavioralchangetheories/behavioralchangetheories6.html. (Accessed 23 August 2023).

Lazarus, J.V., Wyka, K., White, T.M., Picchio, C.A., Rabin, K., Ratzan, S.C., Parsons Leigh, J., Hu, J., El-Mohandes, A., 2022. Revisiting COVID-19 vaccine hesitancy around the world using data from 23 countries in 2021. Nat Commun 13, 3801. https://doi.org/10.1038/s41467-022-31441-x.

Leong, T.D., McGee, S.M., Gray, A.L., de Waal, R., Kredo, T., Cohen, K., ... Parrish, A.G., 2020. Essential medicine selection during the COVID-19 pandemic: Enabling access in uncharted territory. South African Medical Journal, 110(11), 1077-1080.

Ledford, H., 2021. How severe are Omicron infections? Nature 600:577-578.

Macdonald, N., 2015 Vaccine hesitancy: Definition, scope and determinants, Vaccines,(33) 4161-4164.

Machingaidze, S., & Wiysonge, C.S., 2021. Understanding COVID-19 vaccine hesitancy, Nature Medicine| (27) August 2021, 1338–1344.

Madhi, S.A., Baillie, V., Cutland, C.L., Voysey, M., Koen, A.L., Fairlie, L., ... Wits-VIDA COVID Group, 2021. Efficacy of the ChAdOx1 nCoV-19 Covid-19 Vaccine against the B.1.351 Variant. N Engl J Med. May 20;384(20):1885-1898. Doi: 10.1056/NEJMoa2102214. Epub 2021 Mar 16. PMID: 33725432; PMCID: PMC7993410.

Madhi, S.A., Kwatra, G., Myers, J.E., Jassat, W., Dhar, N., Mukendi, C.K., Nana, A.J., Blumberg, L., Welch, R., Ngorima-Mabhena, N., Mutevedzi, P.C., 2022a. Population immunity and Covid-19 severity with Omicron variant in South Africa. New England Journal of Medicine, 386(14): 1314-26.

Madhi, S., Kwatra, G., Myers, J.E., Jas-sat, W., Dhar, N., Mukendi, C.K., Blumberg, L., Welch, R., Izu, A., Mutevedzi, P.C., 2022b. SARS-CoV-2 infections during Omicron (BA. 1) dominant wave and subsequent population immunity in Gauteng, South Africa. medRxiv. Doi: 10.1101/2022.07.13.22277575.

Makoni, M., 2021. Social unrest disrupts South African health care. Lancet, 398(10297) :287. https://doi.org/10.1016/S0140-6736(21)01654-8.

Mallapaty, S., 2022. The hunt for the origins of Omicron. Nature 602: 26-28.

Maltezou, H.C., Pavli, A., Tsakris, A., 2021. Post-COVID syndrome: an insight on its pathogenesis. Vaccines. May 12;9(5):497.

Martin, D.P., Lytras, S., Lucaci, A.G., Maier, W., Grüning, B., Shank, S.D., ... Kosakovsky Pond, S.L., 2022. Selection analysis identifies unusual clustered mutational changes in Omicron lineage BA.1 that likely impact Spike function. bioRxiv 2022.01.14.476382. https://doi.org/10.1101/2022.01.14.476382.

Mendelsohn, A.S., Nath, N., De Sá, A., Von Pressentin, K.B., 2022. Two months follow-up of patients with non-critical COVID-19 in Cape Town, South Africa. S Afr Fam Pract (2004). 2022;64(1):e1-e6. Published Feb 10. Doi:10.4102/safp.v64i1.5429.

Mendelson, M., Venter, F., Moshabela, M., Gray, G., Blumberg, L. de Oliveira, T., Mahdi, S.A. 2021. The political theatre of the UK's travel ban on South Africa. Lancet 398: 2211–2213. https://pubmed.ncbi.nlm.nih.gov/34871546/

Michelen, M., Manoharan, L., Elkheir, N., Cheng, V., Dagens, A., Hastie, C., O'Hara, M., Suett, J., Dahmash, D., Bugaeva, P., Rigby, I., 2021. Characterising long COVID: a living systematic review. BMJ Global Health. Sep 1;6(9):e005427.

Mlcochova, P., Kemp, S.A., Dhar, M.S., Papa, G., Meng, B., Ferreira, I.A.T.M., Datir, R., Collier, D.A., Albecka, A., Singh, S., 2021. SARS-CoV-2 B.1.617.2 Delta variant replication and immune evasion. Nature 599:114-119.

Mohammadi, M., Shayestehpour, M., Mirzaei, H., 2021. The impact of spike mutated variants of SARS-CoV2 [Alpha, Beta, Gamma, Delta, and Lambda] on the efficacy of subunit recombinant vaccines. Braz J Infect Dis 25:8.

Morioka, S., Tsuzuki, S., Suzuki, M., Terada, M., Akashi, M., Osanai, Y., Kuge, C., Sanada, M., Tanaka, K., Maruki, T., Takahashi, K., 2022. Post COVID-19 condition of the Omicron variant of SARS-CoV-2. Journal of Infection and Chemotherapy 28: 1546-1551. https://doi.org/10.1016/j.jiac.2022.08.007.

Mputing, A., 2020. State resources under severe pressure due to Covid-19 pandemic. Insession, 2:1-2.

Nalbandian, A., Sehgal, K., Gupta, A., Madhavan, M.V., McGroder, C., Stevens, J.S., Cook, J.R., Nordvig, A.S., Shalev, D., Sehrawat, T.S., Ahluwalia, N., 2021. Post-acute COVID-19 syndrome. Nature medicine, Apr;27(4):601-15.

National Department of Health, South Africa, 2023. Covid-19 Rapid Reviews. https://www.health.gov.za/covid-19-rapid-reviews/.

National Department of Health, South Africa. Electronic Vaccination Data System (EVDS) Self Registration Portal. https://www.gov.za/covid-19/vaccine/evds. [last accessed 4 December 2023]

Network for Genomics Surveillance in South Africa (NGS-SA), 2022. SARS-CoV-2 Sequencing Update 1 July 2022. Available at https://www.nicd.ac.za/diseases-a-z-index/disease-index-covid-19/sars-cov-2-genomic-surveillance-update/ (Accessed 12 July 2022).

Nguyen, N.N., Hoang, V.T., Dao, T.L., Dudouet, P., Eldin, C., Gautret, P., 2022. Clinical patterns of somatic symptoms in patients suffering from post-acute long COVID: a systematic review. European Journal of Clinical Microbiology & Infectious Diseases. Feb 10:1-31.

National Department of Health South Africa. Latest Vaccine Statistics. Sacoronavirus website. Available at: https://sacoronavirus.co.za/latest-vaccine-statistics/

National Institute for Communicable Diseases (NICD), 2021. SARS-CoV-2 genomic surveillance update. Available at https://www.nicd.ac.za/covid-19-update-delta-variant-in-south-africa/ (Accessed 4 July 2022).

NICD, Weekly testing summary. https://www.nicd.ac.za/diseases-a-z-index/disease-index-covid-19/surveillance-reports/weekly-testing-summary/.

NICD, Weekly epidemiological brief. https://www.nicd.ac.za/diseases-a-z-index/disease-index-covid-19/surveillance-reports/weekly-epidemiological-brief/.

National Institute for Communicable Diseases/ South African Centre of Excellence in Epidemiological Modelling & Analysis (NICD /SACEMA), The initial and daily COVID-19 effective reproductive number in South Africa. https://www.nicd.ac.za/diseases-a-z-index/disease-index-covid-19/surveillance-reports/covid-19-special-reports/the-initial-and-daily-covid-19-effective-reproductive-number-in-south-africa/.

NICD/SACEMA, SARSCoV2 reinfection trends in South Africa: Monthly Report. https://www.nicd.ac.za/diseases-a-z-index/disease-index-covid-19/surveillance-reports/sarscov2-reinfection-trends-in-south-africa-monthly-report/.

NICD Centre for Vaccines and Immunology, Wastewater-based epidemiology for SARS-CoV-2 in South Africa including wastewater genomics. https://www.nicd.ac.za/diseases-a-z-index/disease-index-covid-19/surveillance-reports/weekly-reports/wastewater-based-epidemiology-for-sars-cov-2-in-south-africa/.

NICD, Weekly hospital surveillance (DATCOV) update. https://www.nicd.ac.za/diseases-a-z-index/disease-index-covid-19/surveillance-reports/weekly-hospital-surveillance-datcov-update/.

Parums, D.V., 2021. Long COVID, or post-COVID syndrome, and the global impact on health care. Medical Science Monitor: International Medical Journal of Experimental and Clinical Research, 27:e933446-1.

Pillay, Y., Pienaar, S., Barron, P. & Zondi, T., 2021. Impact of COVID-19 on routine primary healthcare services in South Africa. SAMJ: South African Medical Journal, 111(8), 714-719. https://dx.doi.org/10.7196/samj.2021.v111i8.15786.

Pizarro-Pennarolli, C., Sánchez-Rojas, C., Torres-Castro, R., Vera-Uribe, R., Sanchez-Ramirez, D.C., Vasconcello-Castillo, L., Solís-Navarro, L., Rivera-Lillo, G., 2021. Assessment of activities of daily living in patients post COVID-19: a systematic review. PeerJ. Apr 6;9:e11026.

Premraj, L., Kannapadi, N.V., Briggs, J., Seal, S.M., Battaglini, D., Fanning, J., Suen, J., Robba, C., Fraser, J., Cho, S.M., 2022. Mid and long-term neurological and neuropsychiatric manifestations of post-COVID-19 syndrome: A meta-analysis. Journal of the neurological sciences. Mar 15;434:120162.

Presidency of South Africa, 2021. Development of Country Report on the Measures implemented to combat the Impact of Covid-19 in South Africa. South Africa Covid-19 Country Report [First edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria: June.

Pretorius, E., Vlok, M., Venter, C., Bezuidenhout, J.A., Laubscher, G.J., Steenkamp, J., Kell, D.B., 2021. Persistent clotting protein pathology in Long COVID/Post-Acute Sequelae of COVID-19 (PASC) is accompanied by increased levels of antiplasmin. Cardiovasc Diabetol 20, 172. https://doi.org/10.1186/s12933-021-01359-7.

Pulliam, J.R.C., van Schalkwyk, C., Govender, N., von Gottberg, A., Cohen, C. Groome, M.J., Dushoff, J., Mlisana, K., Moultrie, H., 2021. Increased risk of SARS-CoV-2 reinfection associated with emergence of the Omicron variant in South Africa. medRxiv 2021.11.11.21266068; https://doi.org/10.1101/2021.11.11.21266068.

Reuters, 2022. Shanghai identifies new COVID Omicron subvariant. https://www.reuters.com/world/china/chinas-shanghai-says-new-omicron-subvariant-found-2022-07-10/ (Accessed 20 July 2022).

Richter, M., Nokhepheyi, Y., Hassan, F., 2022. When secrecy and expert advice collide in a pandemic: Access to information and the National Department of Health's tardy publication of Ministerial Advisory Committee advisories. SAMJ: South African Medical Journal, 112(3) https://dx.doi.org/10.7196/SAMJ.2022.v112i3.16430.

Runciman, C., Roberts, B., Alexander, K. Bohler-Muller, N., Bekker, M., 2021. Willingness to take a COVID-19 vaccine: A Research Briefing, UJ/HSRC COVID-19 Governance Surveys. https://hsrc.ac.za/uploads/pageContent/1045085/2021-01-25%20Vaccine%20briefing%20(final).pdf

SA Medical Research Council (SAMRC), Report on weekly deaths in South Africa. https://www.samrc.ac.za/reports/report-weekly-deaths-south-africa. [last accessed 4 December 2023]

SA Medical Research Council (SAMRC), SARS-CoV-2 wastewater surveillance dashboard. https://www.samrc.ac.za/wbe/index.html.

SA National Blood Service, 2021. Updated estimates of the prevalence of SARS-CoV-2 antibodies among blood donors in South Africa. 1 July 2021. https://sanbs.org.za/wp-content/uploads/2016/09/updated-estimates-of-the-prevalence-of-sars-cov-2-antibodies-among-blood-donors-in-south-africa.pdf (Accessed 10 December 2021).SAHPRA, 2022.

SAHPRA receives Accolade from the World Health Organisation. https://www.sahpra.org.za/news-and-updates/sahpra-receives-accolade-from-the-world-health-organisation/

Schoub, B.D., 2021. Dial down the rhetoric over COVID-19 vaccines. S Afr Med J 2021 (epub 9 April 2021). https://doi.org/10.7196/SAMJ.2021.v111i6.15740

Shiehzadegan, S., Alaghemand, N., Fox, M., Venketaraman, V., 2021. Analysis of the delta variant B 1617 2 COVID-19. Clin Pract. 11:778–84. Sifunda, S., Sewpaul, R., Mokhele, T., Gaida, R., 2022. COVID-19 vaccination acceptance intentions and other related factors in South Africa: Unpacking beyond the dichotomy of "vaccine hesitancy" discourse. Webinar, February 2022.

Silal, S.P., Groome, M.J., Govender, N., Pulliam, J.R.C., Ramadan, O.P., Puren, A., … Walaza, S., 2022. Leveraging epidemiology as a decision support tool during the COVID-19 epidemic in South Africa. S Afr Med J. May 31;112(5b):361-365.

Singh, J.A., 2020. How South Africa's Ministerial Advisory Committee on COVID-19 can be optimised; SAMJ 110:439-442.

Soriano, J.B., Murthy, S., Marshall, J.C., Relan, P., Diaz, J.V., 2022. A clinical case definition of post-COVID-19 condition by a Delphi consensus. Lancet Infect. Dis, 22, e102–e107.

South African COVID-19 Modelling Consortium, Modelling consortium (projections). https://www.nicd.ac.za/diseases-a-z-index/disease-index-covid-19/surveillance-reports/modelling-consortium-projections/

Spaull, N., Daniels, R. C., Ardington, C., Branson, N., Breet, E., Bridgman, G., … Wittenberg, M., 2021. NIDS-CRAM Wave 5 Synthesis Report. NIDS/CRAM Surveys.

Strain, W.D., Sherwood, O., Banerjee, A., Van der Togt, V., Hishmeh, L., Rossman, J., 2022. The Impact of COVID Vaccination on Symptoms of Long COVID: An International Survey of People with Lived Experience of Long COVID. Vaccines. Apr 21;10(5):652.

Starr, T.N., Greaney, A.J., Dingens, A.S., Bloom, J.D., 2021. Complete map of SARS-CoV-2 RBD mutations that escape the monoclonal antibody LY-CoV555 and its cocktail with LY-CoV016. Cell Rep Med 2:100255.

Sudre, C.H., Murray, B., Varsavsky, T. Graham, M.S., Penfold, R.S., Bowyer, R.C., … Steves, C.J. 2021. Attributes and predictors of Long-COVID: analysis of COVID cases and their symptoms collected by the COVID Symptoms Study App. Nature Medicine. March 10; 27: 626-631.

Sun, K., Tempia, S., Kleynhans, J., von Gottberg, A., McMorrow, M.L., Wolter, N., Bhiman, J.N., Moyes, J., du Plessis, M., Carrim, M., Buys, A., 2022. Persistence of SARS-CoV-2 immunity, Omicron's footprints, and projections of epidemic resurgences in South African population cohorts. medRxiv. Doi: 10.1101/2022.02.11.22270854.

Ungar, L. & Goshal, A., 2022. A Super Contagious Omicron Mutant Is Worrying Scientists. It's Called BA.2.75. https://time.com/6195495/covid-omicron-variant-mutant-contagious-ba2-75/ (Accessed 20 July 2022).

Van Kessel, S.A., Olde Hartman, T.C., Lucassen, P.L., van Jaarsveld, C.H., 2022. Post-acute and long-COVID-19 symptoms in patients with mild diseases: a systematic review. Family practice. Feb;39(1):159-67.

Venkatesan, P., 2022. Do vaccines protect from long COVID?. The Lancet Respiratory Medicine. Mar 1;10(3):e30.

Venter, W.D.F., Mahdi, S.A., Nel, J., Mendelson, M., van den Heever, A., Moshabela, M., 2021a. South Africa should be using all the COVID-19 vaccines available to it - urgently. S Afr Med J, (epub 25 March 2021). https://pubmed.ncbi.nlm.nih.gov/34852876/

Venter, W.D.F., Mahdi, S.A., Nel, J., Mendelson, M., van den Heever, A., Moshabela, M., 2021b. COVID-19 vaccines - less obfuscation, more transparency and action. S Afr Med J, 111. http://dx.doi.org/.15752.15752.15752.15752.15752.

Wang, L., Berger, N.A., Kaelber, D.C., Davis, P.B., Volkow, N.D., Xu, R., 2022. Comparison of outcomes from COVID infection in pediatric and adult patients before and after the emergence of Omicron. medRxiv 2021.12.30.21268495. doi:10.1101/2021.12.30.21268495.

World Health Organisation (WHO), 2021. Classification of Omicron (B.1.1.529): SARS-CoV-2 variant of concern. https://www.who.int/news/item/26-11-2021-classification-of-omicron-(b.1.1.529)-sars-cov-2-variant-of-concern

World Health Organisation (WHO), 2022. Severity of disease associated with Omicron variant as compared with Delta variant in hospitalized patients with suspected or confirmed SARS-CoV-2 infection. https://www.who.int/publications/i/item/9789240051829 (Accessed 20 July 2022).

Wolter, N., Jassat, W., Walaza, S., Welch, R., Moultrie, H., Groome, M., ... von Gottberg, A., 2022. Early assessment of the clinical severity of the SARS-CoV-2 Omicron variant in South Africa: a data linkage study. Lancet 399:437-46.

Yong, S.J., 2021. Long COVID or post-COVID-19 syndrome: putative pathophysiology, risk factors, and treatments. Infectious diseases. Oct 3;53(10):737-54.

CHAPTER 5.2
EDUCATION SECTOR

Abstract

The shocks which emerged from the Covid-19 pandemic were numerous, and included learning losses and the greater visibility of education inequality in South Africa. This Chapter focuses on some of the shocks with regards to teaching and learning in the Early Childhood Development, Basic Education, and Higher Education sectors. The methodology was largely a desktop study which included the review and analysis of key policy documents, statements issued by government departments, and scholarly publications. A smaller data set was generated using a Google Form survey to which 35 educationists responded. The analysis revealed complex intersecting factors, for example, extended learner absenteeism which was initially interpreted as learner dropout, and a change in Grade 11 assessment ratios which inflated enrolment in Grade 12 in 2021. The analysis of empirical data revealed deep insights into educationists' experiences of schooling since the onset of Covid-19. These included frustration caused by the lack of resources, overcrowded curricula, the impossibility of adequate instruction using rotational time tables, and the fear and anxiety about their health and vulnerability to the disease. There were several key lessons learnt and from these lessons recommendations relating to upgrading school infrastructure, especially Information and Communications Technology (ICT), improving sanitation, improving connectivity, creating Wi-Fi spots in community libraries, improving communication among stakeholders and providing health education to learners were made.

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ABBREVIATIONS AND ACRONYMS

DBE	Department of Basic Education
DHET	Department of Higher Education and Training
ECD	Early Childhood Development
HEI	Higher Education Institution
ICT	Information and Communications Technology
NIDS-CRAM	National Income Dynamics Study Coronavirus Rapid Mobile [survey]
OECD	Organisation for Economic Co-operation and Development
PPE	Personal Protective Equipment
PSET	Post-School Education and Training
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
WHO	World Health Organization

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Background

The effects of Covid-19 on the education sector from the year 2020 revealed South Africa's lack of preparedness when faced with pandemics, and perhaps, other disasters that might affect the country. The sudden drastic measures imposed on all citizens, more so in education, exposed South Africa's weaknesses in the way the government plan for events that are unexpected and it laid bare the shortcomings in the infrastructure, professional development of personnel, technological and innovation advancement, human and material resource provision, and communication skills. The lack of planning for possible calamities resulted in professionals having to re-learn, re-evaluate and re-think the way education unfolded. There were many shortcomings in the initial stages, but with some persistence, at all levels, education was re-moulded and rescued with the intention that no learner who diligently attended classes (whether online or at school) would be left behind. Recommendations relating to upgrading school infrastructure, especially Information and Communications Technology (ICT), improving sanitation, improving connectivity, creating Wi-Fi spots in community libraries, improving communication among stakeholders and providing health education to learners were made. This chapter covers three sections, namely, Early Childhood Development, Basic Education and Higher Education.

Methodological approach to the research

The chapter was crafted using mainly a desktop study and essential reports, peer reviewed papers, Government Gazettes, policy documents, newspaper articles and opinion pieces. A key feature of this desktop study was the comparison of the Covid-19 education events in South Africa to those in other countries, both in Africa and the rest of the world, in order to establish a more informed approach to the findings and recommendations. The Chapter covers three essential sectors in education, namely, Early Childhood Development, Basic Education and Higher Education. Empirical data were generated using a Google Form survey (March 2022), which was sent to approximately 110 teachers, principals, departmental officials, union members and university staff. At the point of writing this report, only 35 participants responded, despite constant reminders. A questionnaire was also sent to five members of the Department of Basic Education. There was a distinct silence from Higher Education staff and departmental officials, despite the reminders.

Introduction

Amnesty International, in a press release dated 15 February 2021, succinctly captured the plight of South Africa's education system during the Covid-19 pandemic. This is, in many ways, related to the fact that "South Africa has borne the heaviest burden in Africa of the Covid-19 pandemic in terms of numbers of both reported cases and reported deaths" (Amnesty International, 2021:4). In that press release (they conclude that "the Covid-19 pandemic has plunged South Africa's schools further into crisis, exposing how the country's education system continues to be shaped by the legacy of apartheid". The predicament of the South African children was also enunciated quite poignantly by Shenilla Mohamed, Executive Director of Amnesty International, South Africa, in the same press release, when she stated, "A child's experience of education in South Africa is still dependent on where they are born, how wealthy they are, and the colour of their skin ". This was indeed a significant factor when considering the huge knowledge gap that developed as a result of school disruptions. However, it must be remembered that even before the emergence of the Covid-19 pandemic, historical inequality in South Africa endured stubbornly, despite colossal changes in the post-1994 political order, which had promised a more just social order.

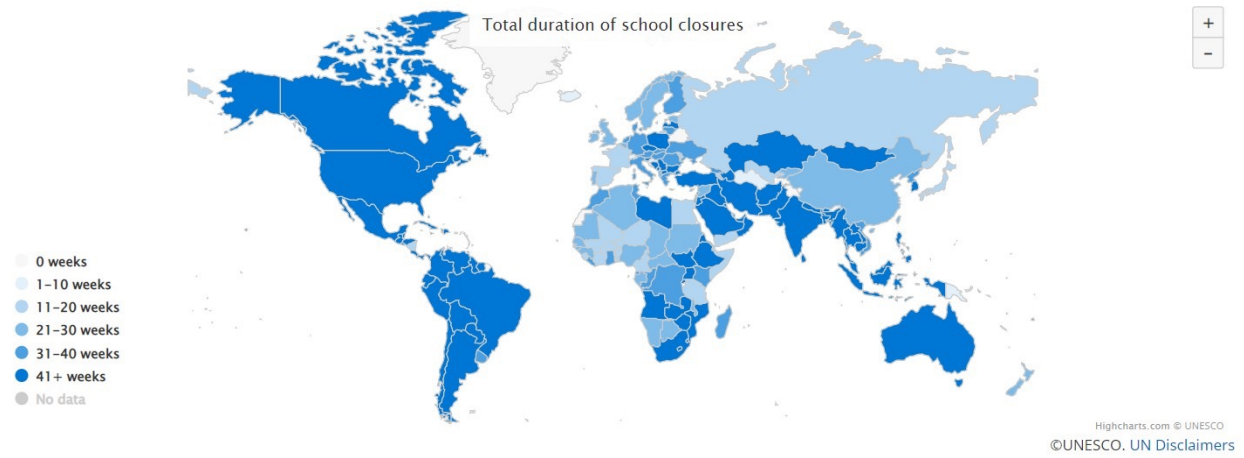
The higher education institutions seem to have adapted to work under the abnormal circumstances. Prior to the pandemic, the Early Childhood Development (ECD) sector, had been financially constrained and was fragile. The sector as a whole was particularly vulnerable to the pandemic shocks, which resulted in the permanent closure of many ECD centres due to withdrawal of funding.

We begin this report with an overview of how South Africa compared with other countries when school closure became mandatory. Next, we present statistics related to mortality of the group aged 19 and under, as a direct effect of Covid-19. This is followed by a discussion of the effects of the pandemic on the Early Childhood Development (ECD sector. A focus on the Basic Education sector follows, with analysis and discussion related to pressure to re-open schools, school readiness, debates related to learner attendance, matric enrolment, and learning losses. The next section highlights nutrition, health and welfare of young people in the ECD and Basic Education sectors. The empirical data of educationists' experiences in the Basic Education sector is then analysed. This is followed by the continuation of the analysis of secondary data to reveal how the pandemic impacted the Higher Education sector. The report concludes with lessons learned in the education sector and recommendations.

School closures

School closures affected almost every country in the world. South Africa ranks among the countries with the highest number of weeks for which schools were physically closed, although some form of remote schooling might have taken place. Please also refer to the South Africa Covid-19 Country Report (1st edition) for more detail (Presidency of South Africa, 2021). Figure 5.2.1 reveals that South Africa lost approximately 41 weeks of schooling in the entire period of Covid-19.

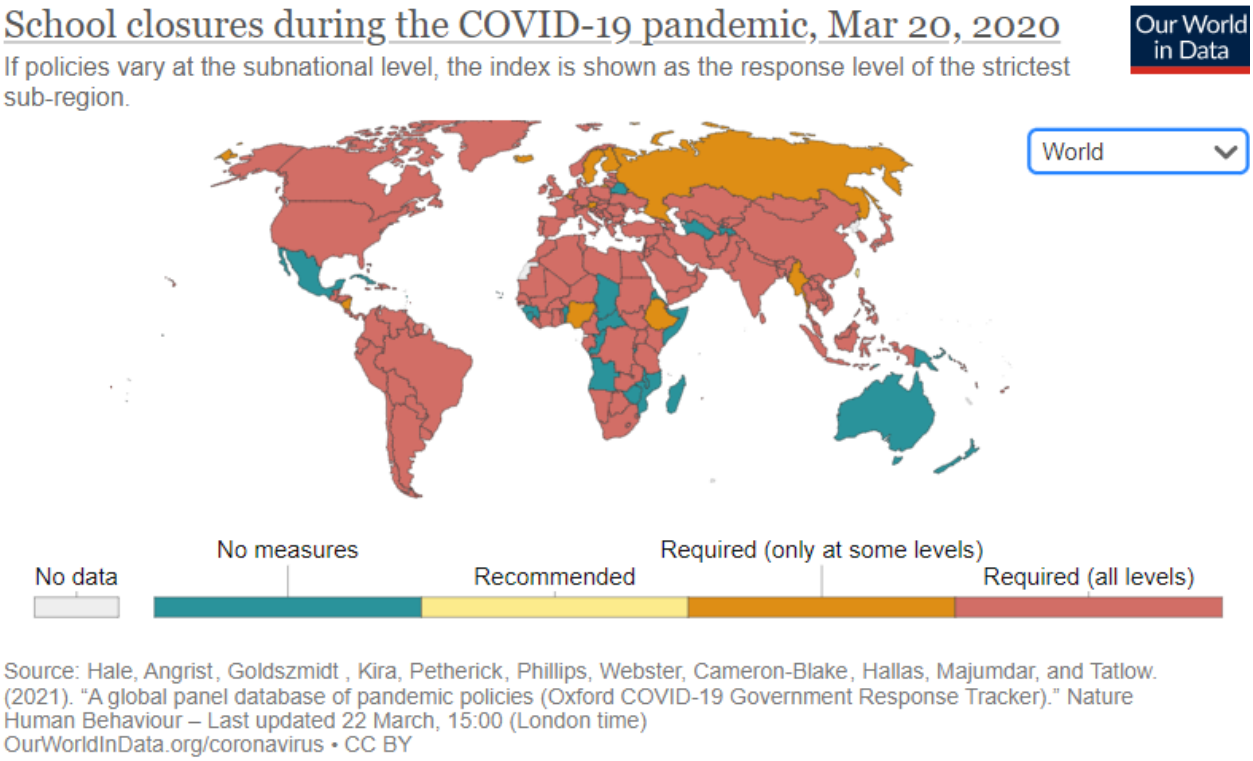
Figure 5.2.1: UNESCO's total duration of school closure map



Source: UNESCO, 2022a

Figures 5.2.2, 5.2.3 and 5.2.4 provide a snapshot in time to show the gradual relaxation of Covid-19 rules and increase access to schools. Figure 5.2.2 represents school closure data on the first day of official school closure in South Africa. It shows that South Africa immediately joined most of the world in implementing strict measures for the education sector as early as 20 March 2020.

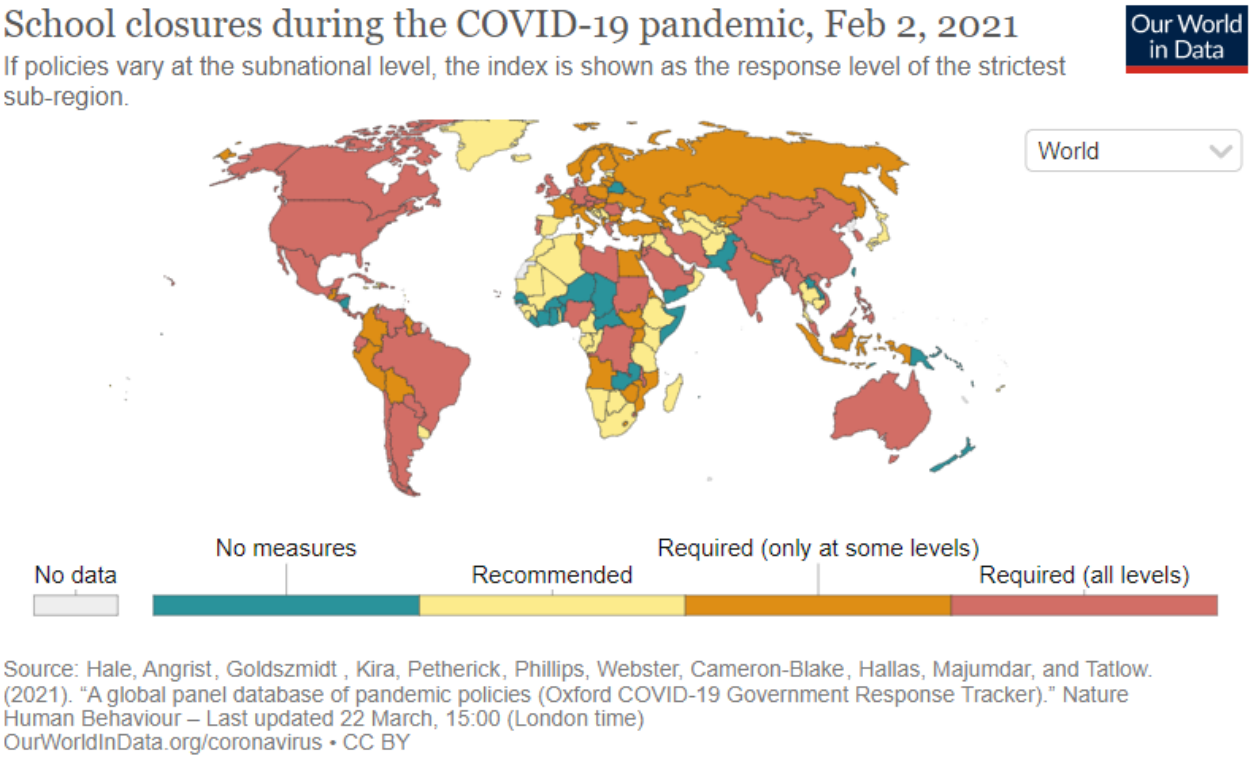
Figure 5.2.2: School closures due to Covid-19 on the 20 March 2020



Source: Our World in Data (2023)

Figure 5.2.3 reveals that almost 11 months later, by 2 February 2021 regulations were becoming more relaxed and in South Africa, school closure was not a required measure but was merely recommended.

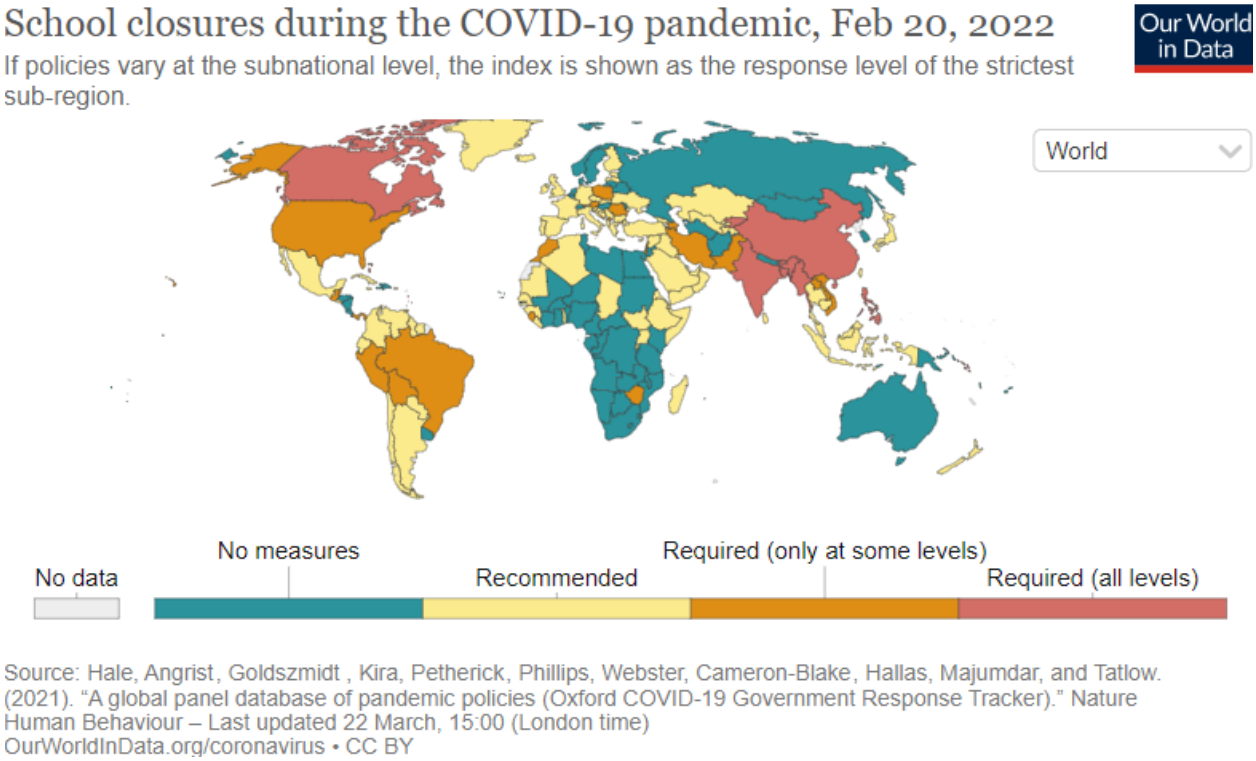
Figure 5.2. 3: School closures due to Covid-19 on the 2 February 2021



Source: Our World in Data (2023)

Figure 5.2.4 shows the transition to schools becoming freely accessible, with no measures being implemented or recommended in South Africa by 20 February 2022. South Africa compared well with other African nations in terms of the number of weeks during which schools were fully closed (Addendum 1: UNESCO Institute for Statistics based on UNESCO map on school closures (https://en.unesco.org/covid19/educationresponse)).

Figure 5.2. 4: School closures due to Covid-19 on the 20 February 2022



Source: Our World in Data (2023)

Refer to Addendum 1, (downloaded from https://data.unicef.org) which reveals that only Uganda and Libya on the African continent performed worse than South Africa in terms of school closures. A global comparison of complete school closures reveals that 89 countries closed schools for longer than South Africa did. Although there were disruptions in South Africa, complete school closures were minimised. Currently, schools are fully open in all countries in the world. The outbreak of Covid -19 which provided the impetus for school closure, "rendered naked the declivity of education for the masses, borne of social injustice, in a decadent South Africa" (Mudaly & Mudaly, 2021: 107). Before we engage with the issues of pandemic policies, pedagogies, and losses, we examine the direct effect of the pandemic on children's health.

Children and Covid-19

In South Africa, by January 2021, children and adolescents, with a total of 5,743 admissions since the start of the pandemic, accounted for 9.2% of the scientifically confirmed Covid-19 cases and 3.9% of all Covid-19 related hospital admissions. The hospital admissions increased to 7,987 by 13 February 2021. There were 152 in-hospital fatalities of 19 year old and under by the end of January 2021.

The National Institute for Communicable Diseases (NICD) reports that, as of 19 June 2021, individuals aged ≤19 years made up 13.4% of SARS-CoV-2 tests, 10.2% of laboratory-confirmed Covid-19 cases, 4.2% of all Covid-19 associated admissions and 0.7% of Covid-19 associated deaths (NICD Covid-19 and

DATCOV teams, 2021). Among all deaths of individuals aged ≤19 years, 146 (38.4%) were adolescents aged 15-19 years and 121 (31.8%) were children under one year. Accordng to UNICEF, aA large percentage of patients aged ≤19 years who died in hospital had reported underlying conditions. Data indicate that the fluctuation in numbers of cases in children does not appear to be directly related to the timing of opening or closing of schools, suggesting that schools are not the main drivers of infection in children (UNICEF, Situation Report No. 17, 2021:1-2).

Globally, individuals aged ≤19 years accounted for 0.4% of the 4.4 million Covid-19 deaths (UNICEF, March 2023). The evidence suggests a limited impact on mortality in this age group. However, the number of deaths from indirect effects of the pandemic, such as decreased financial resources, unemployment, limited or no access to decent health care, and so on, can increase mortality of young people and children aged ≤19 years substantially (ibid). In South Africa, the Early Childhood Development (ECD) sector suffered substantial losses as it was particularly vulnerable. In the next part of this report, the impact on the education sector will be discussed firstly at the ECD level, then the Basic Education school level, and thereafter at the Higher Education level.

Early Childhood Development

The ECD sector in South Africa is generally provided by private bodies consisting of NGOs (non-governmental organisations), NPOs (non-profit organisations), religious bodies, entrepreneurs (most often, women operating a small business from their homes) and in some instances, well-organised institutions supported by qualified personnel. The numbers within ECD centres may vary depending on the demand within the community for such services. In most cases, fees are charged for the services provided.

Children are more vulnerable to the initial and subsequent shocks of a disaster such as Covid-19 and for some children, the impact is exacerbated by the toxic pressure of violence, food and safety, insecurity, uncertainty, effects of job losses and death. These factors influence children's emotional, psychological, and physical development. Furthermore, these factors impact children's overall immunity and brain development, and have implications for their achievement in education and their job prospects in the long term. This is compounded by the presence of fragile, poorly-prepared education systems which were unmasked in the wake of Covid-19 (Galevski et al., 2021).

Wills, Kotzé, and Kika-Mistry (2021:3) used data from the National Income Dynamics Study – Coronavirus Rapid Mobile Survey (NIDS-CRAM) to list a few key findings related to the ECD sector.
These are:

1. The closure of ECD programmes in March 2020 locked-out not only millions of children from ECD programmes, but also millions of households and parents who were reliant on these services.
2. Following the lockdown, the ECD sector was operating at just a fraction of its pre-crisis levels a month after programmes could reopen: Using the NIDS-CRAM data, it was discovered that 38% of the respondents from the survey reported that children aged between 0 and 6 in their households had attended ECD programmes before the lockdown in March 2020, but only 4.56% (12% of the 38%) indicated that children had returned

to these programmes between mid-July 2020 and mid-August 2020, well after programmes were allowed to reopen.

3. Currently, supply-side obstacles to programmes reopening are the primary reason for low levels of ECD attendance: Over half (55%) of the respondents residing with children who had not returned to ECD programmes, identified 'the temporary closure of ECD programmes as the main reason for non-return. A further 5% of this sample indicated that programmes were not ready to reopen, while 4% indicated that programmes had closed down permanently.
4. Nearly a third of the respondents (29%), cited fears of children being infected by the coronavirus at ECD programmes as the main reason for not sending their children back.

A study by the Children's Institute in Western Cape by Lake, Shung-King, Delani and Hendricks (2021) revealed that between March 2020 and March 2021, children accounted for 0.5% of the deaths from Covid-19 related conditions. However, tens of thousands of children were rendered more vulnerable in the wake of the death of their parents or guardians and siblings and the destruction caused by Covid-19. Resources were diverted to adult care during Covid-19, and little attention was paid to children's care and protection; children suffered the effects of abandonment when parents or childcare providers were hospitalised. Disruption to routine health care provision and the National School Nutrition programme resulted in greater vulnerability due to malnutrition. A more family- and child-centred Covid-19 response is required in the future.

The preschoolers were affected in various other ways as well as itis not only education that the ECD centres provide. In addition to education, ECD centres provide meals, day-care and social networking services. Also, since young children have less ability to work independently with technological devices used in teaching, they are less likely to be targeted for learning opportunities, and even less prioritised for remote learning (Galevski, 2021). Government commitment to supporting the ECD sector is wavering. A report by Gontsana (2022) revealed that in May 2022, more than 1700 ECD centres in Western Cape Province alone had not received funds which had been planned for disbursement to ECD centres by the Department of Social Development. Protest marches ensued and then the responsibility for ECD was transferred to the DBE. A survey conducted by the Centre of Early Childhood Development revealed that only 8% of the centres which were sampled had been paid.

According to UNICEF (2021), South African children are lagging by a year in terms of their schooling achievements, due to the shocks of the pandemic. During the first 16 months of the lockdown, almost half a million children dropped out of school. Christine Muhigana, UNICEF South Africa Representative, emphasised that South Africa cannot afford to lose even another hour of schooling.

Basic Educational Sector

Call for Basic Educator sector schools to be reopened immediately

South Africa, being a socio-economically constrained country, was severely affected by school closures. There was increased pressure for schools to be reopened with minimal Covid-19 restrictions in 2021 and 2022. The

leader of the Democratic Alliance, John Steenhuisen, for example, wrote an open letter to President Cyril Ramaphosa (News24, 2022), asking for schools to be unconditionally opened and to return to normal operations. His arguments centred around the ideas that:

> *...rotational schooling causes mental distress, increased exposure to violence and abuse, and increased malnutrition from missed school meals. All of which have long-term consequences for the health and well-being of this and future generations (News24, 13 January 2022).*

These ideas were not new nor unique. News24 (13 January 2022) also cited Wits Professor of Vaccinology, Shabir Mahdi, who stated that, "immediate full opening of schools in SA can no longer be delayed to protect selfish interests of adults who choose to remain unvaccinated or (by) inefficiency to rollout boosters to high-risk groups. Children who remain at nominal risk of severe disease have suffered disproportionately".

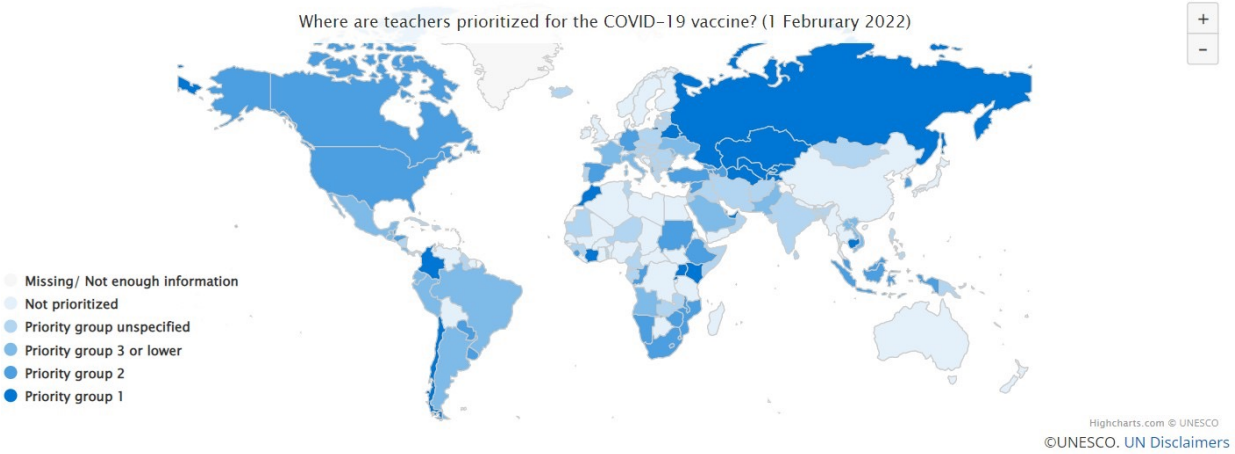
There were other factors such as the July 2021 riots that aggravated the school disruptions of Covid-19. UNICEF (22 July 2021) highlighted a new dimension to the disadvantages faced by South African learners. According to it, the South African education system could not afford any more setbacks like those experienced in July 2021, when, during the violent unrest in KwaZulu-Natal and Gauteng, more than 140 schools were severely vandalised or completely destroyed. This, they claim, is over and above the more than 2000 schools that were looted and damaged during the complete Covid-19 lockdown in 2020.

Basic Education sector: School readiness

Schools were scheduled to reopen on 27 January 2021, but this was delayed until 15 February 2021 for learners, 25 January 2021 for senior management teams and general workers, and 1 February 2021 for educators.

South African teachers were prioritised for vaccinations and, by 30 September 2021, 89% of all teachers had received the vaccine. South Africa, compared well with most other countries in the world as it prioritised teachers into Group 2 – teachers were the second group of recipients of the vaccine. Only 19 countries prioritised teachers in the first group and the majority of countries did not prioritise teachers at all (Figure 5.2.5).

Figure 5.2.5: Teacher vaccinations



Source: UNESCO 2022a

There was great support for the rollout of the vaccination programme in the education sector. UNICEF and the DBE have also developed a campaign to tackle teachers' vaccine hesitancy (UNICEF, 2021).

Almost 28 million young people and caregivers have been reached through Covid-19 messaging focused on staying safe at school. This includes communication by PSAs and messaging on DSTV's SuperSport channel, via the Children's Radio Foundation (CRF), The Girls and Boys Education Movement GBEM platforms, and other platforms excluding social media. Also included are the remote learning resources – through online platforms, broadcast (radio and TV) and social media – which have reached nearly 6.5 million children (UNICEF, Situation Report No. 12, 2021:1).

UNICEF continues to work with the National Education Collaboration Trust on curriculum recovery plans for the education sector. This entails coordination and technical support for the 'curriculum trimming exercise' for the education catch-up programme. In addition, UNICEF, in partnership with the European Union, is implementing a programme to provide quality assurance of the trimmed curriculum, reading programme and parental involvement programme (UNICEF, Situation Report No. 12, 2021:2).

To assist learners and teachers to be ready to return to school, UNICEF partnered with 2Enable, an organisation that specialises in education, to provide educational support. Many teacher support videos were produced and additional funding was allocated to the initiative by UNICEF. A new partnership was carried out with Siyavula which resulted in Maths, English, Science and Accounting content being available to all children (UNICEF, Situation Report No. 12, 2021:2). By the end of November 2020, 600 educational videos had been produced and are now accessible online (UNICEF, Situation Report No. 12, 2021:1). UNICEF supported distance and home-based learning, with more than 355,000 children reached through the activelearning@home series, as well as the 2Enable and Tshwaragano ka Bana series. UNICEF-produced videos for grade R to grade

3 are also still accessible online (UNICEF, Situation Report No. 15, 2021:2).

All public schools went on a first quarter break on 23 April 2021, with schools scheduled to reopen on 05 May 2021, despite the lingering concerns amid ongoing discussion around how to safely increase the number of learners each day. The adjusted alert level 4 lockdown measures had brought the planned school holidays forward when schools closed from 30 June 2021 and reopened on 19 July (a week earlier than prescribed in the school calendar). The Department of Basic Education (DBE) and the Ministerial Advisory Committee (MAC) decided that all primary schools would continue to operate at 100% capacity from the third semester, from 26 July 2021. The education sector, along with its partners and structures, ensured that the risk adjusted strategy was adhered to in safeguarding schools as far as possible. The Community Works Programme (CWP) had been called on to assist with monitoring compliance in helping schools to maintain Covid-19 protocols (UNICEF, 2021).

Learner attendance which fluctuated in the Basic Education sector during the partial lockdown will be discussed.

Attendance in the Basic Education sector

Shepherd and Mohohlwane (2021: 1), in their report based on the National Income Dynamic Study Corona Rapid Mobile Survey (NIDS-CRAM), used a nationally representative household survey to capture the severe effects of Covid-19 on South African children when they state that, "since the onset of the Covid-19 pandemic, children have been put at greater risk of dropping out of school, lagging behind and losing learning, as well as food insecurity and emotional health deterioration". In fact, they estimate that the school attendance decreased by 4 to 5 per cent of the pre-Covid-19 school turnout (Shepherd and Mohohlwane, 2021: 1). But in a subsequent article titled How COVID is affecting school attendance in South Africa: piecing together the puzzle (18 January 2022), Shepherd and Mohohlwane explain that the school dropout rate was not as severe as it initially seemed. Shepherd and Mohohlwane's (18 January 2022) revised findings state that:

> *Comparing our estimates to enrolment data confirms that our measure may have only shown "extended absenteeism" and not dropout. Enrolment among compulsory school-aged learners dropped by 19,000 in 2021- and first-time enrolments among 4.5- to 6-year-olds dropped by 27,000. We expect, therefore, that many of the 700,000 non-returned learners* ***could get back into the system*** *as and when schools return to daily attendance.*

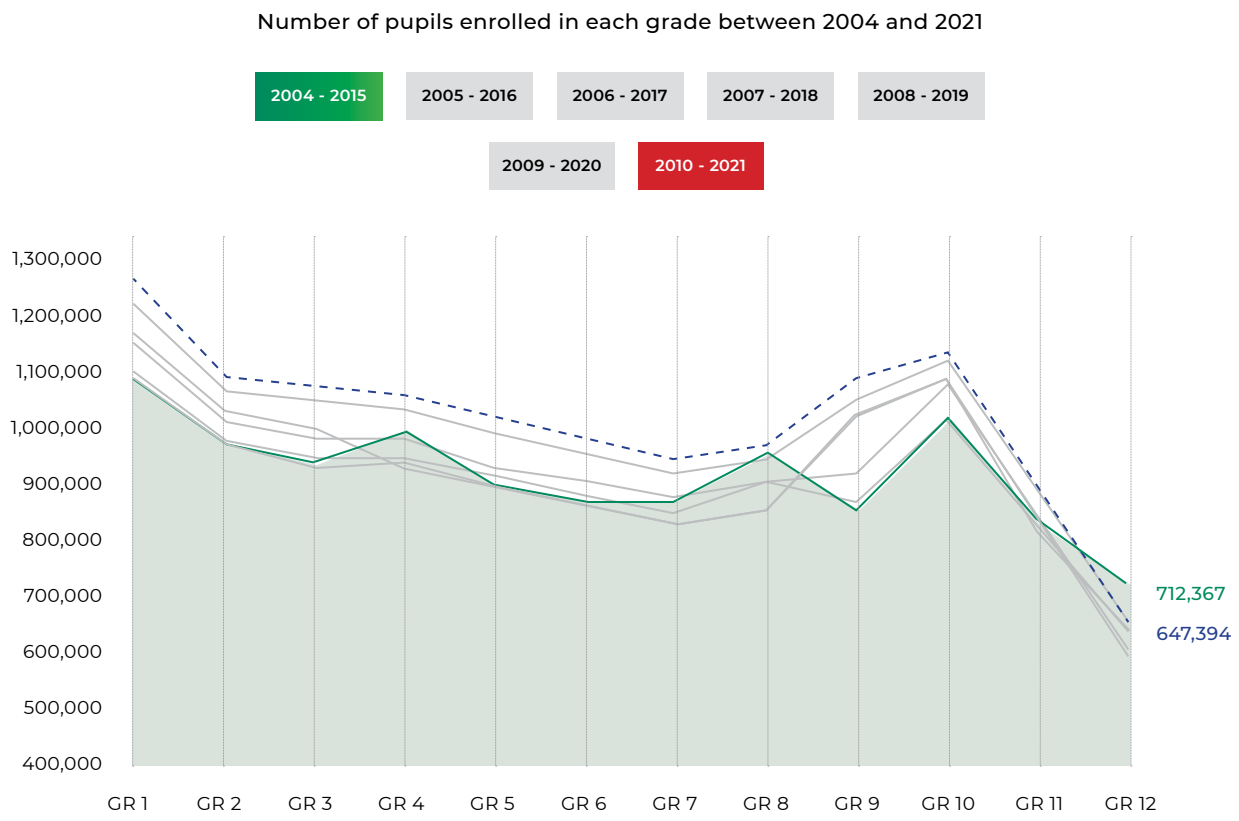
Although this is an expectation by Shepherd and Mohohlwane that larger numbers of learners than usual will not be lost to the education system, it is indeed a more acceptable scenario for the South African Basic Education sector but the actual results will only become apparent over the next few years. Gustafsson (8 March 2022) produced a report for the DBE, using national enrolment and attendance data, repudiating the claim that large numbers of children exited the education system as a result of Covid-19. His statistics are fairly convincing, but a deeper, qualitative probe needs to be undertaken in order to fully understand the extent to which Covid-19 affected school dropout rates.

Matric enrolment

Statistics which indicate good learner attendance in all grades could be skewed by schools reporting normal attendance for various reasons, including issues related to ensuring that their post-provisioning norms are maintained. Questions like, 'How did Covid-19 influence this number? Did Covid-19 decrease the number in 2020?' were raised about the sudden increase in numbers in the matric class of 2021 Simply looking at numbers through surveys will not reveal the tale. A large-scale, in-depth analysis, involving interviews with all role players, a thorough examination of all the statistics and an independent look at learner performances over the different grades is needed. Yet it is important to note that the number of students who wrote the matric examinations did increase in 2021. The Outlier (25 January 2022), citing Mathanzima Mweli, at a media briefing (11 January 2022), affirmed this increased statistic. The Outlier (25 January 2022) further stated that:

> *...granted, being enrolled in a grade does not guarantee that a pupil actually attended school, but in the case of the grade 12 class, one can assume that if they enrolled to write the NSC exams, they're unlikely to have disengaged. Only 6% of learners who enrolled in grade 12 in 2021 did not write the NSC exams. This is the lowest percentage since 2015.*

Figure 5.2.6: Graph showing learner enrolment



Source: Ritchie, G. & Gatticchi, G., 25 January 2022 The Outlier

This graph in Figure 5.2.6 is significant because it shows that the learner numbers in the 2021 matric cohort swelled by more than 100 000, compared to the 2020 matric cohort. The Outlier (25 January 2022) further reported that:

> At the January media briefing, Mweli also said that one of the reasons for this increase in the number of grade 12s could be that the department's assessment policy changed. When the 2021 matrics were in grade 11, instead of relying on exams for 75% of the year mark and school-based assessments for 25%, exams were worth 40% of the marks and school-based assessments made up the remaining 60%.

It would seem from this input that the leniency exercised by the DBE by decreasing the weighting of the examination mark and increasing the weighting of the school-based assessment resulted in a high pass rate in Grade 11 in 2020. This contributed to a disproportionately higher enrolment of learners in Grade 12 in 2021.

Learning losses and lack of resources

Despite having learners return to school, UNICEF (22 July 2021) painted a disturbing picture of learning losses. They posited that the impact of disrupted education since the Covid-19 outbreak has resulted in some learners losing between 75% and a 100 % of a full school year when considering where they ought to be. They further claim that "...rotational attendance, sporadic school closures and days off for specific grades, have resulted in school children losing 54% of learning time". These statistics are dire, but it gets worse when they report that up to 750 000 children in South Africa have now dropped out of school, mainly from rural and informal urban areas, due primarily to poverty. Again, attendance and return to school are contested areas.

Amnesty International (February 2021) raised concerns that when schools initially closed for approximately three months in March 2020, the widespread lack of internet access, which is critical for remote learning, became evident. Their statistics revealed that nationally, only 22% of households had a computer and only 10% were connected to the internet. This corroborates the belief that poorer provinces (such as North West and Limpopo, with only 3.6% and 1.6% household internet connectivity respectively) have limited access to online learning. By contrast, students from wealthier provinces and communities with computer and internet access have been able to continue their education through remote learning provided by schools that may be better resourced.

Shenilla Mohammed underscored the inability of the government to meet its obligation to provide equal and accessible education for all learners. She stated that the "Constitutional and international human right to quality education includes access to safe, clean and adequate school facilities." Amnesty International has found that South Africa has not even come close to providing the ideals that the government espouses to achieve. They have called on the South African authorities to commit sufficient funds to address infrastructure failings. These inadequacies have also been reported by government. Even before the pandemic, President Cyril Ramaphosa (2018) stated that despite some progress in providing sanitation at schools: "We are painfully aware

that we have not done enough, and we are not moving nearly as fast as we need to." Amnesty International (2021) stated:

> In March 2020, just before Covid-19 struck, it was reported that only 266 out of 3,988 schools that needed it had benefitted from the President's own 2018 Sanitation Appropriate for Education (SAFE) campaign to address inadequate sanitation. 56% of South African head teachers reported in a survey conducted by the OECD in 2018 that a shortage of physical infrastructure is hindering their school's capacity to provide quality instruction. Many of the deficiencies are in breach of the government's own Minimum Norms and Standards for educational facilities.

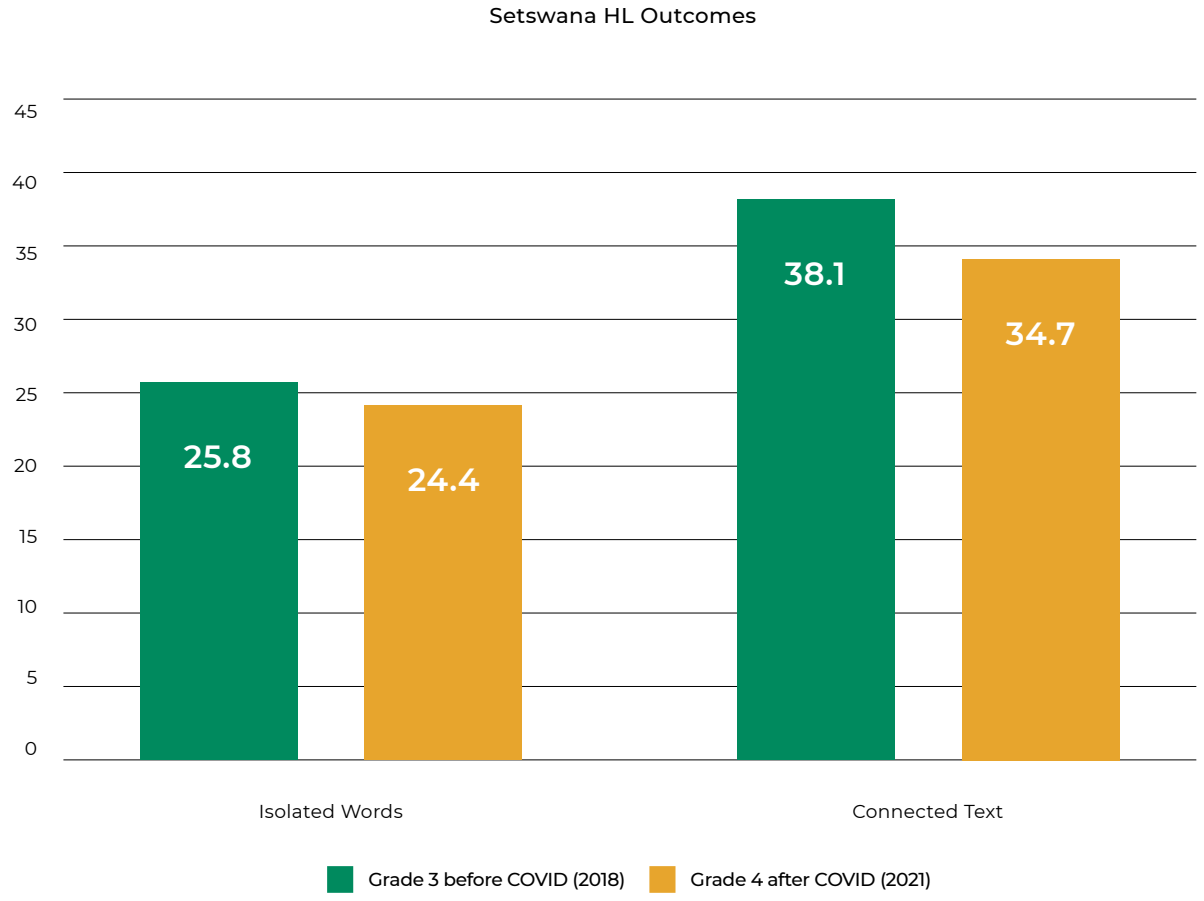
Learning losses: Impact on reading skills

An Early Grade Reading Study (EGRS) was conducted to compare the reading outcomes of the Grade 3 learners from pre-Covid-19 (in 2018) class with the Grade 4 learners who were directly affected by the pandemic. The 2022 Reading Panel established that children have lost 1.3 years of learning. The Panel (Spaull, 2022:9), and Kotzé et al., (2022) reported that:

The Early Grade Reading Study (EGRS) is an initiative of the Department of Basic Education to improve reading outcomes in the North West province. It tested a large sample of Setswana home language Grade 3 students in 2018. To measure the impacts of the pandemic, they went back to the same 206 schools in Term 3 of 2021 and assessed the Grade 4 learners using approximately the same test.

The results show that the Grade 4 learners in 2021 read, on average, 1.4 words less in a minute than the Grade 3 learners did in 2018. In the oral reading fluency task, the 2021 Grade 4 learners read, on average, 3.4 words less in a minute than the 2018 Grade 3 learners. This research was conducted with learners in the same school. The implications, as drawn by the Panel (Kotze et al., 2022:38-39), are that the lost schooling during 2020 and 2021 has resulted in more than a year's worth of lost learning and this has impacted on the reading skills of these learners. There may be other factors, but the coincidence is too great to ignore. Figure 5.2.7 shows that the percentage of non-readers, or learners who could not read a single word correctly, is higher among the Grade 4 learners in 2021 than among the Grade 3 learners in 2018.

Figure 5.2.7: The number of isolated words (left-hand panel) and the number of words-in-connected-text (right-hand panel) that children read correctly in a minute in 2018 (Grade 3) and 2021 (Grade 4).

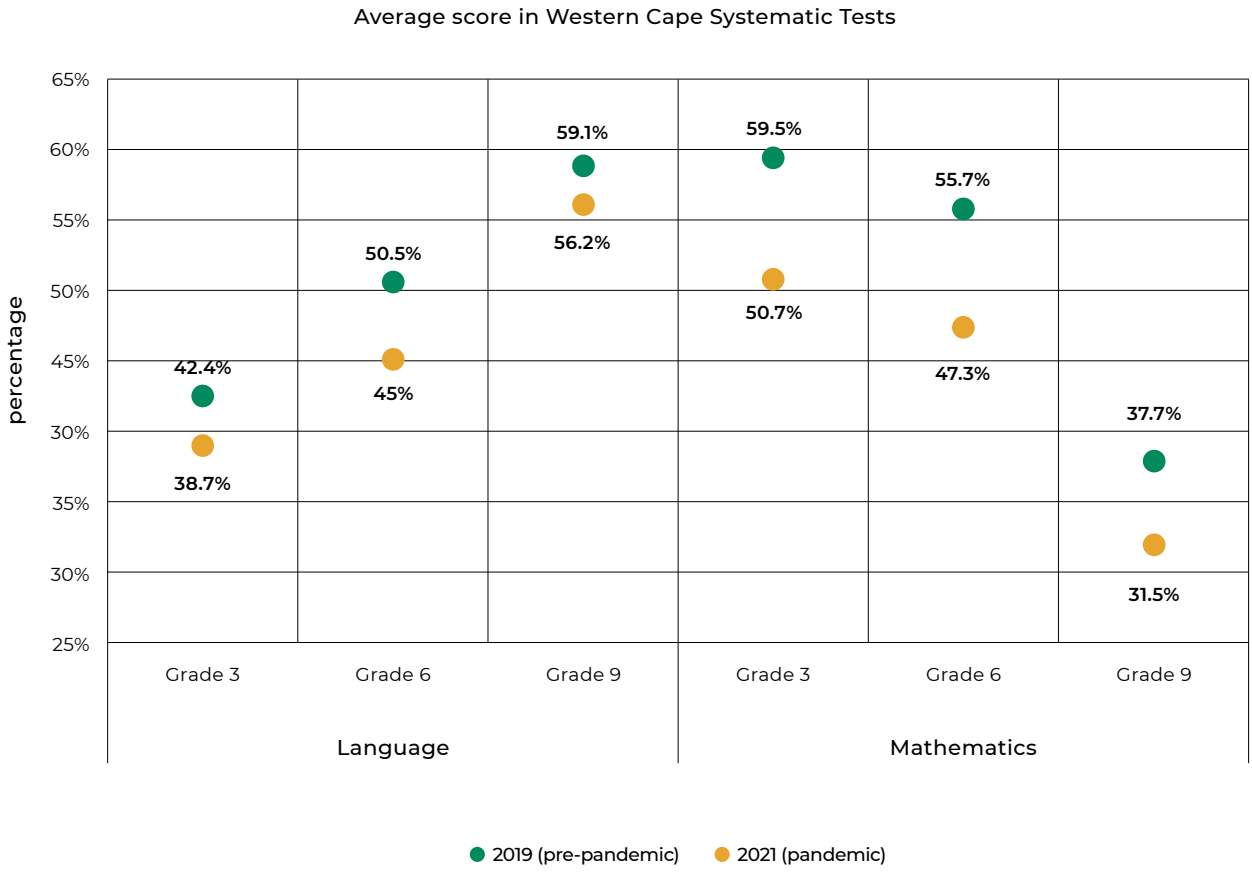


Source: Kotze et al. (2022:38-39)

Learning losses: Language and Mathematics

Van der Berg et al. (2022) conducted a study among almost all public schools in the Western Cape province to compare pre-Covid-19 performance in language and mathematics of learners who were in Grades 3, 6 and 9 in 2019, with that of learners in the same grades who were affected by the pandemic in 2021.

Figure 5.2.8: Performance decline by grade and subject (Van der Berg et al., 2022:31)



The findings illustrated in Figure 5.2. 8 (reproduced directly from the source) indicate that losses evidenced by learners' performance in mathematics in 2021 reveal that they were more than a year behind learners who were in the same grade before the pandemic in 2019. In languages, learners' performance reveals about 9 months of learning losses.

Education, health and well-being of children in ECD and Basic Education sectors

Persistent, intersectional inequality was magnified as schooling became disrupted by the pandemic, and the most vulnerable children became the greatest victims. UNICEF (22 July 2021) did acknowledge that school disruptions "...lead to not only learning loss but mental distress, exposure to violence and abuse, missed school-based meals and reduced development of social skills". UNESCO found that these school disruptions simply intensified the existing inequalities, not only within the education system, but also in other aspects of their lives. UNESCO listed many essential areas of disruption, all of which apply quite appropriately to the South African context too. UNICEF's list (22 July 2021) included **interrupted learning** (the effects of our stop-start schooling during Covid-19); **poor nutrition** (school feeding schemes do not operate during school

closures and children who are dependent on these meals starve); **confusion and stress for teachers** (the uncertainty of the opening of schools and the fear of the virus itself created confusion and stress); **parents unprepared for distance and home schooling** (parents were not trained to teach and, in any case, they had to return to work); and **challenges measuring and validating learning** (this will take many years to overcome because it is difficult to assess that which was not taught or taught very superficially).

Nutrition

Black, Spreen and Vally (2020) emphasised the importance of School Nutrition Programmes in South Africa, on which more than nine million learners depend for a daily meal. The closure of schools prevented these learners from accessing nutrition. However, "in April 2021, access to food at school increased significantly from 49% in November 2020 to 56% in April 2021" (Shepherd and Mohohlwane, 2021:2). Approximately 84% of the more than 10 million targeted 2021/22 learners had received meals between 12 April and 15 June 2020 (ibid, 2021:4).

Health

In April 2021, UNICEF reported that nearly 300,000 children under 5 years had not received their routine immunisations, leaving them at risk of serious, but preventable, childhood diseases. UNICEF South Africa supported the immunisation and health catch-up drive across all 52 districts, with rates slowly recovering. Statistics showed that 8 of the 12 priority districts reached the 90% coverage target (UNICEF, Situation Report No. 15, 2021:1).

Child wellbeing

Preliminary findings on a real time dashboard show that 20% of children struggle with care and protection needs, 38% with food security, 16% with issues related to education and 7% of children are in immediate need of child protection services (UNICEF, Situation Report No. 12, 2021:2). The national assessment on child wellbeing was launched in KwaZulu-Natal in December 2021. Data showed that some ten per cent of children interviewed with their caregivers reported child sexual abuse, hunger and suicidal intentions. These findings triggered a response on the ground from social and health workers to follow up on the families visited, and to provide the necessary support, including case management for children whose safety was at risk. UNICEF'S Real Time Monitoring Tool has been rolled out across provinces and standard operating procedures SOPs put in place. The real time data collection led to an immediate response to the needs of children in the households visited and a higher-level commitment to further strengthen the social welfare system (UNICEF, Situation Report No. 12, 2021:2). The national assessment on child wellbeing is ongoing, with over 3,531 children now reached in 5 provinces.

Childline, an organisation that works to protect children, continued to provide preventive and counselling services through online and telephone communication during the pandemic. This provided a safe and confidential medium for children and young people to access counselling and information. Childline received 31,487 calls in December 2020; 8,436 of these were calls made by children who received either psychosocial support or were linked with other services as necessary (UNICEF, Situation Report No. 12, 2021:3). In the first quarter of 2021, a

49% increase in calls made to Childline was recorded, compared to the same period in 2020. Information from March 2021, shows that callers asked for information about services (29%) and physical health (24%), followed by counselling and information about abuse and neglect (UNICEF, Situation Report No. 15, 2021:1).

The portrayal of the effects of the pandemic discussed so far have been based on secondary data. Primary data was also generated from a cohort of 35 educationists (teachers, principals, subject advisors and teacher union members), who participated in a survey using a Google form. The purpose was to obtain empirical data on educationists' perspectives and experiences during the pandemic. (1/3/24, 12:20 PM South African Government education sector responses to COVID-19 - For Schools)

Educationists' views about the South African response to Covid-19

The following major concerns experienced during the Covid-19 period were expressed by educators.

1. **Loss of teaching and learning time.** The alternating routines for learners in schools affected teachers and learners alike. The teachers felt that curriculum coverage and completion was almost impossible due to the time constraints. In most cases, teachers simply went through the motions of doing the work with the learners, despite knowing that understanding was rarely being achieved. Again, teachers felt that learners missed out on huge amounts of important work.
2. **Heightened anxiety and stress** due to lockdowns and restrictions and the return to normal teaching. The anxiety and stress were precipitated by:
   - Teachers and learners being afraid to interact with each other for fear of contracting the virus themselves.
   - Awareness of many people known to them who had died of Covid-19 related illnesses.
3. **High workload.** The scope of work became overwhelming for both teachers and learners as they tried to catch-up, in some instances, attempting to cover the curricula for the previous and the current grade. Teachers who worked with Grade 12 learners seemed to have experienced more intensive challenges because, on occasions, they had to teach both the grades 11 and 12 curricula in one year. In addition:
   - Due to Covid-19 related protocols, collaborative work was not allowed, and some teachers had to work independently, which was new to them. They preferred working together with their colleagues.
   - Educator absenteeism was high due to stress-related complications, or they themselves had contracted the Covid-19 virus. This placed additional pressure on those teachers that were present at school.
   - Alternative and/or adjusted time tables impeded the completion of Annual Teaching Plans.
4. **Financial stress.** Some learners experienced major financial constraints due to their parents having lost their sources of income. To compensate for this, there were many learners who opted to leave school to find employment. In addition, it was difficult to justify high learner absentee rates. Teachers could not verify reasons for learner absenteeism.
5. **Online mode of learning.** The move to a technological approach received huge criticism. Teachers claimed that

many learners had no access to relevant materials, and so online learning was not possible, and therefore they were part of a large group of learners who would have lost relevant schooling.

6. **Access to resources.** Several schools were unable to conduct online classes. This was as a result of the lack of internet access by learners (no cellular phones), connectivity, as most of the learners are from disadvantaged areas and many parents were unemployed. There was a lack of proper training of educators to teach online.

Teachers' experiences during the pandemic

Teacher participants indicated that they did not cope well under these circumstances, even when schools returned to normal operation. Teacher responses were generally dire. They stated that:

- They had to work intensively to cover the scope of the curriculum, more especially for the grade 12s.
- They feared the unknown, and the high rate of absenteeism and not knowing what to expect the next day were challenges.
- Their work load increased due to splitting classes to accommodate social distancing.
- Photocopying became very costly and many schools, especially the no fee schools, could not cope.
- Many unfamiliar strategies and processes were introduced during this period.
- Teachers had to work through all holidays during the two years to ensure that the curriculum was completed. While it was interesting to learn new skills for online teaching, unfortunately, online and hybrid learning required a greater workload from teachers.
- It was emotionally as well as financially draining, because teachers taught some learners using WhatsApp, bearing the data costs themselves.

Teachers' views about learners' experiences of Covid-19

- Many learners struggled to understand content and concepts. They also lost important social engagements which they used to have in schools.
- Some learners failed to cope with the situation and therefore dropped out of school. Those who remained still have a lot of gaps in their knowledge.
- Learners experienced Covid-19 illnesses and deaths in their families. Many of them lost their parents and their relatives. Teachers felt that most learners generally enjoyed staying at home, and therefore did not attend classes even when they had no problems. The rate of absenteeism was very high.
- A large percentage of learners failed to meet the pass requirements.

Insights gained by the educationists during Covid-19

All educationists acknowledged acquiring some form of learning that helped develop their thinking for the future. The main aspects are listed below.

- Independent learning processes are important. Knowledge about online learning and the use of technology to teach is vital for education in the future. But for successful online teaching and learning, learners will need to be equipped with technology and trained in order to enhance learning online.

- Disadvantaged learners suffered the most. Disparities between the haves and have nots, in terms of the resources and infrastructure, were glaring.
- Teachers must consciously attempt to use other strategies for teaching on a continuous basis.
- Learners need to be taught to work independently.
- The education system is not designed to cater for difficult and unusual circumstances.
- Learners need to be taught healthy habits, not only during a pandemic.
- Schools with good management coped well.
- Schools are overcrowded. More teachers need to be employed.
- Unavailability of drinking water, proper sanitation and classroom floor space in many schools were factors which hindered progress.

Teachers' fears during this Covid-19

There were a large number of fears that teacher participants expressed about returning to school, including the following:

- That learners might not be able to engage effectively after such a long time of being away from schools.
- Learners not interested to learn because they became accustomed to staying at home.
- Contracting the virus and dying.
- Getting infected and spreading the disease to their families.
- Large numbers educators who were infected with Covid-19 and did not attend school and created higher workloads for those educators who did report to school.
- The trimmed curriculum created anxiety because conceptual progression was difficult to achieve.
- Possibility of future waves of the pandemic.

Educationists' views on the reopening of schools

Almost two thirds of participants believed that school opened at the right time (23 out of 35). They expressed that they were satisfied that they were given enough time to adapt to the Covid-19 changes in order to return to schools. They believed that schools could have been better prepared to handle any pandemic or disaster, as a precautionary measure, as part of the curriculum. Nonetheless, they were satisfied that the DBE had to make sure that everyone was safe first, before reopening schools.

Despite wanting schools to reopen and the lengthy time afforded to the DBE, there were participants who stated that schools had not been ready for full return. The following reasons were provided to support the view that re-opening of schools was premature:

- The re-socialisation and orientation processes were not conducted.
- Learners had gaps from previous learning cycles that needed to be addressed first.
- The challenges of crowded classrooms.
- Teacher shortages and room space were critical issues. The promised prefabricated buildings, for use as additional classrooms, did not materialise.
- In some cases, the DBE failed to provide all the PPEs needed by schools on time.
- Schools did not have the opportunity to prepare themselves.
- There was a shortage of classrooms and furniture in schools.
- Almost all the principals who responded stated that they were never consulted, and the decision was top-down and a direct instruction from the National DBE

who had no idea of what was happening at the school level.
- Some schools did not have water and proper toilets.

Some participants did feel that schools were adequately prepared for the safe return of staff and learners. These participants were from schools which were financially secure.

Insight into educationists' experiences at the Basic Education level based on the empirical data resonated with what was analysed from secondary data sources to a large extent. Analysis of secondary data of how Covid-19 affected the higher education sector is presented next.

Higher education and Covid-19

South Africa has 26 public universities, 25 of which are full contact universities. The 25 institutions were affected significantly because students had to adjust to an online mode of delivery. This change precipitated numerous challenges as well as new insights into re-imagining teaching and learning.

Ilieva et al. (2021:1) made the following assertion about education at universities during the Covid-19 outbreak:

> *The risk of Covid-19 in higher education has affected all its degrees and forms of training. Unexpectedly, a whole generation of young people has had to continue its education in a different way in an unusual situation. New factors and rules have appeared and have exerted influence over the successful completion of the current level of their education.*

Du Plessis et al. (2022:1) cited Toquero (2020) who also supported this idea that "higher education institutions worldwide are affected by the Covid-19 pandemic with resultant campus closures to enforce social distancing measures".

Higher educational institutions were also affected by the regulations spawned by the pandemic and similar to the other sectors in education, saw the closure of its different institutions. As was the case with the ECD and Basic Education sectors, in Higher Education, closures and online teaching revealed the inequalities that existed between the different institutions. The vestiges of Covid-19 influenced some institutions for extended periods of time, because not all students were able to return to campuses. Du Plessis et al. (2022:1-2) state that:

> *Many institutions were compelled to identify and implement various strategies that contributed to sustaining the academic project and these included but were not limited to engaging in emergency remote learning and teaching, working from home arrangements for staff, finding alternative ways to support students and reallocation of budgets to address the emerging needs.*

The severity of the effects of the pandemic on learning in the Higher Education sector will be felt for a long time to come because:
- Students and staff struggled to adapt to emergency remote online learning and teaching.
- Working online was not ideal for those students who had to travel several kilometres away from home in order to get internet reception, while staff found working from home difficult and restrictive.

- Student funding was inhibited and alternative financial resources were difficult to obtain.
- Work integrated learning became impossible and some students lost their internships.
- University financial woes were exacerbated because government funding had to be redirected to more urgent needs.
- Training and retraining of staff and students regarding new technologies needed for lectures was difficult, given the limited resources in institutions as a result of capital deprivation.
- Student dropout rates increased due to many issues including financial and family problems, psychological factors, the inability to cope with the changed mode of delivery, the need to support and supplement the family income, etc.
- Some students had no laptops to engage in remote learning because they sold their devices to supplement their income or, as was revealed in Jansen's study (2020), they had to choose between buying data or food.

The factors listed above are confirmed by Wangenge and Kupe (2020:1) when they state that:

> *The unfolding of the Covid-19 pandemic in South Africa is interwoven into an existing socioeconomic context ridden with poverty and deep, unsustainable inequalities. Deep inequalities amongst institutions and within institutions continue unabated more than a quarter of a century since the democratic transition.*

Some advantaged institutions were able to adapt quickly and proceed with online teaching and learning, while other institutions struggled with finances, technology, acquisition and distribution of tools and data, and staff and student expertise and knowledge relating to the use of innovative teaching and learning methods. It is also important to note that even within well-resourced institutions, students can still be left behind. This is what prompted Nokwanda Ncwane to write in The South African on the 29 April 2020:

> *This pandemic is proving that South Africa is not ready for the Fourth Industrial Revolution (4IR) if its implementation calls for some people to be left behind. It also highlights the gap that exists between the rich and the poor, and that the marginalised and disenfranchised are always left behind.*

Alex (2022:23) attests to this in her research when she stated :

> *Due to the pandemic and the closure of HEIs (Higher Education Institutions), South African universities had to adopt full online teaching, irrespective of the lack of appropriate infrastructure to support this mode of teaching and learning. This had a major impact on rural HEIs in the country.*

She further established that:

> *The closure of universities and the cancellation of face-to-face teaching and learning has caused much uncertainty and anxiety amongst students and staff in HEI across the globe. The findings from the rural HEIs students' responses reveal that the students are mostly dissatisfied with every aspect of their academic life, namely online lectures, online tutorials and practicals, online assessments, workload during the pandemic, organisation and support systems of online learning, own performance, working from home and own skills to manage online learning.*

Despite the initial negative reactions to the pandemic, HEIs have, in general, established a high degree of normality. In most instances, students have returned to classes with some online lectures still continuing.

The successes and struggles experienced by Higher Educational Institutions

Whitelaw, Branson, and Leibbrandt (2022:2) were convinced that:

> *...learning loss could be anticipated across the university sector too. That is, a variety of factors impacting both students and educators are likely to have worked to decrease learning quantity and quality in both school and university settings: for example, less time spent on education due to home responsibilities, lack of motivation, stress symptoms, insufficient access to digital infrastructure at home, inadequate digital skills for remote learning and teaching, varying degrees of financial and non-financial familial support, and studying in environments not conducive to learning.*

Despite this knowledge, they felt that "literature quantifying the effects of the pandemic on learning loss and student outcomes among South African university students in particular is currently lacking" (Whitelaw, Branson, and Leibbrandt, 2022:2).

Notwithstanding the potential for loss of learning [restricted interaction between academics and students with limited access to resources] and lack of practical experiences [no laboratory work, no on-site work experiences]:

> *...(there is) emerging evidence from South African universities suggests academic outcomes improved due to a number of simultaneously occurring and interacting factors. These factors include increased marking leniency, a change in the content taught, different assessment practices, increased cheating, students adopting better learning strategies through online learning, and learning at their own pace (Whitelaw, Branson, and Leibbrandt, 2022:2).*

Du Plessis et al. (2022) identified a number of positive lessons emanating from the Covid-19 outbreak. They felt that people at the HEIs demonstrated resilience during the Covid-19 pandemic and were able to adapt quickly. The researchers recognised that many universities were, in fact, already thinking of blended and online learning approaches prior to the pandemic, but the Covid-19 pandemic fast-tracked learning and the execution of remote emergency learning and online learning by a number of years (Du Plessis et al., 2022:15). Du Plessis et al. (2022:15) further established that "academic staff demonstrated resilience by fast-tracking online teaching and learning, administrative staff adapted by employing online processes, and students adapted by upskilling and using laptops and software to facilitate learning". But they felt that collaboration and team efforts were lacking between and across HEIs.

Preliminary lessons learned and recommendations from South Africa's reaction to the pandemic

In South Africa, innovative collaborative partnerships among civil society, non-governmental organisations, schools, health providers, governments and business occurred. Community health workers and child health teams used libraries and halls for Equal Education went to court to compel

government to be accountable for, and deliver nutrition to, schools, and eventually the Western Cape Food Forum helped coordinate these food relief efforts (Lake et al., 2021, p. 5). continuing immunisation and nutrition of children.

Early childhood development sector

Galevski (2021) also provide insights into the strides toward addressing challenges related to the ECD sector made by other middle- to low-income countries. In Burkina Faso, caregivers in day-care centres were given flash discs with recordings of radio broadcasts which included ECD teaching and learning materials. In North Macedonia, the Eduino Digital Learning Platform was created to offer early childhood education to young children. The Save the Children organisation in Ethiopia has a camel library, where camels carry books to children in remote areas.

Lake et al. (2021:5-6) further point to the following important lessons:

1 ECD, child protection services and health care must be viewed as essential services.
2 To minimise effects of the impact of a pandemic on vulnerable populations, child care grants should be increased.
3 Children in need of protection and psycho-social support should have effective referral systems in real time.

Other lessons in the ECD include the following:

1. The ECD sector should become more formalised, with infrastructural costs, teachers' salaries and other development costs borne by the DoBE.
2. Free ECD centres should be available for those who cannot afford to pay for these services.
3. A common curriculum should also be implemented as a matter of urgency so that Early Childhood Development is not just a play-school.
4. Opportunities must be afforded to people in the community so that they can train in order to work at these centres.

Basic Education sector

1. School infrastructure must be upgraded. This was a common call from many stakeholders.
2. ICT infrastructure in schools need to be upgraded.
3. Connectivity should be established in schools and teachers and learners should be encouraged to use it regularly.
4. Mobile Wi-Fi hotspots should be established in villages, towns and cities, so that learners can access information without travelling great distances.
5. Health Education must be taught at school. There was a need for children to know about the practice of cleanliness. This should become part of a national curriculum at an early stage in the child's life.
6. Community centres and libraries must be upgraded so that they can be used in times of disasters. Large halls can be converted into centres where children can attend televised classes and watch videos or engage in practical demonstrations, etc..
7. Teacher professional development must be ongoing. Teachers should not find themselves in a position where, for example, they do not know how to use certain types of technology. Pedagogical development should be ongoing.
8. Communication among stakeholders should be improved.

Higher Education sector

1. Coordination, communication, planning, teamwork, and swift implementation of the Covid-19 measures were critical elements of the DHET's response and remain vital during a pandemic. This worked well in the Higher Education Sector, however efforts to improve on this for greater effectiveness in the future should be continued.
2. The DHET has made significant strides in safeguarding students while also saving the academic year. But there are still questions being raised about the quality of student assessments. Online assessments were deemed to be problematic, with students attaining greatly improved results, yet the content knowledge was not proportionally elevated. More robust online assessment strategies must be developed so that students' responses can be accepted to be a true representation of their ability.
3. The capacity and capability of educational institutions are uneven. The DHET must consider funding alternatives that will boost the capacities of disadvantaged institutions.
4. The DHET noted the number of foreign students who returned to their home countries at the start of the lockdown and the need to deal with the modalities of their return.

General Recommendations/ Immediate Interventions

The unprecedented Covid-19 crisis presented the education sector with a unique opportunity to show that the departments of education, schools and higher educational institutions can and must:

1. Develop a standard protocol that will address ANY unusual disruption to education, including among others, pandemics, unrest, natural disasters and potential threats. Personnel in these institutions should all be trained to react, under diverse circumstances, to disruptions. It is not sufficient to simply practice 'evacuation drills' once a term or semester.
2. Everyone needs to be taught to adapt to the changing teaching and learning environment, especially in the fifth industrial revolution (5IR).
3. For the long term, the status quo (e.g., the socio-economic and digital divides) in South Africa needs to undergo transformation.
4. Provide all learners and students with tools to handle future pandemics and other disasters.
5. Develop programmes to address the lost teaching and learning time and mitigate the effects of the missing curriculum content. Two curricula should always exist to mitigate shortened teaching sessions. This should obviate a last-minute attempt at rescuing the educational programmes in all institutions.
6. When institutions are closed for specific reasons during a disaster, maintain contact with learners and students – the public service education and training (PSET) sector was generally successful in maintaining an online presence. The school system, however, needs better ways of online teaching and learning. Rather than waiting for the next crisis, it should start developing structures and methodologies to help educators and learners engage with innovative strategies.

7. Communication systems must be developed to avoid confusion, and to ensure that all are fully aware of the policy, procedures and actions to be undertaken.
8. Ensure that decisions to close or reopen schools are not driven solely by health considerations (e.g. mortality or morbidity among children). People's needs, especially those in vulnerable, high-risk settings, should be an equally important consideration.
9. Rethink the meaning of learning. During the early stages of the pandemic, learning was equated to curriculum coverage. However, it transcends the curriculum to include socialising, interacting with peers and teachers, and developing skills for cooperation, teamwork, critical thinking, problem solving, and so on.
10. If social justice is to be a central feature of offering quality education for all in times of crises, decisions should be reached now as to how this could be achieved going forward.
11. Ensure political will to drive sustained investment in quality education (with its infrastructure) and health care, so that institutions can weather the effects of disasters.
12. An important learning point from the pandemic is that the departments of education should assess the preparedness of educational institutions to operate safely under difficult conditions. This should include the availability of the correct protective equipment and personnel. More importantly, the assessments of infrastructure must include the teaching and learning environment.
13. Over-crowding in institutions must be addressed. Spatial limitations around safe distancing could possibly be addressed by sharing spaces among different schools (e.g. allowing school halls to be used by schools that have no space).
14. As a final recommendation, the decision to close educational institutions and continue with learning at home must consider the spatial, infrastructural and socio-economic disadvantage, which is the lived experience of a majority of students.

Reference List

Amnesty International, (15 February, 2021). South Africa: Covid-19 pushes inequality in schools to crippling new level, risks a lost generation of learners, 15 February. https://www.amnesty.org/en/latest/press-release/2021/02/south-africa-Covid19-pushes-inequality-inschools-to-crippling-new-level-risks-a-lost-generation-of-learners/. Date of Access 15 October 2021.

_____, 2021. Failing to learn the lessons? The impact of Covid-19 on a broken and unequal education system. Available at: https://www.amnesty.org/en/documents/afr53/3344/2021/en/. Date of Access 15 October 2021.

Black, S., Spreen, C. A. &Vally, S. 2020. Education, Covid-19 and care: Social inequality and social relations of value in South Africa and the United States. Southern African Review of Education, 26(1):40–61.

Du Plessis, M., Jansen van Vuuren, C.D., Simons, A., Frantz, J., Roman, N. & Andipatin, M., 2022. South African Higher Education Institutions at the Beginning of the Covid-19 Pandemic: Sense-Making and Lessons Learnt. Frontiers in Education, 6:740016. doi: 10.3389/feduc.2021.740016.

Galevski, M., Adona, V. J. A., Barbosa, B. B., Ben Yahmed, Z., Currimjee, A., Ibrahim, R., ... & Yacoub, R., 2021. Covid-19 and the Early Years: A Cross-Country Overview of Impact and Response in Early Childhood Development. World Bank, Washington, DC. https://documents1.worldbank.org/curated/en/807711625809488690/pdf/Covid-19-and-the-Early-Years-A-Cross-Country-Overview-of-Impact-and-Response-in-Early-Childhood-Development.pdf.

Gontsana, M-A., 11 May 2022. Early childhood development: Hundreds of centres are still waiting for their Covid money. Ground Up https://www.groundup.org.za/article/early-childhood-development-hundreds-centres-are-still-waiting-their-Covid-money/ Downloaded on 11 August 2023.

Gustafsson, M., 2022. The Covid-19 pandemic, enrolments, dropping out and attendance explained, 8 March. Report for the Department of Basic Education.

Ilieva, I., Yankova, T., Klisarova-Belcheva, S. Ivanova, S., 2021. Effects of Covid-19 Pandemic on University Students' Learning. Information, 12 (163). https://doi.org/10.3390/info12040163.

Jansen, J., 2020. Data or bread? A policy analysis of student experiences of learning under lockdown. Southern African Review of Education, 26(1): 167–181.

Kotze, J., Wills, G., Ardington, C., Taylor, S., Mohohlwane, N. &Deliwe, C-N., 2022. Learning losses Advisory Note for the Reading Panel 2022 - Learning losses due to the COVID- pandemic https://www.readingpanel.co.za/_files/ugd/e4cf67_2794c87c7a324ce0ab3270803c34eb7e.pdf

Lake, L., Shung-King, M., Delani, A. & Hendricks, M., 2021. Prioritise children - from response to recovery. In Lake, L., Shung-King, M., Delani, A. & Hendricks, M. (Eds.) Children and Covid-19 advocacy brief series. Cape Town: Children's Institute, University of Cape Town. Available at http://www.ci.uct.ac.za/sites/default/files/image_tool/images/367/Projects/Current_Projects/Covidchildren/pdfs/Advocacy%20Brief_Overarching_02_08.pdf.

Mudaly, R. & Mudaly, V. 2021. Exploring how the national Covid-19 pandemic policy and its application exposed the fault lines of educational inequality. Journal of Education, 84, pp. 106-124. doi: http://dx.doi.org/10.17159/2520-9868/i84a06

Ncwane, N., 2020. Challenges of remote learning highlight inequality at educational institutions: The requirements for students to be able to tune into online classes, cannot be met by all. The South African, 29 April 2020. https://www.thesouthafrican.com/opinion/remote-learning-lockdown-challenges-south-africa/

NICD Covid-19 and DATCOV teams, 2021. Epidemiology and clinical characteristics of laboratory confirmed Covid-19 among individuals aged ≤19 years, South Africa, 1 March 2020 – 19 June 2021. Covid-19 in children surveillance report, 5 July.

Our World in Data, 2023. Source: Oxford Covid-19 Government Response Tracker, Blavatnik School of Government, University of Oxford – Last updated 24 July 2023 https://ourworldindata.org/grapher/workplace-closures-Covid

Ritchie, G. & Gatticchi, G., 2022. Matrics in 2021 buck school drop-out trends. The Outlier, 25 January 2022.

Shepherd, D., & Mohohlwane, N., 2021. The impact of Covid-19 in education - more than a year of disruption. National Income Dynamics Study (NIDS) – Coronavirus Rapid Mobile Survey (CRAM)

_____, 2022. How COVID is affecting school attendance in South Africa: Piecing together the puzzle. https://theconversation.com/how-Covid-is-affecting-school-attendance-in-south-africa-piecing-together-the-puzzle-174711

Spaull, N., 2022. Background Report for the 2030 Reading Panel: Adverse consequences of school closures. UNESCO: Cape Town. Available at https://en.unesco.org/Covid19/educationresponse/consequences Date of Access 15 October 2021.

UNESCO, 2022. Institute for Statistics based on UNESCO map on school closures (https://en.unesco.org/covid19/educationresponse)

UNESCO, 2022a. Education: From disruption to recovery. Available at https://en.unesco.org/Covid19/educationresponse#schoolclosures. Date of Access 4 March 2022.

UNESCO, 2022b. Institute for Statistics based on UNESCO map on school closures. Available at https://en.unesco.org/Covid19/educationresponse or https://Covid19.uis.unesco.org/data/ Date of Access 10 August 2023. [Data from 16/02/2020 to 30/04/2022]

UNICEF, 2 March 2021. Covid-19 and School Closures - One year of education disruption. https://data.unicef.org/resources/one-year-of-Covid-19-and-school-closures/

UNESCO, 22 July 2021. Press release: Learners in South Africa up to one school year behind where they should be, 22 July. https://www.unicef.org/press-releases/learners-south-africa-one-schoolyear-behind-where-they-should-be. Date of Access 15 October 2021.

UNESCO, 2021. Covid-19 Situation reports – 2021: A snapshot of current needs and response. https://www.unicef.org/southafrica/reports/Covid-19-situation-reports-2021. Date of Access 15 October 2021.

UNESCO, 2021. Situation Report No. 12 (1 – 31 January 2021). https://www.unicef.org/southafrica/media/4996/file/ZAF-Covid-19-situation-report-1-31-January-2021.pdf Date of Access 15 October 2021.

UNESCO, 2021. Situation Report No.13 (01 - 28 February 2021). https://www.unicef.org/southafrica/media/5031/file/ZAF-Covid-19-situation-report-1-28-February-2021.pdf

UNESCO, 2021. Situation Report No. 14 (1-31 March 2021). https://www.unicef.org/southafrica/media/5091/file/ZAF-Covid-19-situation-report-1-31-March-2021.pdf

UNESCO, 2021. Situation Report No. 15 (1–30 April 2021). https://www.unicef.org/southafrica/media/5106/file/ZAF-Covid-19-situation-report-30-April-2021.pdf

¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬ UNESCO, 2021. Situation Report No. 16 (01 – 31 May 2021). https://www.unicef.org/southafrica/media/5256/file/ZAF-Covid-19-situation-report-16-31-May-2021_0.pdf

UNESCO, 2021. Situation Report No.17 (01 June – 07 July 2021). https://www.unicef.org/southafrica/media/5316/file/ZAF-Covid-19-situation-report-17-7-July-2021.pdf

¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬ UNESCO, 2021. Situation Report No. 18 (01 July – 31 August 2021). https://www.unicef.org/southafrica/media/5561/file/ZAF-Covid-19-situation-report-18-31-August-2021.pdf

UNESCO, 2021. Press Release: Learners in South Africa up to one school year behind where they should be, 22 July, https://www.unicef.org/press-releases/learners-south-africa-one-school-year-behind-where-they-should-be

UNESCO, March 2023. Child mortality and Covid-19. https://data.unicef.org/topic/child-survival/Covid-19/

Van der Berg, S., Hoadley, U., Galant, J., van Wyk, C. & Bohmer, B., 2022. Learning Losses from Covid-19 in the Western Cape. Evidence from Systemic Tests. Stellenbosch: Research on Socio-Economic Policy, Stellenbosch University. https://resep.sun.ac.za/wp-content/uploads/2022/05/RESEP-WCED-Systemic-Tests-%E2%80%93-Report_WEB.pdf

Wangenge-Ouma, G., and Kupe, T., 2020. Uncertain Times: Re-Imagining universities for new, sustainable futures.: https://www.usaf.ac.za/wp-content/uploads/2020/09/Uncertain-Times-Paper.pdf.

Whitelaw, E., Branson, N., & Leibbrandt, M., 2022. Learning in lockdown: University students' academic performance during Covid-19 closures, SALDRU Working Paper Number 289. Cape Town: Southern Africa Labour and Development Research Unit, University of Cape Town.

Wills, G., Kotzé, J. & Kika-Mistry, J., 2021. A Sector Hanging in the Balance: Early Childhood Development and Lockdown in South Africa. RISE Working Paper Series. 20/055. https://doi.org/10.35489/BSGRISEWP_2020/055

CHAPTER 5.3
IMPACT ON VULNERABILITY

Abstract

After four years, the longer term effects of the pandemic are clear. Vulnerability derives from the uneven distribution of power, and Covid-19's impact was marked when people were unable to access services, lacked adequate formal support, or lacked the right to such support. Covid-19 infection continued to impact families and communities whose vulnerability and disadvantage derives from the intersections of race, ethnicity, class, gender, disability, and citizenship; these factors increase risk of infection, illness, and social suffering. Measures to prevent infection, at times harshly enforced, constrained people's access to social and health services, and income generation in the informal sector especially affected those isolated and living with social disadvantage. People who were marginalised, living with disabilities, or without official identity papers, suffered especially. While the Covid-19 SRD provided some support to poor households, grants did not match the rising costs of food and commodities. Financial stress and social isolation impacted the mental health of all groups, with the increased incidence of gender-based violence and child abuse. With unemployment, housing insecurity, and the rising costs of utility bills, transport, medical care and food, people drew on savings. Non-profit community-based programmes, such as soup kitchens, also intervened to address people's most immediate needs. Local initiatives for people without shelter, family or community support illustrate the potential for innovations to address disadvantage in any circumstance.

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List of Abbreviations and Acronyms

Covid-19 Coronavirus disease
NIDS National Income Dynamics Study
NIDS-CRAM National Income Dynamics Study Coronavirus Rapid Mobile Survey
NPO Nonprofit organisation
PMBEJD Pietermaritzburg Household Affordability Index
SRD Social Relief of Distress
TERS Temporary Employment Relief Scheme
UIF Unemployment Insurance Fund

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Background

In the South Africa Covid-19 Country Report (First edition) (Presidency of SA, 2021), the multidimensional nature of vulnerability was illustrated, reflecting interactions between the environment, society and the economy. Vulnerability was shown to be linked to several factors that include entrenched poverty, racism, aged infrastructure, economic precarity and unpredictable events such as acute water shortages. Pre-existing vulnerabilities related to both infrastructure and social structure exacerbated the risks, outcomes and costs of coronavirus infection, and limited people's access to basic goods and services. In addition, people lost opportunities for employment, and, with pre-existing poverty and increased financial stress, this restricted what they could do to prevent and manage the infection. Health services at district and community levels lacked the resources to manage increased demand for the diagnosis and treatment of Covid-19 infection, and, in an effort to respond, reduced other services, such as ancillary care for chronic conditions. In this chapter, we focus on the continued and longer-term effects of quarantine and economic contraction. We focus on people who are poor and live precarious lives under any circumstances, and who, for other reasons —- race, gender, sexuality, ethnicity, civil status and ability — were already marginalised prior to the pandemic. The pandemic magnified their vulnerability.

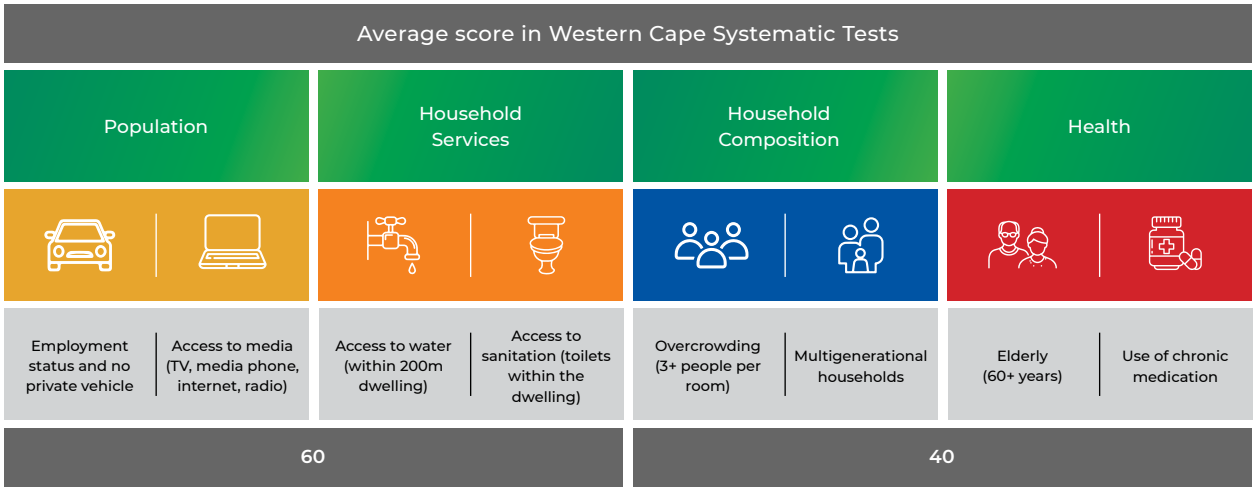
From the outset of the pandemic, national, provincial and municipal governments intervened to limit risks to lives and threats to livelihoods. The interventions introduced with the onset of the pandemic were accompanied by negative effects: schools and workplaces were closed, or were, where possible, shifted to online communication; informal work activities were largely suspended; public events were cancelled; and private gatherings were restricted. Public transport services and travel were truncated. Curfews were imposed; at times they were brutally enforced. Anticipating the economic impacts of these measures on individuals, government introduced cash transfers and increased the size of current grants. Using nationally representative survey data collected during the pandemic, the SA Covid-19 Country Report (First edition) (2021) illustrated how national mechanisms were used to address socio-economic, structural and infrastructural risk factors, particularly as they affected women, children, elderly and disabled people. However, people living precariously and/or in structurally vulnerable positions, including migrant populations, people without valid identity cards, and unhomed and homeless people, could not always access this support.

In this chapter, the scope is extended and the challenges faced by people already living precariously and at heightened risk of infection and increased poverty are explored. Social structures such as class, culture, gender, race, disability and citizenship all impact on individuals, their families, and communities, and in many cases, these create economic, political and social vulnerabilities, which are linked to health and illness. To avoid essentialising such people, 'vulnerable groups' is not used as a descriptive, rather, vulnerability is referred to rather as socially produced and mutable. In so doing, change in policy and practice is perceived as possible. In South Africa, inequalities continue despite political commitment to transformation, resulting in the 'massification' of poverty and inequality, structural violence and structural

vulnerability (Galtung, 1969; Quesada et al., 2011). The racialisation of poverty in South Africa has normalised inequality. Poor black South Africans continue to lack access even to basic services, despite legal entitlement to state care (Heywood, 2019). Social activists such as Mark Heywood (2020) of SECTION27 have argued that if it were not for social activism by civil society, egregious confluences of inequality, poverty and vulnerability, such as the Life Esidemeni tragedy, would have remained invisible. Achille Mbembe (2019) has coined the term 'necropolitics' to describe this disregard in which context, some people's lives are systematically regarded as less valued than others. While this theoretical approach is not expanded on here, its relevance is obvious, as the amplification of inequalities through oversight when policies to contain the pandemic were implemented.

Vulnerability, as it pertains to a category of persons and communities, is neither fixed nor located in particular attributes such as disability or older age – it is a social condition, as recognised and defined by Statistics South Africa (2020; Maluleke, 2022; see Figure 5.3.1 below). Vulnerability derives from social structures which distribute power unevenly, where people cannot access state services, or where they lack adequate formal support. Rural South Africans in particular are systematically overlooked and underserved by the state, but this population, and others living in vulnerable circumstances, often find support informally. However, during the pandemic, public health interventions to contain infection disrupted social practices, such as mourning rituals, which have long formed support structures to provide local care (Bank & Sharpley, 2022). Constraints on community life and the attenuation of services often had disastrous effects; these factors contributed to deaths from Covid-19, sometimes exceeding the national average (Bank & Sharpley, 2022). Inadequate policy measures increased risks of contagion, unemployment, and food and housing insecurity, contributing to social unrest. This, in turn, expanded vulnerability in new ways.

Figure 5.3.1. The South African Covid-19 Vulnerability Index – dimensions and indicators



Source: Maluleke, 2022.

Measures introduced to support people during the pandemic, at the outset, and consequently, are described and analysed below, whereafter the impact of the pandemic on people not entitled to state support, or who, because of social marginality, were reluctant or unable to access this, is considered. The ways in which civil society responded practically to this, foreshadowing discussion of civil society elsewhere in this volume, are also discussed.

Methodology

Growing documentation concerning the impact of Covid-19, and the insights of researchers on questions of vulnerability, poverty, neglect, anticipatory and remedial action, and care is drawn on in this chapter. Such insight is supplemented with data from transcribed interviews conducted with stakeholders, including colleagues from universities, government departments, non-profit (NPO) and community-based organisations.

In the first section, recent data from the NIDS-CRAM surveys (2020) (available here) are drawn on to review individual benefits from social protection during the pandemic. The mechanisms of social protection included social grants at individual or household level, and wage subsidies via the Temporary Employment Relief Scheme (TERS). In the SA Covid-19 Country Report (First edition) (Presidency of SA, 2021), administrative data and Waves 1, 2, and 3 of NIDS-CRAM were used to examine the overall and between-group coverage of the expanded social grant system and the TERS. Policy changes have since liberalised eligibility for, and coverage of, the Covid-19 SRD grant and the TERS. Administrative data and Waves 4 and 5 of the NIDS-CRAM are utilised below to examine the evolution of receipt. The social protection system in South Africa, as new Covid-19 infections decline, is also considered, while monthly reports and supplementary analyses of the Pietermaritzburg Household Affordability Index (PMBEJD) from January 2020-January 2023 also provide a resource. These reports detail evidence of the impact of Covid-19 at a household level. The index, derived from the cost of select items in household food baskets, originally drew on data from Pietermaritzburg alone. From August 2020, however, the food survey was extended to Johannesburg, Springbok, Durban, Cape Town and Pietermaritzburg (PMBEJD, September 2020), providing better evidence of continued food insecurity and increased household poverty.

In discussing the impact of Covid-19 on older persons, the HSRC study for the Department of Social Development (HSRC, 2022) is particularly cogent. There is a lack of information about people who are routinely and systematically socially excluded. In seeking to describe the impact of infection and methods of containment, press reports and interviews have often been relied on; however, over the past year, publications attending to these issues have increased in availability. This literature is employed to describe the contradictory effects of some interventions, and the challenges for people whose vulnerability is linked to disabilities, chronic mental illness, homelessness, institutionalisation or structural vulnerability, who thus lack entitlement to care. The Covid-19 Vulnerability Index, developed by StatsSA (Maluleke, 2022), provides valuable insight into this. However, it is not possible to generalise in demonstrating how structural violence determined the impact of the pandemic, because data are not all disaggregated by race/ethnicity and gender,

even less so by age and ability. Disaggregated data are critical to enable insight as to how Covid-19 has exacerbated prior vulnerabilities, to identify where aid is most efficiently distributed and where it is lacking, and to highlight changes that were implemented.

Covid-19 Social Relief of Distress (SRD) Grant

Social and fiscal interventions were implemented at the beginning of lockdown to meet immediate financial pressures and to limit the risks and impact of unemployment. These included monetary increases to preexisting grants and the introduction of the special Covid-19 Social Relief of Distress (SRD) grant. These measures increased during the first months of the pandemic in the face of decreasing living standards, growing hunger, personal challenges associated with reduced access to markets, and growing indebtedness. The Pietermaritzburg Report on Household Affordability Index (PMBEJD, 2020a, 2020b, 2020c, 2020d) had, for instance, already identified increases in household food prices from late March to May 2020. Fiscal interventions were supplemented by individual actions and activities in the non-profit sector, including aid mechanisms such as soup kitchens and food pantries. Building on the discussion in the SA Covid-19 Country Report, First edition (2021), these measures were often extensive, and included social protection, social assistance, and social insurance.

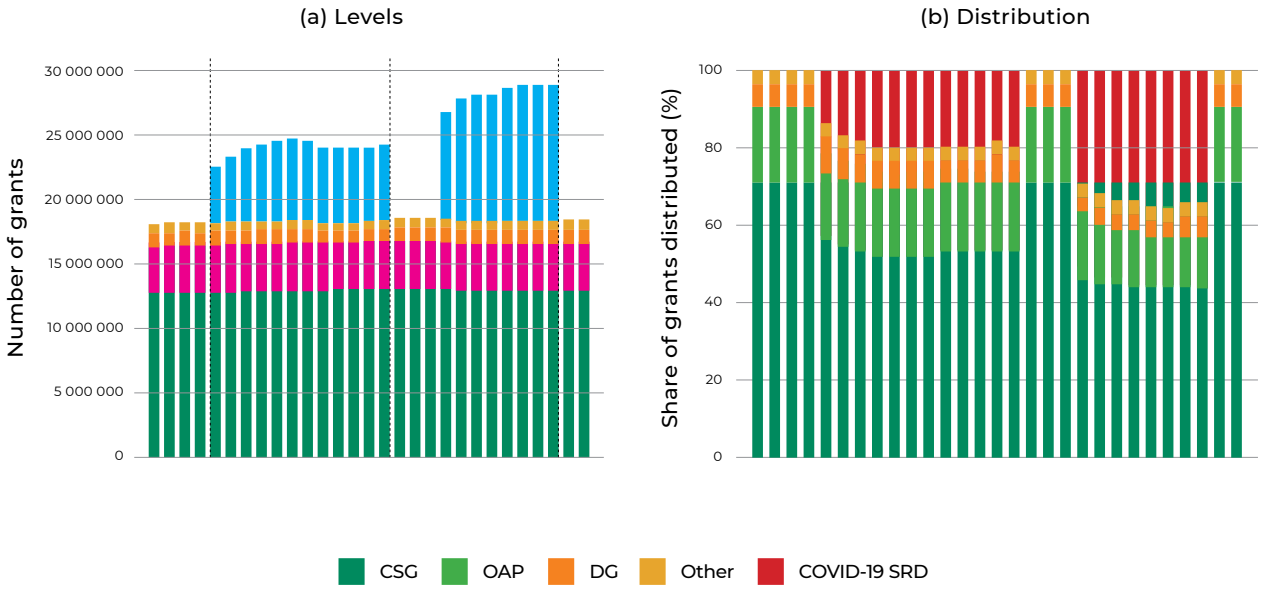
As indicated, the social protection system was engineered at national level to provide support to firms, workers, and vulnerable individuals and households. Initially, economic relief measures were limited to tax-registered individuals, industries and firms in the formal sector. Later, transfers (or social grants), unemployment insurance, wage subsidies and tax relief were extended, particularly in response to concerns expressed by civil society (Bhorat et al., 2020). This included the expansion of the social grants system on both the intensive and extensive margins: pre-existing grants were temporarily increased, and a new grant was introduced for a large, previously unreached group. This new grant, the Covid-19 Social Relief of Distress (SRD) grant, was introduced in May 2020, using pre-existing mechanisms for social relief. It provided ZAR350 per month to support unemployed adults, estimated at 10 million people at the beginning of 2020[1] (Bhorat, Kohler and de Villiers, 2023). Eligibility included being between 18 and 59 years old, unemployed, ineligible for, or not receiving, any other social grant, unemployment insurance benefits, or other form of government support, and not residing in a government-funded or subsidised institution.

People could apply for the Covid-19 SRD in person but were discouraged to do so to reduce risk of infection. Most applications were made electronically through one of multiple platforms,[2] with payments made into recipient bank accounts. For those who did not use banking facilities, mobile money transfers were made, or people could present physically at the South African Post Office and, later, certain retail outlets. The grant initially brought over four million new recipients into the system – exceeding its

[1] Own calculations using microdata from Statistics South Africa's Quarterly Labour Force Survey for the first quarter of 2020.
[2] These included a dedicated website, a messaging application (WhatsApp), USSD (Unstructured Supplementary Service Data, or text messaging), a call centre, or email.

growth in the prior decade (Baskaran et al., 2020). When extended in April 2021, over six million recipients -- approximately a quarter of all social grants – had been supported. Figure 5.3.2 (below) reflects the evolution of social grants by grant type from just prior the pandemic to May 2022 (Bhorat, Kohler and de Villiers, 2023).

Figure 5.3.2: Distribution of social grants in South Africa by grant type, January 2020 – May 2022 Source: Bhorat, Kohler and de Villiers, 2023.[3]



Despite these changes, inequities continued. In the first year, only approximately 30% of people receiving the grant were women (Gronbach et al., 2022), despite their relatively higher rate of unemployment. This was largely because the grant could not be held concurrently with any other social grant: 85% of (other) grant recipients were women (Casale & Shepherd, 2022). From August 2021, the grant was expanded to allow unemployed adults to receive the CSG on behalf of their eligible child(ren), so increasing the numbers and impacting the gender composition of grant recipients. By late 2021, the grant had reached over ten million people, the majority of whom were women (57%) (SASSA, 2022).

In February 2022, the Covid-19 SRD grant was extended for a third year, but its implementation was delayed because of the lack of an administrative system complicated by new means-tested eligibility conditions (Bhorat, Kohler and de Villiers, 2023). As a result, no payments were made for April and May 2022, and less than 50% of applications were approved in June 2022, in comparison with 70% in March (Institute for Economic Justice, 2022; SASSA, 2022a). The means

[3] This figure shows the number of social grants distributed per month by grant type, not the number of recipients, given that eligible individuals could receive multiple grants at once. Number of Covid-19 Social Relief of Distress (SRD) grants paid, but not in, a given month are shown – there are discrepancies between the two given payment delays. CSG = Child Support Grant; OAP = Old Age Pension; DG = Disability Grant; Other includes Foster Care Grant, Care Dependency Grant, Grant-in-Aid, and War Veteran's Grant.

test – 56 per cent of the extreme poverty line determined by StatsSA (i.e. ZAR624) – excluded a large share of previously qualified and vulnerable recipients. Following criticism from sectors of civil society, the government raised the means test threshold to the extreme poverty line in July 2022. However, the grant has remained at ZAR350 since its inception, despite the country experiencing one of the highest inflationary periods on record (Statistics South Africa, 2022b). The grant was then extended until March 2024, but with no clear decision as to whether it will be integrated permanently into the system.

Representative, longitudinal survey data were collected in 2020 and early 2021 through the NIDS-CRAM, a broadly representative, sample-based survey in the form of a longitudinal telephone survey designed as a 'barometer' to assess the socio-economic impact of the pandemic on South African individuals and households, and the data enable analysis of how the Covid-19 SRD grant was distributed. In 2020 (Presidency of SA, 2021; see also Köhler & Bhorat, 2020), application for and receipt of the grant was relatively pro-poor, and households in typically poorer areas (township, informal settlement-dwellers, and peri-urban areas) were more likely to receive the grant than their more affluent counterparts living in established suburbs (Turok & Visagie, 2022). The temporary cessation of the grant in 2021 resulted in reports of increased household hunger (Van der Berg et al., 2022) with persistent gender differences, largely due to the eligibility criteria which, as above, excluded recipients of existing grants (Köhler & Bhorat, 2020; Casale & Shepherd, 2022).

Many studies have used simulation techniques which suggested that the grant had positive impacts on welfare, notably on poverty prevalence and severity. Bassier et al. (2021) used pre-pandemic nationally representative South African household survey data to simulate the mitigation of pandemic-induced reduction in earnings by different social grant interventions, with a focus on informal sector worker households. They established that, without a grant, per capita household incomes would be reduced by 30%, and reflected that without emergency relief, the pandemic would have a devastating impact on these households (Bassier et al. 2021). Bhorat et al. (2021) conducted a similar simulation exercise and established that, while the Covid-19 SRD grant was less progressive across household income distribution than the Child Support Grant top-up, the grant's key advantage was its ability to reach individuals and households who otherwise would not have been covered. Likewise, using a tax–benefit microsimulation model, Barnes et al. (2021) examined the effects of the first wave of Covid-19 on household incomes, poverty, and inequality in South Africa, and demonstrated that grant mechanisms reduced the decline in earnings from an estimated 25 to 11%. Bassier et al. (2022) more recently estimated that, without the Covid-19 SRD grant, the headcount poverty rate, using Statistics South Africa's upper-bound poverty line, would have increased 3 – 5.2% between the first quarter of 2020 and the last quarter of 2021. With the grant, this increase reduced to 1.1 – 3.4% points. These studies together demonstrate the positive, suggestive welfare effects of the Covid-19 SRD grant. These studies are purely descriptive, however, and do not allow conclusions to be drawn regarding causal effects. To address this, Bhorat, Kohler and de Villiers (2023) have estimated the causal effects of the grant on labour market outcomes, to understand whether the grant acted as a source of both income relief and labour market recovery. The authors find notable labour market effects driven by wage

and formal sector employment: the grant increased average employment probabilities by three percentage points. However, effects diminished with longer durations of receipt: that is, the grant was of temporary benefit only.

There is also evidence of inefficiencies in how the grant was distributed and so its impact on addressing inequality. An estimated 700,000 beneficiaries had failed to collect grants as of 11 April 2022 (Maqhina 2023). This is likely due to a combination of fear of infection due to queuing, and frustration with endemic delays, administrative inefficiencies and bureaucratic hurdles (Govender et al., 2015; Zembe-Mkabile et al., 2015; Nzabamwita and Dinbabo, 2022).

The Temporary Employer-Employee Relief Scheme (TERS)

To support vulnerable workers at firms which had fully or partially closed operations due to lockdown regulations, or subsequently did so, the government introduced the Covid-19 Temporary Employer-Employee Relief Scheme (TERS). Implemented in late March 2020, this was arguably the most important labour market intervention during the pandemic (Köhler and Hill, 2022). The government subsidised 38-60% of eligible workers' pre-pandemic wages, subject to lower and upper limits, to help employers retain workers, avoid the potentially costly processes of hiring and training new workers upon economic recovery, and to protect workers from extended periods of unemployment (Giupponi & Landais, 2020; Keenan & Lydon, 2020; OECD, 2020). Benefits ranged from ZAR 3500 (even if the calculated benefit fell below this amount) to ZAR 6730.56 per month.[4] The progressive structure of this formula ensured that, while higher-wage earners received larger benefits in absolute terms, lower-wage workers received a greater share of their pre-pandemic wage and so, relatively, received larger benefits (Köhler and Hill, 2022). Given the existing structures, databases and legislation of the UIF (Unemployment Insurance Fund), the government was able to implement the TERS policy without needing separate registration for new beneficiaries (Gronbach et al., 2022). As of April 2022, the TERS had benefited 5.7 million workers (61–70%[5] of the formal, private employed population in 2020) at a cost of ZAR64 billion (Nxesi, 2022).

The scheme was initially limited to UIF-contributing workers, thus excluding the informal sector and UIF non-contributing formal sector workers. Moreover, a significant proportion of domestic and farm workers were not registered for UIF (Devereux, 2020), and did not benefit from these changes. Following legal challenges by the Casual Workers Advice Office, the Women on Farms Project, and Izwi Domestic Workers' Alliance, this criterion was relaxed, and eligibility was expanded from late May 2020 to include any worker who could prove an existing employment relationship and whose earnings were adversely affected by the pandemic and related restrictions. After May 2020, the TERS was subject to additional extensions and amendments to eligibility, with a final claim period at the end of July 2021. This mechanism

[4] The TERS may only cover the cost of salaries and no other firm expense. Employers are permitted to supplement the TERS support, calculated benefits fall below the R3 500 threshold would be paid R3 500 as a minimum benefit (which could result in them earning over 100% of their wage).
[5] Calculated using microdata from Statistics South Africa's Quarterly Labour Force Survey for all four quarters of 2020.

provided valuable support to people in formal employment, but, as discussed further below, it excluded people who were self-employed, particularly those in informal occupations or contracted on a daily basis. It also did not, and could not, address the impact of protracted unemployment prior to the pandemic, particularly among youth, older workers, and rural dwellers. Covid-19's impact on the economy compounded the unemployability of people who had been out of work for an extended period, or who had never been employed. In April 2022, the unemployment rate was among the highest in the world — 35.3%, representing 7.9 million working age jobseekers, with youth unemployment at 65.5%. Since then, there has been some upturn in employment, with reductions in general unemployment in the third quarter of 2022 (estimated at 32.9%), (Stats SA, 2022b) and in youth unemployment.

The TERS appears to have had important knock-on effects on both worker and household levels. Van der Berg et al. (2022), for example, demonstrated that households in receipt of TERS were less likely to be food insecure. Using a tax-benefit microsimulation model, Barnes et al. (2021) indicate that mean disposable income in South Africa decreased by 11% between March and June 2020; without government's support policies (inclusive of the TERS), this rate of reduction might have been more than double (25%). Köhler and Hill (2022) show that benefits were relatively higher for lower-wage workers, and, over time, receipt increased among several groups of vulnerable workers. They also found that TERS receipt was strongly and positively correlated with job retention early in the pandemic; in April 2020 it was associated with an 18.1% point increase in the probability of remaining employed in the same job in June 2020. However, there is no evidence of this subsequently (up to March 2021), and no causality (Köhler & Hill, 2022). In other words, recipients and non-recipients of TERS may have differed in other ways that might have influenced job retention or loss. Overall, it appears that TERS was successful in mitigating (but not eliminating) job loss, and in the short-term, it protected workers most at risk of job loss. The effects of TERS have not been established in the longer term.

Impact on households

In examining the impact of the pandemic on households, data generated using the Household Affordability Index of the Pietermaritzburg Economic Justice and Dignity Group (PMBEJD) is used. This index was designed in collaboration with women living on low incomes, using data from their own food outlets. It demonstrates, on a monthly basis, the capacity or limitations of wages and social grants to meet the costs of basic goods and services. With the onset of Covid-19, PMBEJD began to track prices on a monthly basis, and included both household domestic and personal hygiene goods (e.g. soap, toilet paper, cleaning liquid) and basic food items as defined by the women with whom they worked.

Government grant increases gave some support to families on low incomes, as noted. However, PMBEJD (2020a, 202b, 2020c, 2020d) consistently reported that the costs of food and other household expenses exceeded grant income, even with Covid-19 grant supplements, and this led to increasing poverty, indebtedness and hunger. At the beginning of lockdown, there was considerable panic buying, including purchase of food staples, particularly of greater quantities of food of poorer quality, and of hygiene products, likely associated

with public health messages about frequent hand-washing (Manderson & Levine, 2020a; Ross, 2020a). The PMBEJD also identified changes in patterns of food purchases through that month, as available cash dwindled, and, as a result of reduced stocks of food and other products, long customer lines in order to gain entry and queues to pay in supermarkets, reduced capacity to shop around and compare prices, and the removal of informal street traders, many of whom sold vegetables (see further below). PMBEJD also reported that women were eating less and eating last to ensure that their children and other family members did not go hungry: "Women sacrifice their own bodies by cutting back on nutritious food to prolong the period of relatively better nutrition for their children" (2020e; see also Wills et al. 2020).

By June 2022, the growing gap between a grant or minimum basic wage and monthly food expenses was dramatic. The frequency of household hunger, as households ran out of money to buy food, continued as the economy re-opened, and Nwosu, Kollamparambil and Oyenubi (2022) argue that between a quarter and a third of households reporting food insecurity experienced hunger almost daily or daily (see also Hart et al., 2022a; Wand et al., 2023). In general, female-headed and poor households (often one and the same) suffered the greatest food insecurity, despite cash transfers and grants (Dasgupta and Robinson, 2021). Women met cash shortfalls through various strategies, including, according to interviewees, drawing on stokvel savings, taking food on credit from local spaza shops, and borrowing from money-lenders. The PMBEJD in May 2020 reported that interest rates from money-lenders had jumped from 30% to 40% in the early months of the pandemic, as women sought to bridge the gap between grants and everyday living costs. "With Covid-19, it is the women who will care for the sick: women whose bodies are weak" (PMBEJD 2020d: 5).

With reduced income, people gave precedence to rent, transport and prepaid electricity, so that households routinely fell short of meeting food costs. In January 2021, the PMBEJD reiterated that households with incomes below the minimum wage, at the time estimated at 55.5% of the population, would first meet non-negotiable expenses like transport and electricity before food, and struggled to meet other expenses, including education and burial insurances, and non-food household products (soap, disinfectant). Loss of income impacted debt-servicing of people involved in small-scale, community-based business (e.g., basket weaving, worm farming, etc.) (Mtapuri, Giampiccoli and Jugmohan, 2021). Older persons (people aged > 50) likewise reported that it was difficult to feed their families, and that they arranged for late payment to creditors and left bills unpaid due to the financial hardship (Shifa et al., 2022).

People in poorer communities found it difficult to adhere to non-pharmaceutical interventions and social distancing requirements, particular in informal settlements where individual houses were overcrowded and where there was often poor access to adequate water and sanitation. Shifa et al. (2022) report stark differences between rural and urban areas in this respect, including factors such as the lack of on-site water, household size, and the presence of older people. Approximately 62% of people (16 million) in rural areas lived in households without on-site water sources, compared to 8.6% (3.2 million individuals) in urban areas. By contrast, approximately 20% of people (7.5 million) in urban areas lived in households where a toilet was shared with another

household, whereas only 9.3% of people in rural areas (1.9 million) lived in similar conditions. The proportion of the population without access to soap and handwashing facilities was higher in urban (32%) than in rural areas (21%).

Moreover, transport costs rose and transport services contracted, affecting shopping for basic goods and access to health services. Shifa et al. (2022), and Brewer et al. (2021) both observed that health and social risk factors were likely to result in disparities in exposure and susceptibility. These social factors – contributing to vulnerability in multiple domains – also interacted with pre-existing risk factors (i.e., poor health), affecting a large proportion of households and individuals. As Stats SA acknowledges, the interaction of these factors magnified with Covid-19, and magnified vulnerability (Statistics South Africa, 2020; Makuleke, 2022).

As discussed in detail in Chapter 5.4 on Gender Equality, women are overrepresented in the poorest populations. Drawing on early NDIS data, Rogan and Skinner (2020) observed that women were more heavily affected than men early in the pandemic, with women in self-employment experiencing a 70% decrease in earnings. Saloshni and Nithiseelan (2022) note that women workers in South Africa were far more economically vulnerable than their male counterparts, whether employed in the formal or informal sector, because they were more likely to be in low skilled and poorly paying jobs. Often these jobs are contractual in nature, so that women, more so than men, worked under conditions without pensions and medical insurance. Women were therefore more likely to lose their jobs and experience financial insecurity. Subsequent research by Khambule (2022) indicates that women experienced approximately double the decrease in working hours that men experienced, exposing them, and their families, to real deprivation. This included their inability to purchase sanitary products which was an early indication of rising costs and increasing household poverty (PMBEJD, 2020b). Women also experienced increased gender-based violence during lockdowns and curfews, and faced difficulties in accessing care at crisis centres and refuges, as discussed elsewhere in this report (Ross, 2020b; Ndlovu, 2021). (Also see Chapter 5.4 of this report on Gender Equality)

Particular challenges were faced by transgender non-binary and gender diverse persons, including access to health care and medication, particularly for people with HIV. In a study with HIV-positive transwomen in the rural Eastern Cape, Mavhandu-Mudzusi (2021) found that women's precarity intensified, causing them to engage in high-risk behaviour to stave off homelessness and starvation. Harrisburg (2022) argues that pharmaceutical supplies to support transition, such as testosterone for trans men, were not always available, and people increasingly turned to informal suppliers and illicit markets to access and administer drugs. The impacts of Covid-19 were reportedly most severe for trans minors, especially for those in non-affirming households. With lockdown, people lost access to trans meeting places such as cafés and bars where they might have found support (Pedersen, 2020).

Informal markets and food insecurity

Wegerif (2020) argues that 40-50% of food, including fresh produce, is sold within the 'informal' sector, including street traders, hawkers, spaza shops, and bakkie traders. These suppliers particularly meet the needs

of households in poor neighbourhoods. Lockdown immediately restricted informal food production and trade, school feeding schemes, and other income-generating activities. This impacted especially on women, in their roles constituting the majority of informal and small-scale traders, and in relation to their care work (Wegerif, 2020; Saloshni and Nithiseelan, 2022). Furthermore, women workers had to deal with the socioeconomic vulnerability of their employment, dual domestic and working responsibilities and those infected with Covid-19 (Saloshni and Nithiseelan, 2022).

While all informal food traders experienced significant disruptions, impacting access to supply, reducing customers and increasing operating costs, access to Covid-19-related assistance from either state or non-state actors was limited, and women received the least assistance (Sinyolo et al., 2022). An estimated 97% of informal street traders, 95% of informal market traders and 74% of waste pickers lost income during early lockdown. While restrictions were somewhat liberalised for spazas following petitions to government, these did not apply to informal street traders and many neither recovered, nor, over time, returned to pre-COVID income levels (for information on eThekwini Metropolitan, see Khambule, 2020; Thulare and Moyo, 2021; Rwafa-Ponela et al., 2022). Farmers selling produce to informal traders in turn lost income, with consequent impact on their food and nutrition security, while Wegerif (2022) notes that few farmers in his study received specific Covid-19 relief funds.

Constraints on the informal food trade forced people to travel further for food, to pay for transport and higher food costs, because food now had to be purchased in supermarkets, with greater exposure also to Covid-19 infection. This led to increased food insecurity, and impacted on general and mental health (Nwosu, Kollamparambil and Oyenubi, 2022).

Government food parcels and vouchers provided some support to those able to access these, while individuals, collectives, community organisations and faith-based groups also set up or expanded the operation of food banks, food pantries and soup kitchens across the country. In the Cape Flats, for instance, uPhakanini (isiXhosa: "when are you dishing up?") was established to provide food while addressing charity models and stigma around food insecurity, and to provide a context to consider ways to ensure the right to food, to localise food systems, and to help create a multifunctional food hub (Nyaba, Swanby and Lemke, 2021). In the Eastern Cape, in Makhanda alone, 30 soup kitchens were operating before lockdown, but the demand for food doubled as the economy contracted (Dayimani, 2021). Across the Eastern Cape, and countrywide, food, which might otherwise be treated as waste, is largely sourced from supermarket chains and other suppliers, but the demand forced many kitchens to reduce the frequency of food supply from daily to twice weekly.

In Lorentzville, Bezuidenhout Valley and Troyeville on the edge of the inner city of Johannesburg, eight community kitchens were set up to distribute food during the lockdowns and subsequently, civil unrest and violence. Residents in these areas were largely unable to generate income during lockdown and, lacking legal identity papers, they could not access support available to citizens; they were already structurally vulnerable. After an incubation period, these kitchens began to operate as the not-for-profit The People's Pantry (TPP) (2023), a

"community recycling and surplus-based swop shop" concerned with food sovereignty. TPP continued to distribute basic packages of food donated by supermarkets and other food outlets, and through partnerships with suppliers and non-profits (interview data). These include Nando's restaurant chain, which has its SA headquarters in Lorenzville, SA Harvest, which sources and distributes foods to community kitchens; the wholesaler Nutripick, various local small-scale growers, and, when it has operated, the recycling hub Love Our City Klean (LOCK) (2023).

Impact on Children

In general, lockdown and related measures, including confinement in crowded dwellings, curfew and travel restrictions, job losses, increased financial stress and women's increased financial dependence, and alcohol consumption, placed children, as well as women, at greater risk of abuse (Dekel and Abrahams, 2021; Dlamini, 2021; Mahlangu et al. 2022; Ndlovu et al., 2022; Pillay and Kramers-Olen, 2021). With constraints on mobility and social interaction, children were reportedly less likely to be identified as abused (in other circumstances peers or schoolteachers might identify them as victims of such), and were unlikely to have access to call a helpline. Social workers were reported to be reluctant to investigate alleged abuse because of limits to their own mobility and fear of entering homes. Moreover, social workers were not identified as frontline health workers and were not empowered to intervene when the safety of children (or their mothers) was in question. As one interviewee reflected, "You've now got children stuck in very abusive environments and they can't get out".

Covid-19 also impacted on young people not yet in school, or already out of school, and those who cared for them due to loss of work, lower incomes and disruptions of services to support them. In many cases, children moved with their primary carer to join kin, with families coming together to stretch grant money. In other cases, infants and children were sent from urban residential to rural areas to live with grandparents or great-grandparents to avoid risk of infection in congested environments. In such contexts, old age grants supplemented other grant moneys, limited home vegetable gardens, and occasional community gardens such as those at home-based care centres. The relocation of children was not a novel strategy in response to Covid-19, as families under colonial and apartheid labour systems maintained these patterns; characteristically, young children stayed with other family members while their parents sought wage labour in urban and industrial settings. In the first decade or so of HIV, the high mortality rate of infected adults led to an increasing number of children reared by grandparents (Henderson, 2011; Mkhwanazi & Manderson, 2020). However, Covid-19 compromised kinship capacity to care, and the greater numbers of people dependent on grants magnified household poverty, food insecurity and poor nutrition. The child support grant was increased for a month, and then converted to a caregiver allowance paid to the primary caregiver of children, from June to October 2020 (Saloshni and Nithiseelan, 2022). Where children were left in the care of elders in rural communities, while their mothers worked elsewhere, the caregiver allowance benefitted the household in which the child resided, but not an unemployed woman, unless she was the primary caregiver of her child.

Children were affected by pandemic-related interventions when routine vaccines and other services were interrupted. School

closures, limited support for online learning, and for many young people, lack of access to computers and networks, also interrupted education (see Chapter 5.2 Education Sector). Children in poor families, particularly, were disadvantaged because parents could not afford the computers, internet connections and data to support online learning when classes migrated to online platforms (see also Chapter 5.2 Education Sector). Confinement, lack of access to school, lack of other facilities, hunger, and home-based violence are all likely to have an enduring impact on young people's lives and futures (Spaull & van der Berg, 2020; Gittings et al., 2021; Pillay, 2023).

An increased number of children are reported to have been orphaned during and due to Covid-19, and some are now likely to have become household heads (UNICEF 2022). Service departments and social workers have reported unintended pregnancies, early terminations and late abortions, many of which are unsafe. With challenges of adequate reporting, and without reliable statistics, it is difficult to assess the extent to which this has occurred and the reasons for this. Barron et al. (2022) suggest that it is likely that this is due to the disruption of health and school services, home confinement, boredom, and increased sexual violence (see Chapter 5.4 Gender Equality). In addition, lack of affordable contraception due to greater than usual scarcity of cash or income, and lack of access to contraception, linked to constraints on movement and perceived discouragement of presenting to clinics for 'non-essential' (non-Covid-19) care, would both have contributed to this spike in pregnancy. Robyn Vorster (2021), from For the Voiceless, observed that there was a rise in the number of infants who were born preterm and/or have very low birthweight, or were born with problems related to trauma at birth. These children may be placed in institutional care, but the numbers of infants and children abandoned or left at institutions is unknown. There are anecdotal accounts of newborns left outside places of care (clinics and hospitals, primarily) and in garbage bins and skips, as Dee Blackie (2021), of Courage SA, describes:

> All of those children who are abandoned are undocumented, and the problem is that they (are given) handwritten birth certificates, not formal birth certificates. And that's our biggest stumbling block … without a formal birth certificate we can't put them into the formal child protection system which means we can't get them adopted or even to access child grants. So, when we talk about the amount of child grants out there, actually, most of the children are not getting anything, because you've got two million who are undocumented and therefore have no access to anything.

Formal adoption procedures were suspended under Covid-19, and children who might otherwise have been placed with families remained in institutions, and children often stayed in institutional care without through-flow (Vorster, 2021; Blackie, 2021). Monitoring of and supplementary care for children in families or in foster care, where this was mediated by government, also declined, as social work services were reduced in association with social distance. Children in alternative residential care (Haffejee & Levine, 2020) were either released sooner than might otherwise have been the case, were returned to families with the closure of institutions, or were retained in the institution, but without access to family and friends. These children

may have been removed from unsafe homes or may have left the family home and been living on the street, or may have been placed in care due to behavioural problems. Institutions which were locked down confined children to Covid-19 'bubbles', preventing them from attending school away from the institutions, and without volunteers to supplement the care work of paid staff. Even fundraising activities that support such institutions, such as charity shops, golf competitions, and so on, were suspended, and in some cases, subsidies reportedly stopped. According to Robyn Vorster 2021), some agencies and institutions were unable to renew their registration, partly because of the formal requirements of registration, such as a fire safety certificate for buildings, or the delay in renewing Form 30 to confirm suitability to work with children, because of a lack of staff to maintain the administrative flow.

Haffejee and Levine (2020) describe what they consider to be the "devastating" impact of the pandemic for these young people, highlighting "the numerous fault lines and limitations in the care and protection of South African children" increasing the risks of child abuse, neglect, violence, and exploitation, potential psychological distress, and, they suggest, negative impact on development. The authors noted, too, the ambivalence of children who remained in care, who felt both protected within the institution because they had access to regular meals, were supported in their education, and felt safe, but who, at the same time, worried about the health, safety and wellbeing of parents, siblings and friends who lacked these same supports and services. In conclusion, they highlighted the importance of coordination across services and the need for creative means to reduce the negative effects of residential care.

Older Persons

Older South Africans mostly live in multigenerational households with children, and are often the heads of households, supporting other household members through the Older Persons' Grant. The HSRC (2022: 15; also, Statistics South Africa, 2020) report on older people (defined as aged 60 and over, and constituting over nine percent of the population) notes that 4 out of 10 are poor and often destitute, living in remote and rural areas, and lack adequate care and support. The HSRC (2022) notes that the precarity of older population is a consequence of pre-existing inequalities in relation to higher levels of poverty, hunger, abuse, isolation, lack of functional literacy, poor health care, chronic health conditions, lack of social protection and health insurance, and overall wellbeing. Covid-19 restrictions were introduced because of the accepted heightened risks to older people of serious illness and death (Parker and de Kadt, 2020). However, this impacted their access to chronic medication, including treatment for hypertension and heart disease, diabetes, TB and HIV. For example, using data on ART provided by primary care clinics in KwaZulu-Natal, Dorward et al. (2021) estimated that around 10% of people aged 70 and over could not access their chronic medication, and that HIV testing and initiation of treatment were negatively affected. This helps explain the high rates of hospitalisation and mortality among older people (Kaswa, Yogeswaran & Cawe, 2021; Phaswana-Mafuya, et al., 2021).

Following WHO guidelines, older people were routinely isolated through interpretations of vulnerability: confined to their place of residence; facing difficulties in collecting social grants, pensions, or in seeking

emergency, life-saving, or chronic medical attention. Even during lockdown alert level 3, as constraints on social and economic life eased for the majority of the population, special measures for the 'most vulnerable', including older people, were advised. But, in addition, the restrictions introduced with Covid-19 impacted on the emotional and mental health of older people: being disconnected from others; lacking access to information; food insecurity and lack of care; isolation from peers and others who were previously part of their social network; the impact on wellbeing in relation to functional impairments and difficulties in mobility; and what the HSRC (2022: 4, 92, 97) refers to as 'mental anguish'. At the same time, constraints to others' mobility reduced the capacity of non-resident caregivers to assist older people, and the support they received from home-care workers and community health workers, linked to health clinics, was often truncated, from assistance with dressing and bathing, to the delivery of medications only (Brear, Manderson & Harling, 2023).

Most conglomerate facilities in South Africa, including long term aged care facilities, retirement villages and rehabilitation centres, were unprepared for the impact of Covid-19, and inadequate coping measures were in place. People living and working in institutions, including aged care residences, but also orphanages, correctional facilities and mental health institutions, were particularly vulnerable to infection because of shared amenities, services and common spaces which made social distancing difficult. The conditions in some of these institutions were already substandard, despite the fact that most retirement and old age facilities are located in middle to higher income areas, catering to those who can afford to access these, mostly private, facilities. Older people receiving ongoing medical or non-medical support with a chronic mental or physical illness (often more than one), disabilities, or advanced frailty associated with age, were particularly vulnerable to Covid-19 (Parker & de Kadt, 2020), and their care was especially complicated given distancing requirements and preventative hygiene. Lack of access to outside support and restrictions on movement, as a precaution to minimise infection, magnified the isolation of residents; and as visits became possible and as infections spread, residents, their families and those employed to care for them were at heightened risk.

High death rates manifested in these facilities, particularly among the elderly, in South Africa, as elsewhere globally (Harris, 2023). The first wave had a particularly high impact on long-term care facilities (Maree & Khanyile, 2020), and in a number of these, infection spread rapidly. Cases of infection, hospitalisation, and deaths in the second wave in January 2021 were reported to be smaller, suggesting that preventative measures had been put in place to prevent a recurrence of the high death rates of the first wave. However, monitoring and oversight of long-term care facilities is not the mandate of any single government department, and hence data on the impact of Covid-19 on these facilities are limited.

Impact on mental health

A European Parliament Policy Brief on the impact of Covid-19 and the need for action on mental health, pointed out that:

> Those who previously had few experiences of anxiety and distress, may experience an increase in number and intensity of these and some have developed a mental health condition. And those who previously had a mental health condition, may experience a

worsening of their condition and reduced functioning (Scholz, 2021: 4).

This was the case in South Africa, as elsewhere.

A number of surveys identified high levels of stress as a result of Covid-19, especially among young people who were unemployed and living in informal areas. There was increased risk of depression, substance misuse, suicidality, loneliness and a profound sense of social immobility (Gittings, 2021; Mudiriza & De Lannoy, 2020; Padmanabhanunni & Pretorius, 2021). Duby and colleagues (2022) report that the negative impact of Covid-19 on mental health was especially marked among poor adolescent and young women, reflecting the compounding effects of household financial strain and food insecurity, unintended pregnancy and HIV infection, violence, fear, and hopelessness. As these authors note, in the face of "woefully inadequate" mental health services, both for the general population and specifically for adolescents and young adults, Covid-19 restrictions and their effects exacerbated the underlying social and structural vulnerabilities and life challenges that faced young people. Masuku and colleagues (2023) also illustrate that working and socialising during the height of Covid-19 posed a mental toll on Child and Youth Care Workers(CYCW), who, like those with whom they worked, experienced fear, uncertainty, anxiety and stress, including emotions experienced in relation to loss of employment. Masuku et al. (2023) note that CYCW were classified as essential service providers during the lockdown and were thus expected to report for duty every day. This created an additional layer of fear associated with the risk of contracting Covid-19 at work and spreading it to others in their own households, compounding their own sense of insecurity, besides concern for people with whom they worked. People working in areas considered to be essential, and who were on the frontline, were treated discrepantly, and were at heightened risk of infection, depending on their economic and professional status. Lewins et al. (2022) likewise reflected on the mental health challenges for Family–Patient Liaison workers, as well as those they supported as patients in field hospitals in South Africa during the first months of the pandemic.

Duby et al. (2022) argue that the Covid-19 pandemic and the lockdown restrictions added to mental health stressors by exacerbating poverty and increasing anxiety around financial and food security and fear of infection. Nearly three-quarters (71.8%) of young women reported financial problems during Covid-19 and the various lockdowns. The death of family members and consequent grief added to a growing sense of frustration, anxiety and depression, particularly where family members were unable to spend time with or see family members in the ICU, or around the time of death.

There is also growing evidence of the impact of lockdown and subsequent COVID-related poverty on the mental health of children and their caregivers. In contrast to the above vulnerability of adolescents, Bloom et al. (2022) have described the particular impact on younger children when parents or caregivers suffered from mental health conditions. Withdrawal from school, restrictions on other activities, consequent social isolation and lack of interactions with others, and the impact of serious illness and loss of life of people around them, all contributed to stress and anxiety among children and their families. Impact is magnified where there are mental health issues, alcohol or drug dependence, or

violence in households within which young people are confined.

The likelihood of pre-existing mental health conditions worsened as a result of the pandemic, due to social isolation, lack of treatment and support, fear and anxiety. This was reinforced by a recent World Health Organisation Scientific Brief (WHO, 2022), in which evidence was presented on the impact of the pandemic on mental health. This included the greater likelihood of infection, severe illness and death associated with Covid-19 for people with pre-existing mental health conditions, who were more likely to be hospitalised, have a severe illness, and be at higher risk of dying from a Covid-19 infection. Several researchers have highlighted the impact on mental health also as a consequence of Covid-19's confluence with other vulnerabilities, including unemployment, gender-based violence and declining health in other respects (Álvarez-Iglesias, Garman and Lund, 2021).

Disability

Disability intersects with race, gender, and poverty. Consequently, while people living with disabilities in South Africa face greater social and financial vulnerability than others, Black South Africans share the conditions of poverty with others who lack such disabilities but may be debilitated due to poverty. People living with disability already experienced vulnerabilities including limited access to goods, food, services and care, issues related to safety, reliable and appropriate care and support, and lack of adequate transport (McKinney, 2021). McKinney et al. (2020) have argued that people living with disabilities were especially vulnerable to infection through difficulties in adhering to protection measures and social distancing, resulting from poor living conditions, associated poor access to water, sanitation and hygiene facilities, and inability to afford cleaning materials. These authors also provided early warnings of the risk of systematic neglect as the consequence of triage policies and practices such as the Frailty Assessment Score, which, with limited resources, could exclude disabled people from access to intensive care and ventilation. This score also applies to people who are elderly and frail, and to people with mental health challenges. People were often at heightened risk of contracting Covid-19 because of a lack of information regarding transmission and prevention of the virus, when health care information was broadcast in inaccessible formats. In addition, they faced increased risk of Covid-19 because standardised protective measures against Covid-19 such as masking, sanitising and social distancing were not physically possible for many people; for others, such protective measures impacted on everyday living. The standardisation of lockdown restrictions created challenges for those who required assistance from caregivers due to restrictions on public transport, lack of knowledge about how to gain travel permits for caregivers as health care workers, and caregivers' fears about contracting Covid-19 (Ned et al., 2021). People with vision impairment and people with mobility challenges lacked support and physical assistance in negotiating public space. Deaf people experienced difficulty with communication because of masks, and Huisman (2020) provides the case of minibus taxi passengers reluctant to assist a woman with a wheelchair for fear of contracting the virus.

As noted above, grants to people entitled to disability support increased in the early months of the pandemic. However, Hart,

Wickenden and Thompson (2022), in a study of 1857 people, established that nearly half (49%) of their respondents were unaware of disability-specific interventions introduced by government, and while 45% said they were able to access disability-specific interventions, others did not, or could not. In addition, the need for care and support was not met by increased cash grants; caregivers were often fearful of leaving their own home to care for others, and there were challenges to the management of chronic conditions for people whose mobility was compromised. The majority of people with disabilities were unable to meet basic needs, and, according to Hart and colleagues, at some point in the pandemic, 39% of respondents and others in the household had gone to bed hungry, 40% had run out of money to buy food, and 7 days before the survey, 29% of those responding or someone else in their household had gone hungry. People with disabilities, the authors concluded, "were not benefitting sufficiently from relief measures 16 months after lockdown" (Hart et al., 2022: 30).

Many lacked health care information on Covid-19 prevention strategies and restrictions, and there was little consultation to anticipate how non-pharmaceutical interventions might impact on them (Mulibana, 2020). Many people living with multiple medical conditions, often accruing due to age, were further impacted by infection, social isolation, and an increase in everyday living costs. People with disabilities faced increased difficulty accessing services. A national online study by Ned et al. (2020; 2021) illustrated that the pandemic intensified and exacerbated the vulnerability of people with disability within a health care system that was already struggling to provide inclusive health care. People with disabilities often require ongoing health care which includes medical supplies, assistive devices and therapy, but this was disrupted, and, in some cases, unavailable, with life-threatening consequences and diminished quality of life. At the same time, hospitals and health centres introduced measures to contain transmission of infection which included the reduction of services for people requiring ongoing care and limited the consultation hours (and so risks) of allied health professionals. This led to the suspension of or marked reduction in contact for rehabilitation care, such as for people who had had strokes, and reduced physiotherapy for children and adults in need of routine physiotherapy (e.g., for cerebral palsy) (Hassem et al, 2022). This meant that not only were people with disabilities more vulnerable to infection, but lack of rehabilitation care extended the time from infection to recovery and the after-effects of Covid-19. This has reportedly increased the population of people with disabilities and people living with chronic illness.

People with disabilities also experienced increased mental health concerns (Ned et al, 2021) during the pandemic because of restricted access to services, lack of adequate and accessible information on the intersection of Covid-19 and disability, and lack of information as to what plans, if any, had been made for them. While organisations and programmes in the NPO sector were often unable to operate, some individuals responded to a clear need in innovative ways. One man, who runs an inner-city boxing programme for poor children with autism, started a feeding programme and then shifted training from an indoor setting to Joubert Park, reclaiming urban areas that had increasingly been seen as risky, if not dangerous: "Where it used to be like ten kids,

you've now got like hundreds of children running behind him. He takes them on these morning runs and stuff like that" (Blackie, 2021).

Pandemic restrictions highlighted the necessity for disability awareness to be mainstreamed across all government sectors and for responsive social services, which do not impinge on people's dignity and create undue hardship. For example, the centralisation of services by SASSA during the pandemic, the unwieldy processes of applying for temporary disability grants, and overbearing police responses came together to produce disastrous effects. People with disabilities and chronic illnesses, some of whom had to queue outside in the cold (or, in contrast, in searing heat) for days, had social distancing regulations cruelly enforced by the police. Police responses to pandemic restrictions thus intensified and also produced disability due to conduct which was harmful to people's mental health and created conditions that provoked post-traumatic disorder. Further, loneliness and social isolation alienated individuals with particular impact on their mental health. According to Nguse and Wassenaar (2021), poor people were particularly affected due to a myriad of factors such as poverty, unemployment, structural inequality and lack of access to health services. The pandemic also negatively impacted on the mental health of those whose economic wellbeing had declined during the pandemic, and those who, for other reasons, are marginalised, or who live on the edge of, or outside the law. Other unanticipated negative consequences, including social and emotional problems, emerged as children with disabilities were confined with families, or placed informally, by their families, in foster care.

Vulnerability among immigrants

Migrants were often already vulnerable before Covid-19; the pandemic amplified their vulnerability (see Chapter 5 Human Settlements); (Mukumbang et al., 2020; Bisnauth et al., 2022). Residential status, including possession of valid permits, determines access to government services, and the complexity of, and delays in processes, impact on timely applications. The challenges with regularising the residential status of migrants already impacted on children's education and on household access to grants.

> Another aspect, the children at school, they have been facing a lot of difficulties because when there is no proper documentation, some schools, they were not accepting the children, so we also tried to negotiate with some principals, we tried to make them understand the situation. There are those who understood, but there are those who could not understand. And also, a lot of kids, they found themselves just stranded in houses, in their houses simply because they were not accepted from some of the schools (Interview, 2022).

The livelihoods of people across the informal sector were severely impacted, as street vending, hair-dressing, deliveries, waste collection, community kitchens and domestic work were prohibited and cross-border trading became impossible (Otieno, Stein and Anwar, 2020; Muswede and Sithole, 2022). Some, working in informal sector employment, including taxi and uber drivers, experienced sharp drops in customers, with dramatic impact on household economics, food security and wellbeing (Otieno, Stein and Anwar, 2020). In an empirical assessment, Köhler et al. (2023) estimated that the

negative employment effects of the country's lockdown policy were driven by effects on the informal sector, and notably, more stringent lockdown levels negatively affected informal, but not formal, sector employment. "The pandemic has exposed broken employment relations and the brutal everyday reality of worker exploitation found within the wider informal economic sector" (Otieno, Stein and Anwar, 2020: 101).

Covid-19 therefore intensified migrants' vulnerability, but this was not initially addressed by government relief efforts. People who were previously economically active and productive suddenly had no income, accommodation, or food, and were often unable to stay in existing homeless shelters when they needed to pay (Mukumbang, Ambe and Adebiye, 2020). Although the Minister for Social Development, Ms Lindiwe Zulu, emphasised that migrants with identity documents were entitled to food parcels, reality on the ground was different. In King Cetshwayo District, attempts to access food parcels distributed by local ward councillors were futile. Migrant and refugee leaders had to mobilise resources (food and "dignity kits" which included sanitary pads and often also towels, soap, underwear, toothbrushes and toothpaste) from churches, mosques and international organisations providing services to refugees, although these resources too were shared with local South African populations: "Our beneficiaries are not only foreigners, 80% of our beneficiaries are local people because they are the majority" (Key informant). In addition, Saloshni and Nithiseelan (2022) identified that lack of identification documents, lack of access to digital services, and a lack of bank accounts all impacted undocumented and informal workers accessing relief. Since applications for social relief needed to be made digitally, this could not be done by people who did not have data or Wi-Fi connectivity. Grants were paid into bank accounts to avoid large queues at pay-points, so as to avoid contravention of lockdown rules and risk of infection (Saloshni and Nithiseelan, 2022). However, some 20 per cent of South Africans, including people without identity papers, do not have bank accounts, and they were consequently disadvantaged.

Complicating these challenges, documented and undocumented migrants were increasingly vulnerable to discrimination, lacked protection under national law, and were harassed at local levels. There was increased communal violence in enforcing and responding to lockdown, and in reaction to the economic impact of the pandemic. Intermittent acts of violence during the 2020 lockdown occurred in response to the militarised enforcement of curfews, fear, and outbreaks of gang warfare, for instance in Alexandra and the Cape Flats, when people were trapped in their neighbourhoods (Manderson & Levine, 2021). Increased xenophobia, particularly Afrophobic, culminated in riots and looting in July 2021. These riots largely reflected the massification of vulnerability due to loss of jobs and food insecurity; these made clear the scale and severity of vulnerability exacerbated by the pandemic, which produced conditions that allowed lawlessness and looting to become a viable activity. For example, foreign truck drivers were attacked while ferrying goods on the highways. People were dismissed from businesses and evicted from homes, and property, including shops and vehicles, was destroyed (Tawodzera & Crush, 2023). The loss of identity documents during such acts of violence meant that the migrants who had previously possessed legal proof of identity, were rendered illegal residents, with impact

on their households. The riots also expanded vulnerability; 354 people died and many more were injured, with community-wide effects on local wellbeing and mental health. In the aftermath of the riots, in association with fuel shortages, growing unemployment and intensified precarity, the supply chain was disrupted, resulting in an inadequate supply of food and medical supplies, with reported increases in ill-health.

Riots also affected the roll-out of the vaccine, as sites were closed to prevent looting. Tensions between citizens and migrants increased in early 2022 with the rise of the Dudula movement, a radical splinter group of the Put South Africans First movement, which was already harassing and protesting against foreign workers (Musariri, 2022; Myeni, 2022). During this period, members of the Dudula movement moved from street to street, evicting African migrants trading on the streets of Johannesburg, Durban, and Cape Town; harassing businesses that employed foreign workers, and demanding instead that they employ their own members. Musariri (2022) has argued that not all migrants were targeted; rather, xenophobic violence was (and is) racialised and some African nationalities bear the brunt of xenophobic sentiments.

Linked to household poverty, hunger, displacement, and xenophobic violence (physical and psychological), migrants and refugees suffered high levels of stress and anxiety. Mental health challenges among this population were already a serious challenge because of their ambivalent legal status, as discussed above. Prior to Covid-19, people struggled to gain proper documentation and associated various negative life events with their problematic civil status:

> So, all these things made life difficult, because if a child cannot get education today, what are you expecting of this child tomorrow? So, when the mother starts looking at things in this context, they start getting worried. When a father can no longer provide for the family, they start getting worried. That's where stress comes in, that's where I mean trauma comes in. Then you are no longer dealing with the issue of just a document, there are already issues of people with trauma, people with stress, some people start being under, I mean, strokes and so forth (Key informant, NGO1).

Many migrants live in dense spaces with strangers and were unable to socially distance, and what is more, those living conditions increased the possibility of violence and abuse exacerbating migrants precarity-induced propensity to poorer health outcomes. For women migrants, the intensification of violence, and lack of social support, such as not receiving or the interruption of treatment for chronic illnesses will have long-term impacts and many may not recover what was lost during the pandemic (Mutumbara, Crankshaw & Freedman, 2022). Access to health services for immigrants were impaired, as hours were reduced, particularly by border closures, limiting access to women who were temporary residents in urban South Africa where they were able to access ART, and especially to PMTCT and other ante-natal care (Bisnauth et al., 2022). Knipper et al. (2021) highlight the impact of the pandemic on TB control among unregistered migrants and refugees, both because of the synergistic effects of Covid-19 and TB infections, but also because of people's poor access to comprehensive care.

While the physical needs of this vulnerable population are visible, as indicated above, the mental health challenges are much more complex and remain largely unaddressed. In the context of the Covid-19 pandemic and its uncertainty, and the effects of increased isolation, the stress levels among migrants and refugees were elevated (Mukumbang et al., 2020). While health services are available in every municipality, the lack of valid documentation remains a deterrent to people to access mental health services. The lack of social networks for social support heightened the vulnerability of migrants:

> But what I sense is that when the problem started, things became abnormal... So, if you are born in an area, it's very natural to have some sort of social network, right? ... So, an immigrant, even though he or she might be capable of doing good things, might not have such mechanism so their network is very limited. The moment... the moment you are out of the road, you are out of it, right? So... that lack of network... that is a very serious challenge to those immigrants (Interview, migrant leader).

The lack of access to loans and institutional support increased the vulnerability of migrants and refugees during the period of complete lockdown, and this continued to impact them as the pandemic continued. Migrants and refugees usually lack the range of personal resources that citizens have access to: the social support and safety-nets, social networks and institutional support that might cushion individuals and households during crisis. As one migrant leader explained:

> And then, also going back to the issue of assistances from the institutions; immigrants, I think that what they do they do it by their own kind of assistances... I can claim that immigrants do not get support from institutions. They don't get loans from the bank, right? Zero point - almost like 1%, I would say, whatever, that might get from them, but those are also those that qualify 100 and over times, right? They must show themselves like, right, they are capable, so capable of it.

At the same time, people did take advantage of communication networks to resist the effects of constraints to mobility. Muswede and Sithole (2022), for instance, illustrate that in Limpopo, migrant women relied on WhatsApp, especially, to receive updates on lockdown regulations including border travel, to provide fellow migrants throughout the country with support and shared strategies of survival, and to elicit and distribute donations to those most severely affected by the pandemic.

Refugees and Asylum-seekers

As Mukumbang et al. (2020) note, the South African Refugees' Act (130 of 1998, Amendment Act 11 of 2017) provides for asylum-seekers and refugees, including access to medical services, life-saving treatment, and freedom of movement. However, problems in regularising the national asylum system and administrative problems have led to a backlog in processing applications and determining residential status, leaving many refugees unable to obtain identity and travel documents. This was exacerbated during lockdown. Residential permit applications and renewals were largely online, and low literacy levels, lack of access to computers, technology failures and load shedding all affected online applications, leading to delays and creating particular problems for people on three-month refugee permits. Mobility restrictions further complicated residential permit renewal, amplifying the vulnerability

of migrants and refugees (Mukumbang et al., 2020). Many activities of the Department of Home Affairs ceased, such that the permits of most asylum-seekers expired with disastrous effects such as frozen bank accounts and cessation of grants to which some people were entitled (Dada et al., 2022). Fear of being deported or imprisoned meant that many could not, or did not, access social assistance programmes, or present for health care, including for regular check-ups for chronic illnesses, as well as testing for Covid-19. Dada et al. (2022) argue that refugees with disabilities, whose vulnerability is rarely acknowledged, experienced compounded difficulties in gaining social support of multiple marginalised identities. The children of refugees, and others without papers, were also disadvantaged as a result of a lack of identity papers, excluding them from services and the ability to register and sit for examinations. Further research in this area appears especially warranted.

Other vulnerabilities

Vaccinations and Vulnerabilities

The Johnson & Johnson vaccine was rolled out in February 2021. Available data on vaccine distribution indicate that preexisting inequalities affected access to vaccines, with uneven vaccination uptake largely predicted by the vulnerabilities discussed above. People's lack of trust in state services fuelled suspicion relating to the quality of, and reasons for, vaccination. The University of Johannesburg/HSRC's study in several impoverished settlements in Soweto, Limpopo, and KwaZulu-Natal allows us to better understand these variations (Alexander et al., 2021). On their account, vaccine hesitancy was linked to uncertainty of the efficacy of the vaccine and lack of access to information. Communication was either inadequate, provided via social media, but not on local radio or through community leaders, predominately in English, and did not counter false statements driven by anti-vaccine campaigners. The study also highlighted difficulties where registration and booking a time to present for vaccination required access to the Electronic Vaccination Data System (EVDS) using a smart phone. Cost of transport to a vaccine site was prohibitive for many poorer households. Various civil society organisations advocate the value of locating vaccination sites at transit points, or sites where people already travel, so saving them from an additional single purpose trip. This was a particularly important consideration in households under economic stress and with high levels of food insecurity. As Cooper, van Rooyen and Wiysonge (2022) note, fear and uncertainty, practical challenges around access to vaccination, poverty and marginalisation, and what they refer to as the "geopolitics surrounding the pandemic," all affected people's ability to receive the vaccine, especially among refugee and other marginalised populations.

Marginal Lives and Vulnerability

We have already considered (above) the challenges experienced by people lacking residential permits. Many other people are vulnerable because of legal and social structural positions; they lack civil entitlements and/or live on the edges of the law. People who identify with sexual minority communities, as noted above, sex workers, and others participating in illegal and/or informal economies (including drug

suppliers and people dependent on drugs), are often excluded from social protection mechanisms. They may have access to grants but be reluctant to present for care or to apply for support because of risk of exposure and fear of police intervention. Others are vulnerable because they live on the streets, e.g., people in the informal and semi-formal recycling economy (*see also Chapter 5.5 Human Settlements*).

Many people dependent on drugs live on the streets, and generate income within the informal economy, working as car guards and begging; however, during alert level 5 lockdown, this was impossible (Scheibe et al., 2022). In Tshwane (Pretoria), people without shelter were admitted initially to Caledonian Stadium, which had neither electricity nor sanitation facilities (Marcus et al., 2020), and then, after almost two weeks, to 25 shelters across the municipality. Of these, according to Scheibe et al. (2021), also Bhoora, Gloeck and Scheibe (2022), in total, 1189 homeless people reported current use of heroin as part of their admission process and over 1000 commenced methadone maintenance in the shelters; there was a 78% increase in people presenting with withdrawal as the lockdown progressed, and the demand for opioid substitution therapy exceeded supply.

In addition, in some cases, exceptional steps were taken to meet the needs of marginalised populations. The eThekwini Metro Municipality (Durban), for example, supported a Withdrawal Management Programme from opiate-using homeless youth during lockdown alert levels 5 and 4. In this programme, the SA Network of People Using Drugs and the Urban Futures Centre (Durban University of Technology) ran the safe shelter in an underground parking area of one of the stadiums in the city. Over 10 weeks, it provided daily observations of methadone maintenance for some 260 people, and other basic support, health care and food for an estimated 500 people. As Monique Marks, Director of the Urban Futures Centre, reflected, government and political actors:

> … sort of watched the transformative capacity of that on people's lives … Police were fully onboard with us, because, you know, without having a methadone programme to deal with the withdrawals, people would have been trying to get out of those safe spaces and would have been breaking lockdown regulations … Homeless people were probably cared for during those lockdowns more than they ever had been cared for, particularly by local governments, because the safe spaces, you know, provided a place to sleep, ablution facilities, three meals a day and medical intervention. So, it wasn't just the methadone programme that was running, but we also were able to link people back onto chronic medication or, in particular, for HIV and TB; and then also to deal with any other underlying medical conditions (Marks, 2021).

At the end of lockdown, in June 2020, the municipality allocated a building in Greyville on the periphery of the city centre, so enabling the programme to continue as the Bellhaven Harm Reduction Centre, meeting the needs of a small number of several thousand people who live on the streets in Durban alone. While the programme is sustained and has since expanded, academics involved in supporting people registered for treatment have remained concerned that safe shelter and support will be sustained. Without this, there is a risk of increased use of opioids, the increased use of toxic synthetics such

as fentanyl and other drugs (alcohol and benzodiazepines), and increased risk of overdose and death (Stowe, Scheibe, Shelly and Marks, 2020; Marks, 2021).

South Africa's larger cities provided temporary accommodation at times, but such temporarily accommodated populations were often corralled, for example, in marquees, parks and sportsgrounds, possibly increasing the risk of infection among them, while reducing the risks to others. The challenges of dealing with these marginal populations, while providing temporary quarantined housing, stimulated innovations, at times with support from coalitions of government, university, and a growing number of civil society actors. As elaborated elsewhere in this report, the Solidarity Fund was established on 23 March 2020, across these sectors, to support government efforts and mitigate the impacts of the pandemic.

Lessons Learned

- Responses to the pandemic initially ignored people who were most vulnerable socially and economically, because they were not in the labour force, were undocumented and/or not entitled to state support.
- People already known to experience the greatest levels of poverty and social exclusion were at greatest risk of infection and were most vulnerable to the economic impacts of the pandemic.
- Those living on the margins of society remained marginalised because of lack of mechanisms to address lack of rights and barriers to state support, care and access to services.
- Covid-19, measures to contain its spread, and the longer- term economic impact of the pandemic, compounded pre-existing vulnerabilities.

Summary

The economic impact of the pandemic, and the immediate effects of preventive measures, infections, and, in some cases, hospitalisations and death, most seriously affected those people who were vulnerable because of low pay rates and job precarity, dependence on others for care or support, living with disability, or living in congregate settings. The pandemic also disproportionately affected those living on the margins, socially and legally, in relation to income generation, civil status and behaviour. In other words, government measures to contain the impact of the pandemic proved least able to address this for people who were already vulnerable: women, children and youth, and people living with disabilities; the aged and frail; people with chronic conditions and physical and mental health conditions; people in congregate settings, including residential care; people without papers and refugees; and people who are socially marginalised such as those involved in transactional sex, those belonging to a sexual/gender minority, those without shelter, or who are substance-dependent, and/or lack identity papers. These fields of vulnerability often co-occur; that is, a young woman may lack identity papers, be substance dependent, undertake sex work, and lack proper shelter.

Settler colonialism, apartheid and racist political economies have normalised and justified the massification of vulnerability for black South Africans especially, reflected prior to the pandemic by a syndemic of poverty, communicable and non-communicable diseases, and interpersonal violence (Ross, 2020b). The stagnant economy, increasing unemployment, the inadequacy of the basic minimum wage to support even relatively

small households, were all exacerbated by Covid-19. The spatialisation of racial categories and limited resources is reflected now in inadequate housing, food insecurity, exploitative labour conditions and limited labour protections, and underfunded and inequitable health and medical care. These are all expressed in terms of unequal morbidity, mortality and debility.

Covid-19 mapped onto existing social inequalities and inequalities of access to care, exacerbated inequalities, and created new ones. In this chapter, the focus has been on areas of vulnerability that slip through the cracks, or issues that do not have formal data collection to quantify. Gender adds to this complexity (see Chapter 5.4 Gender Equality). The need for a gendered and intersectional analysis to inform policies and programme design is highlighted. This includes issues of homelessness, migrants, the transgendered community, people living with disabilities, those who live in institutional settings, and so on.

Vulnerability can include multiple axes of marginality: political, spatial, ecological, and economic. As established in the South Africa Covid-19 Country Report (First edition), lockdowns had a disproportionate impact on those who were precariously employed, disadvantaged, disabled or were already experiencing discrimination. Even new categories of care and services, introduced to respond to the pandemic, had a disproportionate impact. The longer term economic effects of the pandemic have yet to be fully appreciated, but it is clear that Covid-19 amplified vulnerability. Specifically:

- Government action to prevent transmission, and to contain the impact of the pandemic on the health system impacted access to care and treatment, including for chronic conditions, and particularly for the poorest sectors of the population.
- The progressive design of fiscal interventions seemed to have combatted the regressive employment effects of the pandemic in the short term, protecting workers who were most at risk of job loss. However, such measures to temper the impact of the pandemic failed to address the heavy economic impact, from the outset, on people who generated income in the informal sector, or who lacked rights to access support.
- Increases in state support to grant recipients did not keep pace with rising costs. The Covid-19 SRD ensured some financial support for a sizable population, but still excluded sectors of the population without identity papers.
- Lack of access to infrastructure increased vulnerability. For example, people who did not use banking facilities and people who lacked access to the internet and data faced difficulties accessing financial support.
- Unemployment rose, and food and commodity prices increased. Accordingly, hunger increased, whether or not people were employed or in receipt of grants.
- Because of financial precarity in relation to housing, utility bills, transport, medical care and food, people drew down on stokvel savings, took loans, borrowed, and relied on charity. Soup kitchens and related programmes increased to meet some of their immediate needs.
- Unemployment and financial stress, along with anxiety about infection, hospitalisation and death, and social isolation, impacted mental health for all groups. This was reflected partly by increased incidence of gender-based violence and child abuse.

Recommendations

The South African government needs to consider implementing, at a national level, actions to minimise the profound impact of the pandemic (or equivalent unpredicted disaster), now and in the future (United Nations, 2020, 2023). There is a need for government to adopt a whole-of-society approach to respond to the pandemic. This means adopting a multi-sectoral approach to engage all stakeholders including government, civil society, academia, the private sector and the media.

- The economic impact of the pandemic has continued over time and demonstrates the need for the Covid-19 SRD grant to be continued and increased to reflect changes in cost of living.
- Welfare and social work services need to be increased, with a focus on addressing the needs of those who proved most vulnerable during the pandemic. These are largely sectors of the population which were already known to be vulnerable and to be living precariously on very low incomes.
- Greater attention needs to be directed at infrastructural inequalities, including water and sanitation, power and connectivity. As illustrated, poor and unreliable services amplified vulnerabilities for rural, elderly and school aged children.
- A comprehensive study of interventions is needed to address responses to the pandemic, including those involving NPOs, public-private partnerships, and private actors (*see elsewhere in this report on civil society*). Various projects' development to reduce food insecurity, and the eThekwini intervention for homeless people with substance abuse, are impressive, and governments at provincial and district level need to increase mechanisms to support such innovations.
- The failure to provide mechanisms for anticipated vulnerabilities as an outcome of pre-existing challenges (e.g., for people without ID papers, those who do not use banks, people without access to computers, and so on) suggests the need for stronger interdepartmental coordination and civil society engagement in planning.
- Attention needs to be paid to how to explicitly ensure the inclusion of people with disabilities, and to avoid interventions compounding, rather than reducing social exclusion. There is also a critical need for disability-aware interventions that take cognisance of the multiple and plural needs of people with disabilities.
- There is a limited understanding of, and limited research into congregate settings and long-term care facilities. This will be a continuing issue with demographic changes in South Africa. Reflection is needed on the impact of the Covid-19 pandemic on these institutions, but also on other crises like Life Esidemeni which resulted in many unnecessary deaths.

Intersectionality and vulnerability

- Many vulnerabilities are intersectional and occur across departmental spheres and mandates. Clear guidelines for monitoring or planning interventions, and for working across institutional boundaries are lacking. This awareness of vulnerability as intersectional should extend to early warning systems, which currently tend to be siloed.

- Because women carry the responsibility for care giving, are financially disadvantaged, and experience greater intersectional vulnerability, greater attention to gender is needed across programmes.
- Mental health issues created vulnerability to risks of infection and the capacity to respond to it, and emerged as a major consequence of the pandemic, affecting all axes of vulnerability. Much more needs to be done, across departments, on a continuing basis, to address poor mental health across age, gender, and social categories. The government should ensure increased and widespread availability of emergency mental health services and psychosocial support to individuals and communities.
- Mainstreaming disability awareness is urgent and should be multisectoral. The police, SASSA and all government agencies that interface with the public should be trained to be disability aware, and to engage in ways that do not infringe on people with disabilities and other vulnerable populations.

Data

Lack of data on vulnerability impedes appropriate interventions. This might be corrected by the following measures:

- Data are needed to highlight the effects of the pandemic and its interventions for different population groups, so that resources can be distributed in ways that alleviate the historical legacies of underfunding and undervaluing black lives, and address the needs of all people rendered vulnerable and marginal.
- Despite growing evidence of the impact of the pandemic over time, as expected, there is disproportionately little qualitative research providing insight into this impact, and lack of attention in existing research to the impact on sectors of the population who are most marginal.
- Disaggregation of administrative and survey data is essential to ensure intersectional analysis, and to ensure broad access to disaggregated data.
- Routine collection and analysis of local data, e.g., at municipality level. Collecting data at a local level with vulnerable communities requires trust, and collaboration between scientists, NGOs embedded in local communities, and local community members is essential for data to be collected. Existing efforts to work with such collaborations should be extended.
- Sufficient funds should be directed to local entities to support data collection, management, and analysis. The use of heterogeneous data sources and methods of data collection, including administrative data, data collected by civil society organisations and through media-driven and crowd-sourced data is recommended.

References

Alexander, K., Runciman, C., Roberts, B., Bekker, M., Bohler-Muller, N., 2021. Vaccine acceptance and hesitancy: Findings from the UJ/HSRC Covid-19 Democracy Survey. https://www.uj.ac.za/newandevents/Documents/2021-08-18%20UJ-HSRC%20R4%20Report%201%20Vaccine%20acceptance.pdf.

Álvarez-Iglesias, A., Garman, E. & Lund, C., 2021. Effects of Covid-19 on the economy and mental health of young people in South Africa: opportunities for strengthening social protection programmes by integrating mental health. South African Journal of Psychology, 51(2): 199–204.

Bank, L. & Sharpley, N.V., 2020. A state of (greater) exception? Funerals, custom and the "War on Covid" in rural South Africa. South African Review of Sociology, 51:3-4, 143-164, DOI: 10.1080/21528586.2021.2015717.

Barnes, H., Espi-Sanchis, G., Leibbrandt, M., McLennan, D., Noble, M., Pirttilä, J., Steyn, W., Van Vrede, B. & Wright, G., 2021. Analysis of the distributional effects of Covid-19 and state-led remedial measures in South Africa. The International Journal of Microsimulation, 14(2): 2-31.

Barron, P., Subedar, H., Letsoko, M., Makua, M. & Pillay, Y., 2022. Teenage births and pregnancies in South Africa, 2017 - 2021 – a reflection of a troubled country: Analysis of public sector data. South African Medical Journal, 112 (4): 252-258.

Baskaran, G., Bhorat, H. & Köhler, T., 2020. South Africa's Special Covid-19 Grant: A Brief Assessment of Coverage and Expenditure Dynamics. Development Policy Research Unit Policy Brief 202055, DPRU, University of Cape Town, Cape Town.

Bassier, I., Budlender, J., Zizzamia, R., Leibbrandt, M. & Ranchhod, V., 2021. Locked down and locked out: Repurposing social assistance as emergency relief to informal workers. World Development, 139: 105271.

Bassier, I., Budlender, J. & Goldman, M., 2022. Social distress and (some) relief: Estimating the impact of pandemic job loss on poverty in South Africa. WIDER Working Paper No. 2022-80. The United Nations University World Institute for Development Economics Research (UNU-WIDER), Helsinki.

Bhoora, U., Gloeck, N.R. & Scheibe, A., 2022. Managing acute opioid withdrawal with tramadol during Covid-19 lockdown in a peri-urban setting. African Journal of Primary Health Care & Family Medicine 14(1): a3386. DOI: 10.4102/phcfm.v14i1.3386.

Bhorat, H., Köhler, T., Oosthuizen, M., Stanwix, B., Steenkamp, F., & Thornton, A., 2020. The Economics of Covid-19 in South Africa: Early Impressions. Development Policy Research Unit Working Paper 202004, DPRU, University of Cape Town, Cape Town.

Bhorat, H., Köhler, T. & de Villers, D., 2023. Can Cash Transfers to the Unemployed Support Economic Activity? Evidence from South Africa. Agence Française de Developpement Research Paper No. 278. Paris, France: Agence française de développement. https://issuu.com/objectif-developpement/docs/cash-transfers-to-the-unemployed_economic-activity.

Bhorat, H., Oosthuizen, M. & Stanwix, B., 2021. Social assistance amidst the Covid-19 epidemic in South Africa: a policy assessment. South African Journal of Economics, 89(1): 63-81.

Bisnauth, M.A., Coovadia, A., Kawonga, M. & Vearey, J., 2022. Addressing the migrant gap: maternal healthcare perspectives on utilising prevention of mother to child transmission (PMTCT) services during the Covid-19 pandemic, South Africa. Global Health Action, 15(1): 2100602. DOI 10.1080/16549716.2022.2100602.

Blackie, D., 2021. Interview via zoom, on 19 December, 2021, on Covid-19 [Interview for South Africa Covid-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Bloom, J., Lachman, A., Gaxo, E., Pillay, J. & Seedat, S., 2022. Child, adolescent, and caregiver mental health difficulties and associated risk factors early in the Covid-19 pandemic in South Africa. Child and Adolescent Psychiatry and Mental Health, 16: 65. DOI: 10.1186/s13034-022-00499-2.

Brear, M., Manderson, L. & Harling, G. 2023. Conceptualisations of "good care" for older people in a rural South African setting. Unpublished report. School of Public Health, University of the Witwatersrand, Johannesburg.

Brewer, T.F., Zhang, M., Gordon, D., Chung, R.Y.-N., Dejene, N., Fonta, C.L., Grieve, T., Halleröd, B., Harris, R., Lanau, A. et al., 2021. Housing, sanitation and living conditions affecting SARS-CoV-2 prevention interventions in 54 African countries. Epidemiology and Infection, 149: e183. DOI: 10.1017/S0950268821001734.

Casale, D. & Shepherd, D., 2022. The gendered effects of the Covid-19 crisis in South Africa: Evidence from NIDS-CRAM waves 1–5. Development Southern Africa, 39(5): 644-663. DOI: 10.1080/0376835X.2022.2036105.

Cooper, S., van Rooyen, H. & Wiysonge, C.S., 2022. Addressing Covid-19 vaccine hesitancy in South Africa- moving beyond a reliance on information-based responses, Human Vaccines & Immunotherapeutics, 18:6. DOI: 10.1080/21645515.2022.2107851.

Dada, S., Rajah, Y., Pillay, M., & Tönsing, K., 2022. The need to include the voices of migrants with disabilities within conversations about migration. In P. Angu & T. Masiya, (Eds.). South African-Based African Migrants' Responses to Covid-19: Strategies, Opportunities, Challenges and Implications. Langaa RPCIG, Bamenda, Cameroon, 147-171.

Dasgupta, S. & Robinson, E.J.Z., 2021. Food Insecurity, Safety Nets, and Coping Strategies during the Covid-19 Pandemic: Multi-Country Evidence from Sub-Saharan Africa. International Journal of Environmental Research and Public Health, 18 (19): 9997. DOI: 10.3390/ijerph18199997.

Dayimani, M., 2021. Covid-19 puts massive strain on soup kitchens in Makhanda. News24, 31 July. https://www.news24.com/news24/southafrica/news/Covid-19-puts-massive-strain-on-soup-kitchens-in-makhanda-20210731.

Dlamini, N.J., 2021. Gender-Based Violence, Twin Pandemic to Covid-19. Critical Sociology, 47(4-5):583–90. DOI: 10.1177/0896920520975465.

Dekel, B. & Abrahams, N., 2021. I will rather be killed by corona than by him... Experiences of abused women seeking shelter during South Africa's Covid-19 lockdown. PLOS One, 16 (10): e0259275. DOI: 10.1371/journal.pone.025927.

Devereux, S., 2020. Violations of farm workers' labour rights in post-apartheid South Africa, Development Southern Africa, 37:3, 382-404. DOI: 10.1080/0376835X.2019.1609909.

Dorward, J., Khubone, T., Gate, K., Ngobese, H., Sookrajh, Y., Mkhize, S., Jeewa, A., Bottomley, C., Lewis, L., Baisley, K., Butler, C.C., Gxagxisa, N. & Garrett, N., 2021. The impact of the Covid-19 lockdown on HIV care in 65 South African primary care clinics: an interrupted time series analysis. Lancet HIV, 8(3):e158-e165. DOI: 10.1016/S2352-3018(20)30359-3.

Duby, Z., 2022. How COVID added to the stresses of the most vulnerable young women in South Africa. The Conversation, April 17. https://theconversation.com/how-covid-added-to-the-stresses-of-the-most-vulnerable-young-women-in-south-africa-180729. (Accessed 11 June 2023).

Duby, Z., Bunce, B., Fowler, C., Bergh, K., Jonas, K., Dietrich, J.J., Govindasamy, D., Kuo, C. & Mathews, C., 2022. Intersections between Covid-19 and socio-economic mental health stressors in the lives of South African adolescent girls and young women. Child and Adolescent Psychiatry and Mental Health, 16(1):23. doi: 10.1186/s13034-022-00457-y.

Ferguson, J., 2015. Give a man a fish: Reflections on the new politics of distribution. Duke University Press: Durham, NC.

Galtung, J., 1969. Violence, peace, and peace research. Journal of Peace Research, 6 (3): 167–191.

Gentilini, U., Almenfi, M., Orton, I. & Dale, P., 2020. Social Protection and Jobs Responses to Covid-19 : A Real-Time Review of Country Measures. World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/37186 License: CC BY 3.0 IGO.

Gittings, L., Toska, E., Medley, S., Cluver, L., Logie, C.H., Ralayo, N., Chen, J. & Mbithi-Dikgole, J., 2021. 'Now my life is stuck!': Experiences of adolescents and young people during Covid-19 lockdown in South Africa. Global Public Health, 16 (6): 947-963. DOI: 10.1080/17441692.2021.1899262.

Giupponi, G. & Landais, C., 2020. Building effective short-time work schemes for the Covid-19 crisis, VoxEU.org, 01 April.

Govender, V., Fried, J., Birch, S., Chimbindi, N. & Cleary, S., 2015. Disability Grant: a precarious lifeline for HIV/AIDS patients in South Africa. BMC Health Services Research, 15: 227. DOI: 10.1186/s12913-015-0870-8.

Groenewald, C., Isaacs, N. & Isaacs, D., 2022. Adolescent sexual and reproductive health during the Covid-19 pandemic: A mini review. Frontiers in Reproductive Health, 4:794477. doi: 10.3389/frph.2022.794477.

Gronbach, L., Seekings, J. & Megannon, V., 2022. Social protection in the Covid-19 pandemic: Lessons from South Africa. CGD Policy Paper 252. Center for Global Development: Washington, DC.

Haffejee, S. & Levine, D.T., 2020. 'When will I be free': Lessons from Covid-19 for Child Protection in South Africa. Child Abuse and Neglect, 110 (Part 2): 104715. https://doi.org/10.1016/j.chiabu.2020.104715.

Harris, E., 2023. Most Covid-19 deaths worldwide were among older people. JAMA, 329(9):704. DOI:10.1001/jama.2023.1554.

Harrisberg, K., 2022. Facing hormone shortages, South Africa's trans men try black market. Openly News, 20 January. https://www.openlynews.com/i/?id=e074479d-4a1c-40a3-ade7-d477d165bcd8. (Accessed 1 December 2022).

Hart, T.G.B, Davids, Y.D., Rule, S., Tirivanhu, P., Mtyingizane, S., 2022a. The Covid-19 pandemic reveals an unprecedented rise in hunger: The South African Government was ill-prepared to meet the challenge. Scientific African, 16: e01169. DOI: 10.1016/j.sciaf.2022.e01169.

Hart, T., Wickenden, M., Thompson, S., Davids, Y.D., Pienaar, G., Ngungu, M., Majikijela, Y., Rubaba, T., Molongoana, N., Bohler-Muller, N., Wentzel-du Toit, T., Kalis, A., Boya, L. & Mofokeng, M., 2022b. Socio-Economic Wellbeing and Human Rights-Related Experiences of People with Disabilities in Covid-19 Times in South Africa. Institute of Development Studies, Brighton, UK. DOI: 10.19088/IDS.2022.013.

Hassem, T., Israel, N., Bemath, N. & Variava, T., 2022. Covid-19: Contrasting experiences of South African physiotherapists based on patient exposure. S.Afr.J.Physiother. 78(1):1576. DOI: 10.4102/sajp.v78i1.1576

Henderson, P.C., 2011. AIDS, Intimacy and Care in Rural KwaZulu-Natal. A Kinship of Bones. Amsterdam University Press: Amsterdam, NL.
Heywood, M., 2020. The transformative power of civil society in South Africa: an activist's perspective on innovative forms of organising and rights-based practices. Globalisations, 17 (2): 294-316. DOI:10.1080/14747731.2019.1652466.

Huisman, B., 2020. Covid-19: Life under lockdown for people living with disabilities. Spotlight, 19 May. https://www.spotlightnsp.co.za/2020/05/19/Covid-19-life-under-lockdown-for-people-living-with-disabilities/.
HSRC (Human Sciences Research Council), 2022. Understanding the demographic, health, psycho-social and economic implications of Covid-19 on older persons in South Africa. Centre for Community Based Research, HSRC Division of Human and Social Capabilities: Cape Town, SA.

Institute for Economic Justice, 2022. The R350 SRD Grant crisis is far from resolved. Press Statement. https://www.iej.org.za/press-statement-the-r350-srd-grant-crisis-is-far-from-resolved/.

Joska, J. A., Andersen, L., Rabie, S., Marais, A., Ndwandwa, E. S., Wilson, P., King, A. & Sikkema, K. J., 2020. Covid-19: increased risk to the mental health and safety of women living with HIV in South Africa. AIDS and Behavior, 24(10): 2751-2753.

Kaswa, R., Yogeswaran, P. & Cawe, B., 2021. Clinical outcomes of hospitalised Covid-19 patients at Mthatha Regional Hospital, Eastern Cape, South Africa: A retrospective study. South African Family Practice, 63(1):e1-e5. DOI: 10.4102/safp.v63i1.5253.

Keenan, E. & Lydon, R., 2020. Wage subsidies and job retention. Central Bank of Ireland Economic Letter, 11/EL/20: 1-12.

Khambule, I., 2020. The effects of Covid-19 on the South African informal economy: Limits and pitfalls of government's response. Loyola Journal of Social Sciences, 34(1): 91–109.

Khambule, I., 2022. Covid-19 and the informal economy in a small-town in South Africa: governance implications in the post-COVID era. Cogent Social Sciences, 8 (1): 2078528. DOI: 10.1080/23311886.2022.20785.

Knipper, M., Sedas, A.C., Keshavjee, S., Abbara, A., Almhawish, N., Alashawi, H., Lecca, L., Wilson, M., Zumla, A., Abubakar, I. & Orcutt, M., 2021. The need for protecting and enhancing TB health policies and services for forcibly displaced and migrant populations during the ongoing Covid-19 pandemic. International Journal of Infectious Diseases, 113 (Supp 1): S22-S27.

Köhler, T. & Bhorat, H., 2020. Social assistance during South Africa's national lockdown: Examining the Covid-19 grant, changes to the Child Support Grant, and post-October policy options. National Income Dynamics Study Coronavirus Rapid Mobile Survey (NIDS-CRAM) Wave 2 Policy Paper No. 9.

Köhler, T. & Hill, R., 2022. Wage subsidies and Covid-19: The distribution and dynamics of South Africa's TERS policy. Development Southern Africa, 39 (5): 689-721. DOI: 10.1080/0376835X.2022.2057927.

Köhler, T., Hill, R. & Bhorat, H., 2022. The effect of wage subsidies on job retention: Evidence from South Africa during the Covid-19 pandemic. WIDER Working Paper No. 2022/114. The United Nations University World Institute for Development Economics Research (UNU-WIDER): Helsinki.

Köhler, T., Bhorat, H., Hill, R. & Stanwix, B., 2023 Lockdown stringency and employment formality: Evidence from the Covid-19 pandemic in South Africa. Journal for Labour Market Research, 57(1):3. Doi: 10.1186/s12651-022-00329-0.

Levine, S. & Manderson, L., 2021. Proxemics, Covid-19 and the ethics of care in South Africa. Colloquy on Covid-19. In T. Strong, S. Tmka & L.L. Wynn (Eds.) Cultural Anthropology, 36 (3): 391-399.

Lewins, K., Seabi, T.M., Seotsanyana, L., Maphelela, K., Nyirenda, T. & Benvie, C., 2022. Reflections on First Wave Covid-19 Practice: Insights from Family–Patient Liaisons. South African Review of Sociology, 51:3-4, 165-187. DOI: 10.1080/21528586.2022.2035252.

Love Our City Klean (LOCK), 2023. https://www.facebook.com/LoveOurCityKlean?_rdc=1&_rdr

Maharaj, P. (Ed.), 2020. Health and Care in Old Age in Africa. Routledge Contemporary Africa Series. Routledge: London and New York. https://doi.org/10.4324/9780429020759.

Mahlangu, P., Gibbs, A., Shai, N., Machisa, M., Nunze, N. & Sikweyiya, Y., 2022. Impact of Covid-19 lockdown and link to women and children's experiences of violence in the home in South Africa. BMC Public Health, 22 (1): 1029. DOI: 10.1186/s12889-022-13422-3.

Maluleke, R., 2022. The South African Covid-19 Vulnerability Index. Multidimenensional Poverty Peer Network (MPPN), 4 February. https://www.mppn.org/the-south-african-Covid-19-vulnerability-index/

Maluleke, R., 2022. The South African Covid-19 Vulnerability Index. Dimensions. Magazine on Multidimensional Poverty 13 (February 4). https://www.mppn.org/the-south-african-Covid-19-vulnerability-index/. (Accessed 11 June 2023).

Manderson, L. & Levine, S., 2020a. Covid-19, risk, fear, and fall-out. Medical Anthropology, 39 (5): 367-370. Doi: 10.1080/01459740.2020.1746301.

_____, 2020b. Aging, care, and isolation in the time of Covid-19. Anthropology & Aging, 41 (2): 132-140.

_____, 2021. Militarising the pandemic: Enforcing lockdown in South Africa. In L. Manderson, N.J. Burke, & A. Wahlberg (Eds.). Viral Loads. Anthropologies of Urgency in the Time of Covid-19. University College London Press, London, 47-

Maqhina, M., 2022. 700 000 social relief grants uncollected from the South African Post Office. Cape Times, 11 April. https://www.iol.co.za/capetimes/news/700-000-social-relief-grants-uncollected-from-the-south-african-post-office-4ca6e4f2-2bec-4fad-aafd-824b6e94f001

Marcus, T.S., Heese, J., Scheibe, A., Shelly, S., Lalla, S.X. & Hugo, J. F., 2020. Harm reduction in an emergency response to homelessness during South Africa's Covid-19 lockdown. Harm Reduction Journal, 17: 60. DOI: 10.1186/s12954-020-00404-0.

Maree, G. & Khanyile, S., 2020. The impact of Covid-19 on long term care facilities. https://www.gcro.ac.za/outputs/map-of-the-month/detail/impact-Covid-19-long-term-care-facilities/. DOI: 10.36634/JYVH2605.

Marks, M., 2021. Interview via zoom, on 18 December, 2021, on Covid-19 [Interview for South Africa Covid-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Masuku, A.S., Hlengwa, R.T., Mkhize, L.V. & Sibiya, M.N., 2023. Vulnerability and Agency in the Time of Covid-19: The Narratives of Child and Youth Care Workers in South Africa. International Journal of Environmental Research and Public Health, 20(6):5010. DOI: 10.3390/ijerph20065010.

Mavhundu-Mudzusi, A.H., 2021 Survival strategies of HIV-positive transgender women during the Covid-19 lockdown in a South African rural community. Journal of International Women's Studies, 22(12): 148-165.

Mbembe, A., 2019. Necropolitics. Duke University Press: Durham, NC.

McKinney, E.L., 2021. Covid-19 and rights of persons with disabilities: The impact of Covid-19 on the rights of persons with disabilities in South Africa. OHCHR & DWYPD. https://www.gov.za/sites/default/files/gcis_document/202211/47526gon2752.pdf.

McKinney, E.L., McKinney, V. & Swartz, L., 2020. Covid-19, disability and the context of healthcare triage in South Africa: Notes in a time of pandemic. African Journal of Disability, 9: a766. DOI: 10.4102/ajod.v9i0.766.

_____, 2021. Access to healthcare for people with disabilities in South Africa: Bad at any time, worse during Covid-19? South African Family Practice, 63(1):e1-e5. doi: 10.4102/safp.v63i1.5226.

Mkhwanazi, N. & Manderson, L. (Eds.), 2020. Connected Lives: Families, Households, Health and Care in South Africa. HSRC Press: Cape Town.

Mtapuri, O., Giampiccoli, A. & Jugmohan, S., 2021. Impact of Covid-19 on small community-based tourism businesses: diversification of opportunities and threats in modern Africa. Economic Annals-XXI, 192 (7-8 (2)): 177-187. DOI: 10.21003/ea.V192-15.

Mudiriza, G. & De Lannoy, A., 2020. Youth emotional well-being during the Covid-19-related lockdown in South Africa. Working Paper no. 268. SALDRU, University of Cape Town: Cape Town.

Mukumbang, F.C., Ambe, A.N. & Adebiyi, B.O., 2020. Unspoken inequality: how Covid-19 has exacerbated existing vulnerabilities of asylum-seekers, refugees, and undocumented migrants in South Africa. International Journal for Equity in Health, 19: 141. DOI: 10.1186/s12939-020-01259-4.

Mules, Ineke., 2022. Human Rights Watch: Gender-Based Violence Remains Rampant in South Africa. https://www.dw.com/en/human-rights-watch-gender-based-violence-remains-rampant-in-south-africa/a-59923515. (Accessed 11 June 2023).

Mulibana, M., 2020. Lack of consultation led to persons with disabilities being neglected in the Covid-19 response. AfricLaw, 18 May. https://africlaw.com/tag/coronavirus/.

Muswede, T. & Sithole, S.L., 2022. Social media networking as a coping strategy amid the Covid-19 lockdown: The case of migrant women in Limpopo, South Africa. South African Review of Sociology, 52 (2): 4-19.

Musariri, L., 2022. Buyel'ekhaya (Go back home): Xenophobia against Black African Migrants during the Covid-19 Lockdown in South Africa. New Diversities, 24(1): 31-46. https://newdiversities.mmg.mpg.de/wp-content/uploads/2022/10/2022_24-01_03_Musariri-1.pdf.

Mushomi, J.A, Palattiyil, G., Bukuluki, P., Sidhva, D., Myburgh, N.D., Nair, H., Mulekya-Bwambale, F., Tamuzi, J.L. & Nyasulu, P.S., 2022. Impact of Coronavirus Disease (Covid-19) crisis on migrants on the move in Southern Africa: Implications for policy and practice. Health Systems & Reform, 8:1. DOI: 10.1080/23288604.2021.2019571.

Mutambara, V. M., Crankshaw, T. L., & Freedman, J., 2022. Assessing the impacts of Covid-19 on women refugees in South Africa. Journal of Refugee Studies, 35(1): 704-721.

Myeni, T., 2022. What is Operation Dudula, South Africa's anti-migration vigilante? Al Jazeera, 8 April. https://www.aljazeera.com/features/2022/4/8/what-is-operation-dudula-s-africas-antiimmigration-vigilante.

Ndlovu, H., 2021. Entangled battlefields: Challenges of precarity for women under Covid-19.

Agenda – Empowering Women for Gender Equity, 35 (4): 110-116. DOI: 10.1080/10130950.2022.2031731.

Ndlovu, S., Mulondo, M., Tsoka-Gwegweni, J. & Ndirangu, J., 2022. Covid-19 impact on gender-based violence among women in South Africa during lockdown: A narrative review. African Journal of Reproductive Health, 26 (7): 59-71.

Ned, L., McKinney, E.L.M., McKinney, V. & Swartz, L., 2020. Covid-19 pandemic and disability: Essential considerations. Social and Health Sciences, 18(2): 136-148.

_____, 2021. Experiences of vulnerability of people with disabilities during Covid-19 in South Africa. South African Health Review, 2021: 135-142.

Nguse, S., & Wassenaar, D., 2021. Mental health and Covid-19 in South Africa. South African Journal of Psychology, 51(2):304-313. Doi:10.1177/00812463211001543.

NICD (National Institute for Communicable Diseases), 2020. Covid-19. https://www.nicd.ac.za/diseases-a-z-index/disease-index-Covid-19/frequently-asked-questions/. (Accessed 11 June 2023).

Nwosu, C.O., Kollamparambil, U. & Oyenubi, A., 2022. Food insecurity and health outcomes during the coronavirus pandemic in South Africa: a longitudinal study. Health Economics Review, 12(1): 31. DOI: 10.1186/s13561-022-00375-x.

Nxesi, T., 2022. Two-year anniversary of the UIF's Covid-19 TERS – Thulas Nxesi, MP. Minister of Employment and Labour. 4 April 2022.

Nyaba, S., Swanby, H., & Lemke, S., 2021. Transforming Cape Town's Covid soup kitchens into spaces of dignity – a community vision. AgroecologyNow blog and podcast 14 September. https://www.agroecologynow.com/community-kitchens-cape-town/.

Nyashanu, M., Simbanegavi, P. & Gibson, L., 2020. Exploring the impact of Covid-19 pandemic lockdown on informal settlements in Tshwane Gauteng Province, South Africa. Global Public Health, 15 (10): 1443-1453. DOI: 10.1080/17441692.2020.1805787.

Nzabamwita, J. & Dinbabo, M., 2022. International migration and social protection in South Africa. Cogent Social Sciences, 8 (1): 2144134. DOI: 10.1080/23311886.2022.2144134.

OECD (Organisation for Economic Co-Operation and Development), 2020. Job retention schemes during the Covid-19 lockdown and beyond. Tackling Coronavirus (Covid-19): Contributing to a Global Effort. https://oecd.org/coronavirus, 12 October.

Otieno, E., Stein, M. & Anwar, M.A., 2020. Ride-hailing Drivers Left Alone at the Wheel: Reflections from South Africa and Kenya. In P. Carmody, G. McCann, C. Colleran & C. O'Halloean (Eds.). Covid-19 in the Global South: Impacts and Responses. Bristol University Press: Bristol, UK. pp.96-104. DOI: 10.46692/9781529215892.011.

Padmanabhanunni, A,. & Pretorius, T.B., 2021. The unbearable loneliness of Covid-19: Covid-19-related correlates of loneliness in South Africa in young adults. Psychiatry Research, 296:113658. doi: 10.1016/j.psychres.2020.113658.

Parker, A. & de Kadt, J., 2020. Gauteng City Region Observatory (GCRO) focus on old age homes and frail care facilities. https://gcro.ac.za/data-gallery/interactive-data-visualisations/detail/gautengs-elderly/. (Accessed 15 June 2023).

Pedersen, M.A.H., 2020. Trans people have been hit hard by Covid-19 disruptions – here is why. Corona Times, 9 June. https://www.coronatimes.net/trans-people-hit-hard-Covid-19-disruptions. (Accessed 1 December 2022).

Phaswana-Mafuya, N., Shisana, O., Jassat, W., Baral, S.D., Makofane, K., Phalane, E., Zuma, K., Zungu, N. & Chadyiwa, M., 2021. Understanding the differential impacts of Covid-19 among hospitalised patients in South Africa for equitable response. South African Medical Journal, 111(11):1084-1091.

Pillay, J., 2023. Difficulties experienced by South African adolescents during Covid-19 lockdown: implications for early mental health interventions. South African Journal of Psychology, 53(2): 211-224. doi: 10.1177/00812463221133964.

Pillay, A.L. & Kramers-Olen, A.L., 2021. Covid-19, psychosocial issues, politics, and public mental health care. South African Journal of Psychology, 51(2): 293-303. https://doi.org/10.1177/00812463211015750

PMBEJD (Pietermaritzburg Economic Justice & Dignity), 2020a. Covid-19: Food and domestic and personal hygiene prices during March 2020. 31 March. https://pmbejd.org.za/wp-content/uploads/2020/03/Food-hygiene-data-during-March-2020_Covid-19_PMBEJD_31032020.pdf

_____, 2020b. The household food situation during Covid-19 and the nationwide lockdown: Observations from the supermarket floor, the waiting lines, the street, the spaza shop, the taxi, the home, the kitchen, the plate and the stomach. 8 April. https://pmbejd.org.za/wp-content/uploads/2020/04/Observations-from-the-supermarket-floor_Covid-19-lockdown_PMBEJD_08042020.pdf.

_____, 2020c. Food prices, social grants, and Covid-19. Research Report, 28 April. https://pmbejd.org.za/wp-content/uploads/2020/04/Food-and-Coronavirus_Research-Paper-28042020.pdf

PMBEJD (Pietermaritzburg Economic Justice & Dignity), 2020d. Food, hunger, and Covid-19. Research Report, 26 May. https://pmbejd.org.za/wp-content/uploads/2020/05/PMBEJD-Research-Report-26052020.pdf

_____, 2020e. Household affordability crisis: National Minimum Wage & taxi fare and electricity tariff hike, Research Report, 23 June. https://pmbejd.org.za/wp-content/uploads/2020/06/PMBEJD-Research-Report-23062020.pdf

Presidency of South Africa, 2021. Development of a Country Report on the Measures Implemented to Combat the Impact of Covid-19 in South Africa. South Africa Covid-19 Country Report [First edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria. https://www.gov.za/documents/south-africa-Covid-19-country-report-first-edition-june-2021-30-jun-2022-0000.

Posel, D., Oyenubi, A., & Kollamparambil, U., 2021. Job loss and mental health during the Covid-19 lockdown: Evidence from South Africa. PLOS One, 16(3): e0249352.

Quesada, J., Hart, L.K. & Bourgois, P., 2011. Structural vulnerability and health: Latino migrant laborers in the United States, Medical Anthropology, 30 (4): 339-362. DOI: 10.1080/01459740.2011.576725.

Robertson, L. J., Maposa, I., Somaroo, H. & Johnson, O., 2020. Mental health of healthcare workers during the Covid-19 outbreak: A rapid scoping review to inform provincial guidelines in South Africa. South African Medical Journal, 110(10): 1010-1019.

Rogan, M. & Skinner, C., 2020. The Covid-19 crisis and the South African informal economy: 'Locked out'of livelihoods and employment. National Income Dynamics Study–Coronavirus Rapid Mobile Survey (NIDS CRAM), Cape Town.

Ross, F., 2020a. Of soap and dignity in South Africa's lockdown. Corona Times, 8 April, https://www.coronatimes.net/soap-dignity-south-africa-lockdown/. (Accessed 2 December 2022).

_____, 2020b. Hope and History in South Africa's Pandemic. Covid-19, Fieldsights, April 21. Cultural Anthropology. https://culanth.org/fieldsights/hope-and-history?x-craft-preview=SCSgBFBGRl&token=hQHPIEULMJrkULddVxfmC-xgwvrQpXHL.

Rwafa-Ponela, T., Goldstein, S., Kruger, P., Erzse, A., Karim, S.A. & Hofman, K., 2022. Urban informal food traders: A rapid qualitative study of Covid-19 lockdown measures in South Africa. Sustainability, 14 (2): 2294. DOI: 10.3390/su14042294.

Saloshni, N. & Nithiseelan, N.R., 2022. Vulnerability of South African women workers in the Covid-19 pandemic. Frontiers in Public Health, 10:964073. doi: 10.3389/fpubh.2022.964073.

Scheibe, A., Gloeck, N., Madela-Mntla, E., Renkin, W., Shelly, S., Lalla, S., Kroukamp, L., de Beer, S. & Hugo, J., 2021. Towards Housing First and harm reduction: addressing opioid dependence and homelessness in Tshwane during the Covid-19 pandemic. South African Health Review, 2021: 243-253.

Scholz, N., 2021. Mental health and the pandemic. European Parliament Briefing PE 696.164 – July. EPRS (European Parliamentary Research Service): Strasbourg, France.

Shifa, M., Gordon, D., Leibbrandt, M. & Zhang, M., 2022. Socioeconomic-Related Inequalities in Covid-19 Vulnerability in South Africa. International Journal of Environmental Research and Public Health,19(17):10480. doi: 10.3390/ijerph191710480.

Sinyolo, S., Jacobs, P., Nyamwanza, A. & Maila, M., 2022. Women informal food traders during Covid-19: A South African case study. Agenda, 362: 63-76. https://doi.org/10.1080/10130950.2022.2082119

South African Social Security Agency (SASSA), 2022. Report on Covid-19 social relief of distress grant as at 30 June 2022. https://www.iej.org.za/wp-content/uploads/2022/07/Update-Report-for-the-Covid-19-SRD-July-2022.pdf.

Spaull, N. & van der Berg, S., 2020. Counting the cost: Covid-19 school closures in South Africa and its impact on children. South African Journal of Childhood Education, 10 (1): a924. DOI: 10.4102/sajce.v10i1.924.

Statistics South Africa (StatsSA), 2020. Mapping Vulnerability to COVID 19 (February 14). http://www.statssa.gov.za/?p=13875. (Accessed 11 June 2023).

_____, 2022a. Consumer Price Index: June 2022. Statistical release P0141.

_____, 2022b. P0211 - Quarterly Labour Force Survey (QLFS), 3rd Quarter 2022. https://www.statssa.gov.za/?page_id=1856&PPN=P0211&SCH=73291.

Stowe M-J, Scheibe, A., Shelly, S. & Marks, M., 2020. Covid-19 restrictions and increased risk of overdose for street-based people with opioid dependence in South Africa. SAMJ, South African Medical Journal, 110 (6): 434. DOI: 10.7196/SAMJ.2020.v110i6.14832.

Tawodzera, G. & Crush, J.,2023. A foreigner is not a person in this country: Xenophobia and the informal sector in South Africa's secondary cities. Urban Transformations, 5 (2). DOI: 10.1186/s42854-022-00046-4.

The People's Pantry (TPP), 2023. https://thepeoplespantry.org.za.

Thulare, M.H. & Moyo, I., 2021. Covid-19 and street traders in the City of uMhlathuze, KwaZulu-Natal, South Africa: On responses and adaptation mechanisms. Cogent Social Sciences, 7:1. DOI: 10.1080/23311886.2021.2006392.

Turok, I. & Visagie, J., 2022. The divergent pathways of the pandemic within South African cities, Development Southern Africa, 39(5): 738-761. DOI: 10.1080/0376835X.2022.2098089.

UNICEF, 2022. Number of Covid-19 orphans nears 150,000 in South Africa. Press release, 5 September. https://www.unicef.org/southafrica/press-releases/number-Covid-19-orphans-nears-150000-south-africa

United Nations, 2020. United Nations Comprehensive Response to Covid-19:

es, Protecting Societies, Recovering Better. Geneva: United Nations. https://www.un.org/sites/un2.un.org/files/2020/07/un_comprehensive_response_to_Covid-19_june_2020.pdf

United Nations, 2023. The Sustainable Development Goals Report 2023. Special Edition. https://unstats.un.org/sdgs/report/2023/

Van der Berg, S., Patel, L. & Bridgman, G., 2022. Food insecurity in South Africa: Evidence from NIDS-CRAM wave 5, Development Southern Africa, 39(5): 722-737. DOI: 10.1080/0376835X.2022.2062299.

Vorster, R., 2021. Interview via Zoom, 20 December, 2021, on Covid-19 [Interview for South Africa Covid-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation)

Wand, H., Vujovich-Dunn, C., Derrick, K., Moodley, J., Reddy, T. & Naidoo, S., 2023. Geospatial variations in socioeconomic conditions and health outcomes in Covid-19 era: insights from South Africa (2020–2022). GeoJournal, Mar 7:1–17. doi: 10.1007/s10708-023-10851-4.

Wegerif, M., 2020. "Informal" food traders and food security: experiences from the Covid-19 response in South Africa. Food Security, 12: 797–800. DOI: 10.1007/s12571-020-01078-z.

Wegerif, M., 2022. The impact of Covid-19 on black farmers in South Africa. Agrekon, 61 (1): 52-66. https://doi.org/10.1080/03031853.2021.1971097

Wills, G., Patel, L., Van der Berg, S. & Mpeta, B. 2020. Household resource flows and food poverty during South Africa's lockdown: Short-term policy implications for three channels of social protection. 2020. Wave 1 NIDS-CRAM Working Paper, No. 12. https://cramsurvey.org/wp-content/uploads/2020/07/Wills-household-resource-flows-and-food-poverty-during-South-Africa%E2%80%99s-lockdown-2.pdf.

World Health Organization (WHO), 2022. Mental Health and Covid-19: Early evidence of the pandemic's impact. WHO/2019-nCoV/Sci_Brief/Mental_health/2022.1. WHO: Geneva.

Zembe-Mkabile, W., 2015. Surrender, R., Sanders, D., Jackson, D. & Doherty, T. The experience of cash transfers in alleviating childhood poverty in South Africa: Mothers' experiences of the Child Support Grant. Global Public Health, 10 (7): 834-851. DOI: 10.1080/17441692.2015.1007471.

CHAPTER 5.4
GENDER EQUALITY

ABSTRACT

Since the transition to democracy in 1994, the democratic government has prioritised women's empowerment and gender equality culminating in the inclusion of gender equality in the 1996 Constitution. Subsequently, the government designed policies and programmes to ensure the achievement of women's empowerment and gender equality, particularly among the most marginalised, namely rural women, the urban poor living in informal settlements, and women with insecure livelihoods. The government's commitment to women's empowerment and gender equality was illustrated by the design of the National Policy Framework for Women's Empowerment and Gender Equality (NPF_WEGE) that listed priorities including dealing with HIV/AIDS among women. While HIV/AIDS persists, government interventions have ensured that women no longer die due to lack of medicine and treatment. HIV/AIDS prevention and control programmes, the anti-retroviral programme, testing and counselling, among other efforts, have all contributed to keeping HIV/AIDS under control. In the context of Covid-19, the government intervened in various ways to ensure that lives were saved. The national lockdown, the rescue packages designed by government for workers, and initiatives in communities were all interventions aimed at the prevention and control of the Covid-19 pandemic. Embedded in feminist politics and theory, and specifically gender and development, intersectionality and decoloniality, this chapter interrogates government interventions in the second year of the pandemic (2021-2022) to understand how these impacted women's empowerment and gender equality.

The chapter relied on mixed methods by means of conducting desktop reviews and the analysis of secondary data from datasets. The chapter also reports on the key informant interviews conducted with 35 stakeholders from government, civil society, and private sector. The qualitative data were analysed using content analysis to draw out key themes that focused on interventions by government and various stakeholders. The key themes discussed include women's economic empowerment during Covid-19; gender and human settlements, gender-based violence, and maternal health. The findings suggest that women's experiences of Covid-19 were varied. Women's experiences of empowerment and equality are also illustrated by their personal narratives. This chapter contributes to the growing body of literature on women's empowerment and gender equality during Covid-19. The recommendations move beyond interventions for women, to include the need for intentional planning by institutions, government and households for future emergencies and disasters such as Covid-19.

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ABBREVIATIONS AND ACRONYMS

APPs	Annual Performance Plans
ARV	Anteretroviral
BNG	Breaking New Ground
CAHF	Centre for Affordable Housing Finance in Africa
CCH	Capital City Housing
CCT	City of Cape Town
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
COGTA	Cooperative Governance and Traditional Affairs
CSG	Child Support Grant
CSO	Civil Society organisation
DHS	Department of Human Settlements
DWS	Department of Water and Sanitation
DWYPD	Department of Women, Youth and Persons with Disabilities
EC	Eastern Cape
EHAP	Emergency Housing Assistance programme
GAD	Gender and Development

GBV	Gender-Based Violence
GBVCC	Gender-Based Violence Call Centre
GDP	Gross Domestic Product
GIS	Geographic Information System
GRPBMEA	Gender Responsive Planning, Budgeting, Monitoring, Evaluation and Auditing
HDA	Housing Development Agency
HIV	Human Immunodeficiency Virus
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome
JOSHCO	Johannesburg Social Housing Company
KIIs	Key Informant Interviews
KZN	KwaZulu-Natal
LGBTQI+	Lesbian, Gay, Bisexual, Transgender, Queer and Intersex et al persons
NDHS	National Department of Human Settlements
NGO	Non-Governmental Organisation
NHI	National Health Insurance
NIDS-CRAM	National Income Dynamics Study-Coronavirus Rapid Mobile Survey
NPA	National Prosecuting Authority
NPF_WEGE	National Policy Framework for Women's Empowerment and Gender Equality
NT	National Treasury
PFMA	Public Finance Management Act
PPE	Personal Protective Equipment
PSV	Public Service Vehicles
RDP	Reconstruction and Development Programme
RRRP	Rental Relief Program
SADC	Southern African Development Community
SAPS	South African Police Service
SASAS	South African Social Attitudes Survey
SHRA	Social Housing Regulatory Authority
SMME	Small Medium and Micro-Enterprises
SOHC	Social Housing Company
SOPs	Standard Operating Procedures
SPs	Strategic Plans
SRDG	Social Relief Distress Grant
StatsSA	Statistics South Africa
TCCs	Thutuzela Centres
TERS	Temporary Employer-Employee Relief Scheme
TRA	Temporary Relocation Areas
TRUs	Temporary Relocation Units
UIF-TERS	Unemployment Insurance Fund-Temporary Employer-Employee Relief Scheme
UISP	Upgrading of informal settlements Programme.
UN	United Nations
UN-Habitat	United Nations Human Settlements Programme
WCP	Western Cape Government
WCSCU	Western Cape Settlement Control Unit
WYPD	Women, Youth & Persons with Disabilities

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CHAPTER

SCOPE/PROBLEM

The Covid-19 pandemic exposed the social inequalities that persist in our political economy as its implications have exposed South Africans to contemporary challenges such as wealth inequality, poverty, and gender-based violence, among others. South Africa's unemployment rate was high before the pandemic, the impacts of Covid-19 contributed to its persistence. Due to Covid-19, retrenchments, job cuts and businesses were forced to close because of the government's response to contain the spread of the virus which involved strict measures around social distancing leading to a national lockdown. During the October-December quarter of 2020, the unemployment rate increased by 1.7% to 32.5%. In Quarter 4 (2020) the number of employed people rose to 15 million and in the same period the number of unemployed increased by 701 000 to 7.2 million people (StatsSA, 2021). Thus, the Covid-19 pandemic increased the unemployment rate. However, Covid-19 had a gendered impact; women remained the most vulnerable to job losses compared to their male counterparts during this period.

To better understand the observed large changes in the key labour market indicators between Q3: 2020 and Q4: 2020, special tabulations were done to study movements between labour market status categories. It was observed that a large number of persons moved from the "other not economically active" category to "employed" and "unemployed" status (i.e. labour force) between the two quarters. The movement was proportionately more to the unemployed than for the employed, which resulted in an increase of 1,7 percentage points in the unemployment rate to 32,5%. This is the highest unemployment rate recorded since the start of the QLFS in 2008. Moreover, the labour force participation rate was also higher in Q4: 2020 as compared to Q3: 2020 as a result of these movements – increasing by 2,4 percentage points to 56,6%. The absorption rate increased by 0,7 of a percentage point to 38,2% in the fourth quarter of 2020 compared to the third quarter of 2020. The largest employment increases were observed in the formal sector (189 000), followed by the private households (76 000), the informal sector (65 000) and the agricultural sector (2 000) in Q4: 2020. Compared to a year previously, total employment decreased by 1,4 million, the number of unemployed persons increased by 7,5% (507 000), while the number of persons who were not economically active increased by 9,5% (1,5 million).

Women's high unemployment can be blamed on the patriarchal society where predominantly male occupations are more valued in the job market. Most women are employed in the informal sector where they earn less and receive few, or no social benefits. In addition, women experienced increased pressure from juggling parenthood and work responsibilities (White Paper for Social Welfare, 1997: 71). Discrimination against women persists in all spheres of life where women do not share

equal opportunities with men. Women are consistently portrayed as poor and remain the face of poverty in South Africa.

Globally, nearly 60% of women work in insecure informal employment (The World's Women, 2020). They earn, on average, 16% less than their male counterparts, and, as a result, they are 25% more likely to live in poverty than men (Parry and Gordan, 2021). In compliance with the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), the government, has, since 1994, put in place policies and programmes to deal with gender discrimination and inequality. Despite these attempts to deal with inequality, women remain disadvantaged compared to men (Parry and Gordan, 2021).

Although the pandemic caught everyone off-guard, women were more vulnerable to the impacts of Covid-19 than any other group, most specifically, females who were the heads of their households and who were employed in the informal sector. Such women lost their jobs due to the closure of these sectors or their work being deemed as non-essential. Furthermore, even women who owned businesses had to close them down due to government lockdown alert level regulations, and their inability to comply with such regulations because of a lack of funds.

Women, in particular, were more impacted by labour market changes and job losses (especially, women of lower income groups forming part of the informal job sector with little or no educational achievement), than men (from both the informal and formal job sectors of both urban and rural areas) and women of higher income groups who formed part of the formal job sector in urban areas (Komanisi et al., 2022). A previous study demonstrated how employment in the formal job market for women decreased by 59%, and 93% in the informal market, proving how women were disproportionally affected in the job market compared to their male counterparts. This was anticipated because industries immensely affected by Covid-19 and lockdown limitations (the closing down of businesses) employ more females than males.

The recovery, after lockdown, for women in the labour market has been considerably slower than that of men in the labour market. Women remained more prone to job losses during the pandemic than any other group; women experienced 30 per cent of job losses, but men experienced 20 per cent of the job losses. Women with tertiary education experienced roughly the same level of job losses as males with no matric or only a matric (Komanisi et al., 2022). Women's academic achievements did not protect them from the impacts of Covid-19 and job losses.

Parry & Gordan (2021) note that, because of the outbreak and job losses, most fathers failed to pay monthly child maintenance. The challenges that arose as a result of these missed payments burdened the primary parent who, in most cases, was the mother, grandmother or aunt who took care of the child or children. Another alarming effect of the pandemic was that most women had to give up their jobs (which were their main source of income) to care for their children because of the closure of schools. It was practically impossible for these women, especially those who did not have a strong supportive family structure, to find someone willing to care for their child or children. Women who did not have the option to work from home, had to rely on social grants from the government to sustain themselves and their families (Parry & Gordon, 2021).

The interventions put in place to lighten the burden of the Covid-19 pandemic on households consisted of R502 billion, of which R40 billion was allocated to wage protection through the UIF (Bhorat et al., 2021). However, this failed to reach women employed in the informal sector

as they do not contribute to the UIF fund. The government should have made provisions in their budget for people employed in the informal sector of the economy.

There was also a need to consider gender and the socioeconomic conditions of people in the design and implementation of interventions to ensure equitable outcomes (Komanisi et al., 2022). Particular attention should have been paid to women in the informal job sector residing in poor communities who suffered job losses due to the pandemic.

Women health care workers (nurses) remained at higher risk of contracting Covid-19 than most, due to having to treat infected patients in their occupational settings as caregivers. This contributed to elevated levels of stress and anxiety from a fear of contracting the disease. Furthermore, they endured added stress from working longer hours in hospitals due to the rising numbers of cases (Saloshni and Nithiseelan, 2022). In this discussion, it is crucial to demonstrate the psychological impacts of women's exposure to job losses during and after the pandemic. Women workers who endured job losses and lowered income earnings (especially women who were the sole providers in their homes) experienced increased stress and anxiety as a result of the intensified pressure to provide for their families during this challenging time. Furthermore, their duties of domestic care, such as cooking and caring for children while having to work, contributed to their stress. This was especially challenging for women health care workers, who had to work longer hours to treat infected patients, while also having to fulfil their domestic duties.

The Covid-19 response workplace and social interventions that were supposed to assist workers bear the responsibility for this matter, for not being inclusive and effective in addressing women's needs, so further heightening their vulnerability to Covid-19 impacts (Saloshni and Nithiseelan, 2022). To address this matter, there is a need for the national occupational health surveillance system to support women workers' needs more. Furthermore, NGOs' functions and systems need to be inclusive of the informal sector, as this is where most women workers in SA find themselves. Most significantly, there should be easier accessibility to financial support for women (i.e. grants, or capital funding for small business ventures). Beside these measures, the child support grant should be increased, and the Covid-19 relief grant transformed into a basic income support grant to which all low-income South Africans retain access (Saloshni and Nithiseelan, 2022). The current amount of R350 needs to be raised. Lastly, there is a need to ensure job security for women workers by providing them with supportive work environments that encourage skills development. This will allow them to compete with their male counterparts for permanent positions in the workplace (Saloshni and Nithiseelan, 2022).

From this discussion, we can comprehend how the impacts of the pandemic contributed to the increased stress, anxiety and depression of most women who endured job losses. In particular, women health care practitioners were under immense pressure at hospitals to treat infected patients, as the rise in Covid-19 cases continued to spiral. Most significantly, this paper helps to foster comprehension of the patriarchal society we live in. This was made evident by the gendered impacts of Covid-19, which affected women more severely than men. This demonstrates how the Covid-19 crisis (which comprised job losses) was experienced differently for men and women. It illustrates how women were subjected to job losses and unemployment on a larger scale during the pandemic than their male counterparts, because of their occupations and childcare responsibilities. To address the disparities in

employment between men and women, skills development should be prioritised so that women are able to compete for men's positions in labour. This paper, explores the role of gender in the experiences of the effects of Covid-19 in South Africa, especially where employment is concerned. Gender Equality is an elusive ideal, and this deals with women's empowerment and gender equality during the Covid-19 pandemic. The conceptual framing embedded in gender and development (GAD) and intersectionality, and these are valuable theoretical lenses to critically analyse interventions and responses to the Covid-19 pandemic (Ndinda et al, 2021). The chapter draws on the concept of decoloniality which requires a nuanced interrogation of whether the concept of **'equity and development'** is a 'just' approach to responding to lived realities of largely poor, black people, and, in particular, women. Therefore, in addition to the Gender and Development some question the transformative potential of the assumptions related to this approach.

The chapter focuses on themes similar to the first edition, namely gender and human settlements, gender and unemployment, maternal health, and gender-based violence. However, new sections focusing on the utilisation of space within the home and what this meant for women and children is introduced. The chapter also includes a section on women's economic empowerment and interrogates whether things could have been done differently to ensure that women emerged economically stronger from the pandemic. The objective of this chapter is to document the impact of Covid-19 on the efforts to achieve women's empowerment and gender equality throughout the pandemic. The challenges experienced in drafting the first report were also experienced in drafting this chapter. These include accessing data from critical departments such as the National Prosecuting Authority (NPA), the National Department of Health, and the National Department of Justice and Constitutional Development and the Department of Social Development. In the previous edition, there were problems with receiving data and specifically disaggregated data, these challenges continued with this edition.

In Phase 1, R 1,7 million funding was provided across 3 areas of focus, namely, the **national GBV Command Centre** to assist in handling the increase in GBV related calls; supporting 78 existing victim shelters under the National Shelter Movement and 55 Thuthuzela Centres (TCCs) to increase access to safe spaces and GBV services for victims, as well as implementing a communications campaign to increase the dissemination of critical information. Additional money was allocated for the second year of the pandemic. According to the NIDS-CRAM survey (Spaull et al., 2021), women's employment in March 2021 remained at 8% lower than pre-pandemic levels, while men's employment seems to have recovered fully. Women were also faced with the scourge of rising gender-based violence.

Methodology

A mixed methods approach was used that included a Literature review (including a desk-top study) and secondary data on quantitative surveys such as NIDS-CRAM, Stats SA and SASAS 2018 were also used to provide statistics on women's empowerment before and during Covid-19. The study was granted ethics approval to collect empirical data among government officials and stakeholders involved in dealing with the Covid-19 pandemic. In line with research ethics, the stakeholders were asked for their consent to participate in the study. The key informant interviews were conducted using the existing digital platforms. Stakeholders were provided with a virtual link and on the scheduled date and time the stakeholders connected. The

research team used the virtual platform for audio recording and auto transcription. The research team used purposive sampling to arrive at the list of targeted stakeholders. However, the snowball sampling technique was also employed because stakeholders referred the research team to more participants in their networks (Ndinda et al, 2018). The final list of stakeholders was reached through purposive and snowball sampling techniques (Ndinda et al, 2023).

Key informant interviews (KIIs) were conducted with different government departments, civil society organisations and architects. Government departments included human settlements, labour, National treasury, department of health, national Home Builders Registration Council (NHBRC), National Housing Finance Corporation (NHFC), Local government (Ekurhuleni), ward councillors (2), Department of International Relations and Affairs (DIRCO), Housing Development agency (HD_A). Civil society organisations included the South African Council of Churches (SACC), local non-governmental organisations working with migrants and refugees, vulnerable groups such as children and sex workers, Muslim clerics, academics involved in migration, rehabilitation of addicts and representatives of homeless shelters in Durban and Cape Town. Architects were specifically targeted because of the chapter on human settlements. The interviews were recorded and transcribed verbatim using the digital platform auto transcription device and also electronic recorders. The researchers took separate notes during the interviews, and these allowed them to probe beyond the standard questions to get details, explanations and clarifications of experiences and interventions implemented during the Covid-19 pandemic (Ndinda et al, 2018).

While recording with the digital platforms was useful and efficient, the auto transcription programme was unable to decipher the accents and names of the researchers. The auto transcriptions were incoherent due to distortions of African terms because the programme attempted to anglicise them. The pronunciation of English words in African accents resulted in distortions of the text because the auto transcriptions were incorrect. Exclamations in African accents and words emerged as mistakes in the textual data. The original auto transcriptions were edited to remove the distortions and mistakes made by software designed to decipher Anglo-Saxon terms and accents. The researchers listened a second time, to the recordings to correct the mistakes made by the auto transcriptions. A comparison between the unedited transcripts and the edited ones shows the linguistic errors but this paper uses names as an example to illustrate the challenge of using the auto transcription facility in virtual platforms (see table 5.4.1). The interviews conducted illustrate that the auto transcription devices are designed to decipher Anglo-Saxon terms and pronunciations but not English spoken in local African accents such as Zulu, isiXhosa, Swahili or Asian accents. Worse is the fact that even African names were auto transcribed not as names but as a series of English words. To decipher African words, the auto transcription breaks the sound into English words, thereby in distorting African words and English words pronounced in African accents.

Table5.4.1: Auto transcription of African names by virtual digital platforms.

Name	Auto transcription
Khumo	crewmember Mizzou
Adebayo	bio Atlanta
Karabo Mohapanele	Scott happen
Zintathu Mazamane	is in touch with my family
Shozi	Sean zu

Audio recordings from electronic recorders transcribed word-for-word, manually and the African names and words were accurately captured. The different transcriptions were coded to ensure anonymity of the speakers (Ndinda et al, 2018). Descriptions of the key informants rather than their names are used. This is to protect confidentiality in line with research ethics. The study used content analysis to draw out the themes emerging from the interviews. The data was coded using the key questions asked in the study. These included: what was the impact of Covid-19 in each sector; impact on work, impact of living arrangements, housing needs and gender-based violence. Within the key codes, sub-codes were identified, and these were grouped into categories and then key themes. The themes that emerged are reported in this chapter.

Table 5.4.2: Summary of Stakeholders interviewed.

Sector	Male	Female	Total
Government departments	17	5	22
Architects	7	5	12
Civil Society	10	8	18
Total	**34**	**18**	**52**

FINDINGS

Employment/Unemployment

By March 2021, the number of employed adults over 18 years was 18 529 993 (8 248 219 women and 10 281 774 men). The percentage of those employed was 43.8% women and 60.2% men.

The real median monthly income earned in the same period (March 2021) was R3 837. The gender differences indicated women's median monthly earnings were R2 878 and men's earnings were R 4 796 (Casale & Shepherd, 2021). While gender-disaggregated data are available for the mean number of hours worked per week, the hours do not account for the hours that women spent on child-care and other domestic chores because they did not have access to support or could simply not afford this during the Covid-19 lockdown.

The introduction of the Unemployment Insurance Fund – Temporary Employer/ Employee Relief Scheme (UIF-TERS) in April 2020 helped to provide income support to workers who were unable to work due to the national lockdown introduced in the same period. The lockdown was implemented in five phases. Women were, however, under-represented in access to the Covid-19 Social Relief Distress Grant (SRDG) of R350 per month. The SRDG was announced in May 2020, and it targeted unemployed adults who were not eligible for the UIF or any other type of grant. About R2.5 million people (from NIDS-CRAM respondents) received the grant by May 2020. Among these, 37.6% (922 522) were women. By January 2021, about 5.4 million people had benefitted from the SRD grant. Among the applicants for the SRDG, 40% were women and 37.3% of these were successful with their application. Women remained under-represented among the beneficiaries, and only 35.7% (i.e., 1 909 754) of women accessed the SRDG. By March 2021, 40.4% of the applicants for the SRDG were women and of these, 36.5% were successful with their applications. About 36.1% of women eventually accessed the SRDG in March 2021. Since its implementation, the female applicants of the SRDG were fewer than the male applicants. Among those who were successful, female beneficiaries were fewer than males. Although more women were unemployed, they did not apply for the SRD grant because they could not hold the SRDG concurrently with the Child Support Grant (CSG). Most women receive the CSG for children's needs, but this, too, was hardly sufficient to cover children's needs. The CSG of R460 per child was less than the R585 required to cover food costs per child, living below the poverty line in 2020 (Casel & Shepherd, 2021). The exclusion of women receiving the CSG from accessing the SRD ended up penalising poor, unemployed women caring for their own children (Casale & Shepherd, 2021). The increase of the CSG to R500 per caregiver, rather than per child, was still insufficient to meet the food requirements of each of the vulnerable children that the grants were intended to support.

The CSG remains insufficient for meeting the monthly food needs of children living in poverty. Tying the social protection of poor unemployed women to the needs of their children overlooks the vulnerability of the women and entrenches their poverty and destitution. Viewed from a neo-liberal perspective, allocating CSG is a strategic move of the state, as children are viewed as future assets who may contribute to the productivity and growth of the country, yet while their mothers remain unemployed caring for these future assets of the state, their labour is unpaid and unrecognised. If the children were to be placed in state institutions for care, the state would pay the caregivers. From a Marxist feminist perspective, women's childcare work needs to be remunerated.

The unemployed men and women without access to the CSG were eligible for the SRD. The exclusion of unemployed mothers who accessed the CSG from the grants accorded to child-free adults can be viewed as a form of discrimination which might then lead to women delaying, or declining, to raise children, if having children is a factor which is used to restrict them from accessing opportunities.

Women's' Economic Empowerment

During the Covid-19 pandemic, billions of rands were disbursed to big-businesses, government agencies and formal firms for the prevention and control of the epidemic. What was, however, not considered was the fact that most women's enterprises operate in the informal sector which was not allowed to operate as normal, and most enterprises are small and survivalist by nature, and were therefore ineligible to tender for the provision of goods and services from government at a time when the economy was shut down. The reality of women's economic situation calls for a different approach which ensures the redistribution of resources during disasters and emergencies such as the Covid-19 epidemic.

Concerning the economic impact mitigation measures, several relief funds were introduced. These included the Spaza Shop Support Programme, SMME Debt Relief Facility, TERS, Agriculture Relief Fund, Tourism Relief Fund and the Arts and Culture Relief Fund. The funds benefitted more than 18 million women – whether these were rural or urban women is not clear. Based on the information that has been obtained on the various relief measures, women received a cumulative total of R80,522 billion transactions in social and economic relief from April 2020 to August 2021. The Social Relief of Distress Grant benefitted 96% of women out of the total of 142 609 beneficiaries who benefitted from the grant, amounting to R22 million. This grant was closed from April 2021 until President Cyril Ramaphosa announced, on 25 July, that the grant was being reinstated up until the end of March 2022.

Gender and Human Settlements

Housing and human settlements in general were central to the control and prevention of Covid-19. When the government declared the state of disaster, it announced that all citizens were confined to their home space unless individuals were part of the essential labour force. Movement was allowed for the purchase of essential goods such as groceries, clothes for babies, the collection of social grants or pensions, the purchase of essential or chronic medication, and the need to attend a funeral. Law enforcement officers were allowed to screen individuals providing essential services for Covid-19, and to deny such individuals entry into premises where they could spread the virus. The only gatherings allowed were funerals, and to conduct these, permits were required from the SAPS. The number of people attending burials was limited to 50 individuals, comprising only the next of kin and those very close to the deceased.

The conceptualisation of adequate housing in South Africa not only refers to the dwelling and infrastructural services required within it, but also to the social and economic services that support life. These include social and economic amenities, transport and road networks, and the transportation system as a whole. Most households in the country rely on public transport, and during Covid-19, access to public transport was limited to public service vehicles

(PSV) such as buses and taxis that were required to ferry essential staff to and from work. These vehicles were required to transport half their carrying capacity to allow for social distancing with a view to reducing infections among the passengers. The public health officials were also on site at bus and taxi ranks to provide sanitiser for the hands of passengers boarding the public vehicles. Mini-buses and taxis were required to transport not more than 70% of their carrying capacity, and personal vehicles were not allowed to take more than 60% of their carrying capacity. As a result of the lockdown, most of the activities that were previously done in the workplace, educational institutions, factories, or even the private sector were either stopped, or were transferred to the home space. The effect of most activities being confined to the home space impacted women in a range of ways. Women were expected to continue carrying out their productive and reproductive activities within the home. The women who could work online were required to put in their full day's work while also caring for their children and the elderly.

Home and Work Environment

The impact of the Covid-19 pandemic on the living arrangements of households is aptly captured in the response of an architect who described her own situation which, in terms of household size reflects the numbers that homes (regardless of size) were required accommodate. Working from home affected both parents and children. For children who shared bedrooms and had to continue with virtual schooling, parents had to incur the expense of procuring earphones to block out noise from others in the household. The limited space within homes had to accommodate all household members concurrently. The use of space for fulltime work and schooling (not homework) was new and households had to deal with the challenge.

> Personally, having a family of four kids and my older boy was in matric during 2020, I had four kids doing some form of homeschooling while I'm working from home and my husband and it's all in one home, so it was very challenging...Unfortunately the space isn't always available... the first thing I had to go and do is go buy headphones so that we can't hear their online teaching happening... The girls were sharing a room, so they couldn't hear each other. So, ...you kind of grab whatever is available... in many homes changed from being a workspace/bedroom to allow for meetings to happen because often both parents would have to be home, and both might be in a Zoom meeting at the same time, so you can't be in the same space. So, although open plans of homes are great, they can become really challenging when everybody is suddenly home. So, I think that's just a little pointer in terms of the multi-functional... you need a cellular space within your home to really work...I think adaptability ... bedrooms are not just bedrooms anymore, they kind of double up as offices. I can imagine when people with younger children, it's even more challenging, ja. It's, I'm not sure how easy it is for architecture to be able to respond to this. It's going to take time. And in terms of urban design, obviously there's a huge issue where offices are not necessarily the place where people work anymore. (White Architect, academic & mother).

Adapting to the 'new' norm of working and living life from the home compelled architects and households to reflect on the multi-functionality and adaptability of existing and future homes. While reflecting on home design to accommodate increased use by all household members, was the notion of office spaces and their functionality and relevance. Reflecting on the home designs also compels architects to reflect on office spaces and the adaptations required to align with the new reality of working from home. A critical concern was parents working from home while also caring for young children. While women carried the burden of care for children, the sick and elderly, employers required them to sustain their productivity.

Prior to Covid-19, working women's lives were characterised by the double shift where the day job was performed outside the home. After

work, women and parents carried on with their household chores and care work within the household. The Covid-19 lockdown collapsed the day and evening shift into one. Women and parents in general carried out their paid work while concurrently performing their household chores. This was aptly encapsulated in an interview with an African female architect:

> In having Zoom meetings with people, I saw sort of babies and toddlers pop up on the screen where, you know, you get this chance to picture this person as just sort of a real holistic full human, and not just someone who sits in a seat at their job. So, I think that that was pleasant. You know, I think that people go through quite a lot actually to, when they're in the workplace, not engage with the fact that they're a mother or, you know, sort of compartmentalising themselves and their lives in a way that we just weren't able to during Covid. I think, I mean, it was just sort of a funny thing that everyone had to navigate day-by-day (African female architect).

Whether the Covid-19 lockdown and working from home erased the compartmentalisation of women's lives remains subject to debate. Both the paid work that was previously performed in the public domain and the household work performed in the private domain of the home were all transferred to the home during the lockdown. The requirement to avoid the public domain and the confinement of everyone in the private domain increased pressure on women and left them with little or no way out of the pressure.

The Covid-19 pandemic radically changed the way work is done. Prior to the pandemic, executives spent hours driving and flying from city to city to attend meetings. Shifting work to the virtual space has profoundly affected how and where work and important decisions can be made. An architect, who is also a mother, shared her experience of working from anywhere:

> It definitely increased our efficiency, absolutely. I think the time that I used to personally spend on the road driving from one meeting to the next, I didn't realise the amount of stress that it would put on me, but it did, and I felt the difference when I started working from home. I was able to balance my life better because I wasn't sitting in traffic and building frustration just because I needed to be somewhere and I couldn't get there, you know. I've seen people pull off on the roadside or find a safe spot to hop onto their Zoom, you know, we can accommodate in so many -- in a much better way (Indian Architect & mother).

A government official also shared the importance of shifting work to the virtual space and indicated that remote working arrangements had made it much easier to make decisions that would previously have taken much longer because officials had to all be present in a particular physical space. Thus, remote working arrangements not only increased efficiency in decision-making, but also in the implementation of projects. The shift to remote working arrangements increased government reliance on technology, as well as increased the interdependency between different levels of government. A HDA official shared the following:

> It really amplified the need for technology and the technological capabilities that we have. Some of these technologies, we've had them… We've had the drone for the longest time, but the way we were required to do work and create dashboards… You were required to give loads, load and loads of data to the decision making, the politicians and the senior officials as quickly as you could gather the information. So, the skill that became more needed, which was scarce, was that one of spatial information and analysis, as well as that one of the GIS, Geographic Information Services because everybody needed to know where… Where is it happening and where are the red dots…? When they say that Gauteng, you know, the curve is going up, which areas, which informal settlement in Gauteng, which metros, which municipalities? So, the people that deal with information and data and data analysis, you know, that Unit that you never used to care about, the research people, the monitoring and evaluation people suddenly became very important people because we needed information in order for us to make decisions quickly. So, that is now something that then exposed the fact that, you know, some skills are scarce, like you have one or two people that are

> able to manipulate information and data in that manner. So, I think... But in terms of your engineers and your normal town planners and all of that, that did not affect us much (KII_HDA).

The health consequences of the Covid-19 pandemic were severe on individuals, households, and the South African economy. What should be noted, however, is the fact that workers from all levels were forced, within a short space of time, to be innovative and utilise the technology and spaces available to continue with the delivery of services. In the case of the Housing Development Agency (HDA), the realisation that more researchers and GIS specialists were required at a time when the travel between cities was banned came not only as a sobering reality, but also an indicator that the skill sets required for the sector in the post-Covid-19 period would include data scientists, GIS specialists, and would radically shift how settlement planning was done to ensure that it was in sync with the shift to remote work and related technological requirements. That is not to say that site visits would cease but that the reliance on technology, even during site visits, would increase.

The shift to remote working arrangements meant that work was no longer confined to a specific space but could be carried out from anywhere. Covid-19 and the subsequent need for the development of temporary residential units on appropriately located land in cities and municipalities revealed that there was not a single database of all the vacant land in the country. As the HAD official shared about the positive impact of Covid-19:

> It forced us to work faster. We needed land, and we needed to package that land, which means service it, and then we needed to release that land for housing delivery. In certain projects we did very well taking into consideration that, under normal circumstances, it takes us 18 to 24 months to do certain things that we were able to do within those 12 months. So, I can say it impacted us positively. But what it has brought to bear was that we need to be ready all the time. You know, we should not be working under panic when such pandemics hit. We should always have a pipeline of land that has been maybe serviced, or something like that (KII: HDA).

The task moving forward was then to develop a database of all the vacant land and identify the infrastructural services available and required for the development of human settlements. The Covid-19 lockdown resulted in the need for creating and updating the lists of all vacant land within municipalities, cities, and rural areas to improve planning and housing delivery. For the practitioners in human settlements, Covid-19 meant that the sector had to conduct scenario planning for the worst-case scenario in addition to keeping updated risk registers. Planning for the worst would ensure that the human settlements sector was not caught unprepared as it had been during the Covid-19 pandemic. The pandemic not only impacted on the sector, but how life was conducted within the home to which everyone was confined, as a result of the disaster regulations that required staying at home and working from there as much as possible.

Juggling care roles with working from home

The requirement to stay home meant that those whose jobs could only be carried out within their workplaces were either retrenched, received half pay, or had to cease working until their sectors were allowed to commence work. Women who could work from home were required to put in their full day's work while caring for the young and elderly. Some of these women were educators who were required to continue teaching virtually and they carried out their work from home. However, working from home was a double-edged sword.

On the one hand, women were able to spend more time with their children while also working from home. Parents revealed that

they learned a lot about their own children with whom they had shared the same space prior to Covid-19 and did not have sufficient time with them. A participant noted, *"I had to schedule my day so that I could accommodate what needed to be done with the kids with homeschooling and fit in my meetings... I would position myself somewhere where I could be working on my computer, but I could see both my kids' screens, so I knew what was going on, it was multitasking"* (Indian Architect & mother). Spending time with their children helped them to understand their children and also to assist them with learning challenges. While working from home, women were able to keep an eye all their children as they were within a visible range and under the same roof.

Women found ways to adapt to this new way of life. For example, Nadira says, *"And there were times when my husband was on a meeting and the kids were on their computers in two different classes, in two different grades being home schooled by their teachers, and I was in a meeting on my computer. So, it was extremely different, but we also adapted our space to accommodate..."* (Indian Architect & mother). Women had to adapt to working from home while also caring for children and supervising their schooling in environments that were not intended nor designed for schooling. Within the home the furniture was not suited to full day schoolwork. Children living in social housing and high-rise apartments had little or no space in which to play due to the of the lockdown.

Multi-purposing of spaces

Prior to the pandemic, homes were used for rest and relaxation. Work was done outside the home (public sphere) and the home was the private sphere where the family rested from work or school while caring for the young, elderly and invalids. With the announcement of the national lockdown by President Ramaphosa on 27 March 2020, the distinction between the public and private spheres was erased and has remained blurred ever since. Given that the home was primarily not a place of work or schooling prior to the Covid-19 lockdown, the design, furnishing, and colours used were not conducive to schooling from home. Children (adolescents) lack concentration during online learning from home as they are confined to their bedroom space which, because of the national lockdown, for personal use and for schoolwork. The pandemic therefore caused the bedroom to function as both a bedroom and a workspace. The colours, spaces and furniture were neither conducive to concentration nor work even during virtual learning sessions.

Prior to the Covid-19 pandemic, most work and schooling occurred outside the home. The Covid-19 lockdown resulted in work and schooling being carried out in the home and this had implications for home life. Whereas the home was previously for rest and relaxation, the home became a place of work, schooling, caregiving and also rest and relaxation. Combining all these functions was not only challenging, but also caused tension within the home as members had to scramble for the limited space and appropriate it, making it functional for work or schooling. While households with larger spaces could re-organise these and adjust the spaces to the new reality of working, schooling, and living within the home, re-purposing of smaller units, apartments, subsidised and social housing units, was much more complex. Re-purposing space in informal settlements was either impossible or completely out of the question. Thus, the requirement to shift life, work and schooling to the home profoundly impacted everyone depending on the spaces they called home.

The home space was shared by everyone at the same time. During the lockdown, parents prioritised children, and the space available was allocated to them to enable them to continue

with virtual classes. The interactive nature of virtual learning meant that children in different grades had to each find their own space to avoid interrupting one another during lessons. While children in larger homes were able to continue with their lessons virtually, and without many interruptions, space constraints for children in smaller housing units were disadvantaged. For such children it meant using every space available, relying on headphones and earphones to continue with their schooling. In the midst of all this, the parents, and particularly mothers, had to oversee the virtual schooling of their children within the home. For some parents, this meant carrying out their household chores as they worked and watched over their children.

The task of working and schooling imposed additional requirements for that could not be used for work and schooling during the lockdown and the post-Covid-19 period. Parents had to spend more time home-schooling children in a period of limited work and income. Parents had to strategise around how to continue with their work from home while also caring for their families. Mothers were particularly constrained as their work increased and it meant additional household work in the absence of domestic workers. A female architect and mother who had to work from home shared that she had to procure headphones to cancel out the noise from her four children's online learning sessions (KII_White Architect_Mother). The schooling of children from home and attendance of virtual meetings was challenging when the whole family was at home having to attend online sessions at similar times. The concurrent virtual sessions impacted one's concentration, as the noise emanated from everyone in the house, so the clashes with family members were numerous. Multi-tasking thus kicked in, and there were instances when women workers would be cooking as they attended virtual meetings, as that was the only way they could balance their roles. The pandemic forced parents to multitask when it came to work and home life. Combining work with child-care was a difficult balancing act. A young female architect shared her experiences, indicating that, during serious meetings, she would see her colleague's children pop up on the screen while she was attending a work meeting. Children were always in the background.

Due to the pressure of homeschooling children during the Covid-19 lockdown, many mothers from rural communities and townships depended on their older children to care for the younger ones (as the mothers could not handle all these child-care responsibilities on their own). Home-schooling was difficult for many mothers as children needed to be assisted to use their learning materials to aid their understanding, and this was time-consuming for most mothers who had other work commitments. In light of this, however, the lockdown brought families, especially mothers, closer to their children and allowed them to bond more, as they spent more time together. This was especially the case with mothers of primary school children. A young architect noted that before the pandemic she would spend her whole day at work and only had a little time with her kids at night. Because of the lockdown, she felt as though she had come to know them better, because she spent more time with them, learning more things about them. This was especially the case with her son, who she did not know much about, before the lockdown. Class differences also impacted how schooling children from home occurred.

An architect, mother and practitioner involved in designing subsidised housing units noted that coping with Covid-19 requirements for working and schooling from home was complicated and almost impossible. It was difficult for a household of 4 to 5 individuals to work and live in a 36-metre home (typical size of most RDP houses). Working women had to supervise home schooling for their children while working from home. Architectural

design recommendations included providing a stove, a fridge, and a proper working table to households, so that they have the proper facilities to prepare meals quicker, limiting their cooking time, and allowing them to fulfil their job obligations.

The role of architects as mothers during the pandemic resulted in some valuable recommendations on how housing designs for the low-income households might be improved for future pandemics, without spending too much on existing dwellings. For integrated residential development programme (IRDP) units, typically referred to as RDP houses, the architects recommended that such dwellings might be improved by installing larger windows providing expanded views of the outdoors and allowing more sunlight into the room. One architect and mother referred to various studies which had shown that modifying dwellings to bring more of the outside to the inside had positive effects on children such as stimulating the brain and ensuring that children were more productive. The practitioner and mother noted that post-Covid-19 designs for low-cost homes should consider online learning in their designs and ensure that there is enough space for a desk in children's bedrooms so that they can have an adequate working space. Another architect with young children recommended the use of desks placed strategically in the available spaces within the home to ensure that schooling and work for the parents continued despite space limitations. Recommendations for multi-purposing the available spaces also include the procurement of multi-purpose furniture in the bedrooms and living room, such as beds, which could then be utilised as desks during the day.

To a limited extent, Covid-19 brought about some gender transformation in a way that laws and legislations had failed to do. Among the most conservative men, the reality of not having domestic workers during the lockdown, alongside schooling children and their spouses working from home, meant that everyone in the household had to step up and contribute to making life work during the lockdown. Thus, some men, who would not have conceived of being involved in domestic chores, out of necessity began to participate in certain tasks, such as washing, cleaning, preparing meals, etc. A female architect with young children shared:

I can tell you from my perspective that it was extremely daunting to suddenly realise that I had to steer my business through the unknown whilst schooling my kids and, you know, without my helper at home. It was a complete and utter shock to my system. It took a little while for me to really absorb that- now what I'm doing. I was lucky also because my sister who is a teacher was -- she stayed with me for a few months whilst we got on our feet and actually adapted ourselves to this new lifestyle. In my case my husband runs his own business so we could adjust our schedules to fit in with online schooling needs and all of the other needs that came up. And I know that this is not the case for everyone, but for me, personally, I have seen the men in my family and my close circle of friends really step up and share responsibility. It was, you know, from my perspective it was, you know, everybody does what they need to do to get it done, and I don't think the lines really were blurred. We are much further with equality and what equality really means now than we were before. There's not, you know, I know this is not the case everywhere. I can only speak to what I've seen, but I've seen men do what they needed to do to make sure that everything ran smoothly; that the machine was, you know, continuing on its journey and that is remarkable (Indian Architect & mother).

The notion that the pandemic had moved the country closer to gender equality in the home than in the pre-Covid-19 period is interesting. However, what is striking, is that in a period of disaster and crisis, households had to keep running efficiently in the absence of domestic workers, and it no longer mattered whether it was the mother or father of the household that

got the work done. One might conclude that necessity then contributed to shifting attitudes to equality within the home, and the focus for feminists then is on how to build on the gains made because of Covid-19.

There were a lot of obligations for women during this period, including working from home, caring for kids and the elderly, and doing chores and housework. This increased pressure on women can be blamed on the gender expectations and roles that have become embedded into society's perceptions of gender ideals which trace back to our historical past. Women are obligated to do housework because of the association domestic work has with being a woman. It is important to note that society did not view housework as work, therefore women were expected to fulfil this obligation while still being expected to fulfil their work commitments. This increased pressure on women in their day-to-day lives.

Housing needs of persons with disability

Covid-19 exposed the extent to which the country still has to go to address the needs of persons living with disability. Despite the work that architects did in designing spaces for persons with disability, accommodating the needs of visually and hearing-impaired individuals through housing units and design has always been a major challenge. When architects are provided with the brief to design units for persons with disability, the brief is often general, and tends to focus on physical disability. Other forms of disability such as hearing and visual impairment needs are often neglected. As an architect noted, “If you use certain materials that allow sound through, there’s a lot of white noise that transfers, and often you would find that if you had better sound control within ...or better acoustics within the space, you wouldn’t have that kind of noise that comes through and disturbs a person’s ability to hear what the instructor is saying” (Indian Architect & mother).

Thus, the universal design for subsidised housing allocated to disabled persons does not consider the diversity of disabilities, or even the specific needs of the targeted beneficiaries which are included in the subsidy application form. The challenge then is for the officials allocating the units to specify to the architects the types of disability that beneficiaries have, so that the design can accommodate their needs. In terms of housing design for persons with disability, there have to be different approaches as the one-size fits all does not work; “there isn’t a one size fits all but I really believe that just changing specifications could actually result in a universal unit, whether it’s an RDP or whether it’s a classroom, there’s just certain specifications that need to be changed, tweaked to accommodate bearing these things in mind”(Indian Architect & mother). Thus, subsidised units need to be designed to accommodate the needs of persons with hearing impairments, visual impairments, and mobility impairments, among others, to allow individuals to live independently. The design

needs, particularly for the visually impaired, are not only limited to the dwelling itself, but also extend to the neighbourhood design which should facilitate the independent movement of the visually impaired through the provision of clear footpaths, traffic signs that include braille and other assistive public devices.

During the Covid-19 lockdown, the communication of messages about the prevention and control of the pandemic failed to reach the visually impaired. These messages contained in posters were not translated into braille, and were not, therefore, effective in reaching visually impaired individuals who could not read the public messages. Prior to the pandemic, people did not hesitate to help a disabled person (if they needed guidance on walking or assistance with their wheelchair, etc.); however, during the Covid-19 pandemic, people were hesitant to help persons with disability, for fear of contracting the virus.

The social support of persons with disability is provided by the Department of Women, Youth and Persons with Disabilities (DWYPD) while the housing needs are addressed by the Department of Human Settlements (DHS). Although persons with disability are prioritised in the allocation of subsidised housing, the DHS does not deal with housing needs for the disabled on a case-to-case basis. When architects are issued with projects to build for persons with disability, they simply use the universal housing design for persons with disability, instead of building on a case-by-case basis:

So, in both cases we didn't deal with the end users directly; we were given a list of people that would be occupying these 20 houses, and we were given an indication of what their specific disability was. So, that is where the journey started into trying to understand or trying to develop a prototype that was universal, because there's nothing to say that a person with a visual disability doesn't, in a couple [of] years, need a wheelchair (Indian Architect & mother).

In a context where the impairments of persons with disability are unknown, architects designing for the DHS have resorted to developing a universal design that can be adapted, and one which meets minimum requirements. Even so, the small size of subsidised housing units (40 M^2) is a challenge to persons with disability who are wheelchair-bound. They have little or no space to move around using their wheelchairs. In the case of the elderly, who revert to using wheelchairs, adapting the subsidised units to their needs also becomes challenging. Thus, the implementation of a universal design which will accommodate extra space, should one need a wheelchair one day, needs to be considered. Thus, the design of units, the fittings, for example, sliding doors to accommodate wheelchairs, and increasing the space of subsidised units for the elderly and persons with disability, are essential, and are all part of implementing the universal housing design. Yet, given the limited amount of the subsidy, the DHS needs to reconsider and increase it to ensure that housing for persons with disability is appropriate, and contributes to an improved quality of life as envisaged in the housing policy.

Social Housing

The funding allocated to alleviate rental distress for social housing tenants was an appropriate intervention in the right direction. The government allocated R300 million to help tenants of social housing units pay rent during the hard lockdown (alert levels 5 and 4). The allocation was general, and few, if any, conditions on the distribution of the funds in terms of gender were included. Although government allocated the funds with the purpose of ensuring that social housing tenants kept up with their rent payments, the policies, processes and procedures related to the public finance management act (PFMA) became a constraint. Tenants who lost income and jobs moved out of the social housing units for fear of eviction while awaiting the disbursement of the funds. By January 2022, few tenants

had benefitted from the social housing relief funds and gender disaggregated data was not available.

There were cases of gender-based violence identified in informal settlements during the Covid-19 hard lockdowns. However, it became a challenge to address the specific needs of the victims because of limited coordination between organisations and informal dwellers.

Gender Based Violence

Gender-based Violence is defined as: "A vast range of violations perpetrated against women in defence of patriarchal traditional values, gendered hierarchy and sex-role expectations that uphold society's control over feminine and gender-nonconforming persons" (Nduna & Tshona 2021: 347). Patriarchy remains the cause of violence against women, whereas "Gender-based violence against women is a tool used to chastise, discipline, sanction, teach a lesson; to create a dutiful woman" (Nduna & Tshona, 2021: 351).

South Africa has one of the highest rates of GBV in the world, and violence against women remains a problem in South African society. Previous studies by the Medical Research Council and Gender Links report suggest that one in four adult women have experienced GBV within their lifetime. According to police records, almost 3,000 women were murdered in South Africa in 2017-2018, an increase of 11% from the previous year. Additionally, sexual assault also increased by 8.2% from 6271 to 6786. A study conducted in 2013 by Gender Links, which focused on four provinces (these included Gauteng, Limpopo, the Western Cape and Kwa-Zulu Natal), reported that a vast proportion of men admitted to committing violence against women in their lifetime (Nduna & Tshona 2021: 347).

The Covid-19 lockdown resulted in everyone being confined within the home at the same time. Women and men who had previously spent time at their workplaces for most of the day were suddenly confined to the same spaces. Prior to the epidemic, women and men who were previously in dysfunctional relationships, and whose workplaces had provided them safety and relief from the dysfunctionality, were compelled to confront their situation. There was nowhere to run to or hide. Abusers and victims were confined to the same spaces. The law enforcement authorities were busy keeping law and order, ensuring that curfew regulations were not broken, and cases of gender-based violence were not a priority, except those which resulted in fatalities.

Working from home placed pressure on relationships with partners, and GBV increased during the lockdown. There was no freedom from abusers, unlike before, when workplaces and working hours provided respite from the toxic home environments with their abusers. Even if women wanted to move out and walk away from their abusive partners and toxic homes, there was nowhere to go; the lockdown required everyone to remain at home. There was little or no freedom from abusers. Cases of GBV increased when households could no longer deal with reduced income, and the lockdown

forced people who had not previously lived together, to cohabit, due to the need to remain at home, while conditions were exacerbated by the loss of social support as everyone was subject to lockdown (Rural Women's Assembly, 2020). Women experienced both physical and emotional abuse during the lockdown, a period when support was minimal and was mainly directed toward the prevention and control of Covid-19.

During the Covid-19 pandemic, an increase in GBV cases was reported by the National Gender-based Violence Call Centre (GBVCC), the South African Police Service (SAPS) and civil society (Nduna & Tshona, 2021: 347). The rise in GBV during this period was no surprise considering previous studies that have demonstrated the increased vulnerability of women to experiencing violence, exploitation, and discrimination during a crisis such as an epidemic, outbreak, or pandemic (Nduna & Tshona, 2021: 348). This was especially severe in SA, since, within the first months of the lockdown, police received 87,000 GBV-related complaints. The police reported more than 2300 complaints related to GBV during the first week of lockdown (Nduna & Tshona, 2021: 349).

In 2020, the increased risk for women's experiences of GBV resulted from the effects that social distancing and lockdown restrictions caused on accessibility to public areas. These comprised spaces like schools, churches, libraries, etc. which were usually safe spaces to which women and children could resort, to escape their abusers. Restricted access to these areas made it extremely difficult for women, who were already victims of abuse, as they were confined to the homes of their abusers (Nduna & Tshona, 2021: 347). Other reasons for the rise in GBV cases resulted from men's sexual entitlement and the refusal of sex by their partners which incited violence. This was especially the case for men with multiple sexual partners whose access to sex from other partners was interrupted because of the lockdown, and who remained dependent on their main partners to have their sexual needs fulfilled. Their sexual entitlement is expressed as follows: "Some men, as providers in their homes, expect sexual favours as a duty of their partner to demonstrate her reciprocity towards their material contribution to the home" (Nduna & Tshona, 2021: 350). In addition, women's plans for leaving their abusive husbands were disrupted when the lockdown commenced, and they could not escape their offenders. Community-based organisations that assist women with legal support for divorce were no longer operational. This left women at risk of violence from their partners (Nduna & Tshona, 2021: 350). Due to the lockdown regulations and closed economic activities, many community, or informal helping services for victims of violence were not sanctioned to open. As a result, GBV victims could not receive the help they so desperately needed. Many women and girls lacked transportation to access the limited services and facilities available (Nduna & Tshona, 2021: 347). In light of this, some transferred their services to online platforms and telephone assistance in the form of toll-free hotlines (Nduna & Tshona, 2021: 350).

Based on SAPS statistics, the perpetration and place of victimisation remains the same; similarly, victimisation – remains the same, except that some non-governmental organisations are increasingly seeing children (under 14 years) presenting at the TCCs, but the National Prosecuting Authority do not release data. During 2021, there was a huge media release on statistics on teenage pregnancy, and statutory rape, specifically in Gauteng. Once again, there are no current statistics on teenage pregnancy; the Demographic Health Survey was not conducted in 2020, and the Department of Health has not released any national data. The 'latest' data are available from the Human

Sciences Research HIV and AIDS surveys. The Sexual and Reproductive Justice Coalition (2022) indicates that 'statutory rape' of young girls and adolescent women is primarily about intimate partner violence, rather than rape as the only form of violence experienced by young girls and adolescent women.

There is a lack of comprehensive national data, for example, there is no data centre on GBV, and national departments such as the National Prosecuting Authority and the Department of Health are reluctant to share statistics on SGBV (they actually never responded to requests for data). Similarly, the Department of Social Development releases poor data sets. In the previous edition of the South Africa Covid-19 Country Report (Ndinda et al, 2021), unfiltered data, which were not specific to GBV, were received, and there were no data on referrals and support. Implications are that the same data are received, only from the SAPS, which, as usual, indicates no disaggregation (race, age, sexuality such as LGBTQI+ identities) in the reporting of crime and violence.

A contributing factor to women's and children's experiences of violence is alcohol abuse. Alcohol abuse is defined by the author as "the regular or occasional excessive consumption of alcohol causing harm to self and others" (Mpani, 2015). When a perpetrator is under the influence of alcohol his/her cognitive systems become impaired and, once intoxicated, the behaviour of the victim may be observed by the offender as threatening. To resolve what appears to be a threatening situation to the perpetrator, s/he resorts to violence. In light of this, many researchers have argued that, because of the ban on the sale of alcohol during the lockdown, a decline in GBV cases would have been anticipated (with alcohol abuse being linked to violence against women) (Nduna & Tshona, 2021: 348). Unfortunately, drinking continued unabated in households with private drinking bars, and for those who kept liquor in their homes. Furthermore, alcohol consumption continued, supported by the robberies of liquor stores, homemade brewing, and those who enjoyed access to bootleg and illicit purchases of liquor (Nduna & Tshona, 2021: 349). The closure of schools also resulted in experimental drinking for underage youth, inciting violence against women and domestic disputes (Nduna & Tshona, 2021: 348). Therefore, GBV incidents linked to alcohol use continued despite the ban on alcohol during the pandemic.

Grobler sheds further light on the relationship between alcohol use and GBV. For Grobler (2020), alcohol abuse in SA has been ranked one of the highest in the world and has continued to increase, along with the rise in the amount of domestic violence, especially during the Covid-19 lockdown period. According to the Commission for Gender Equality, patriarchal attitude and toxic masculinity are heightened by the effects of alcohol which primarily incites violence within households. Most men had to give up their traditional roles as the sole breadwinners and providers of the households because of the impact Covid-19 had on the job market, exposing them to job losses due to lockdown restrictions (Grobler, 2020). Consequently, to assume their dominating role and uphold their manhood, some resorted to violence, along with alcohol, as an influential coping mechanism. The lockdown, economic and social factors harmed families, contributing to dysfunctional relationships and the incapability of upholding the traditional social functions of a family. To regulate and prevent the increase of Covid-19 infections, the sale of alcohol was restricted as it contributed to the rise in infections, fatalities and another major rising epidemic, Gender Based Violence (Grobler, 2020).

Grobler (2020) suggested that community interventions and social services' practitioners could help improve the general well-being of

members of society affected by alcohol-based violence and would counteract the peak of gender-based violence during the pandemic through projects such as "What Works to Prevent Violence Against Women and Girls Global Project". The project sought to educate the population about GBV which has, thus far, proven to be successful in the reduction of trauma and depression cases amongst those affected (Grobler, 2020).

During the pandemic it remained urgent to not only raise awareness for women to seek help, but also to inform men about escaping their toxic masculinity and abandoning existing patriarchal ideals. This could have been achieved through the establishment of gender transformative programmes and by offering public education campaigns to male adolescents at schools. In future, community programmes should be based on the effects of alcoholism and Gender-Based Violence to help men understand this dilemma from a young age. Creating awareness in communities, securing community involvement, and engaging communities in such projects and programmes, will continue to potentially improve the safety of the general population. Gender Based Violence has been a growing epidemic in South Africa, and this peaked during the Covid-19 lockdown.

Mahlangu et al. (2022) explored all forms of violence including verbal, physical and psychological abuse, committed by intimate spouses, parents, siblings, or family relatives during lockdown (Mahlangu et al., 2022: 3). The results revealed that exposure to violence was dependent on the socio-economic status of the household. Women and children from lower-income households remained more at risk of experiencing GBV, than those in higher-income households. Emotional abuse was more common for women and children living in low-income homes than those living in high-income homes, where there were fewer cases of physical altercations (only 2/19 women reported accounts of physical abuse by a partner). Emotional abuse incidents involved insults, manipulation, and shouting. The causes were due to income losses (because spouses were unable to work or had lost jobs) (Mahlangu et al., 2022: 4). Partners were angered by food insecurity and often took this frustration out on their spouses and children. Food insecurity increases the chances of people experiencing violence in their homes due to gendered expectations around the provision of food (Mahlangu et al., 2022: 8).

Mahlangu et al. (2022) argue that men's use of violence could be perceived as a mechanism to assert their authority, in a period when they felt that their masculinity was being questioned. Men resorted to violence as a means of asserting their dominance during a period when they could not maintain their status as "providers" and "breadwinners". During the lockdown and the closure of schools, the maltreatment of children increased. This resulted from the immense stress on parents, especially mothers, to work remotely and to tend to their children with no domestic help. Tired and frustrated parents easily neglected their children (Mahlangu et al., 2022: 8). Intimate partner violence was also due to increased use of substances to cope with mental health issues resulting from job losses and the lockdown (Mahlangu et al., 2022: 2). Most perpetrators of violence were men, while women and children represented the victims.

Bianca Dekel and Naeemah Abrahams in, "'I will rather be killed by corona than by him. . .: Experiences of abused women seeking shelter during South Africa's Covid-19 lockdown" (2021) provide evidence of women's increased risk of exposure to violence during this period. This was achieved through telephonic interviews conducted with sixteen GBV victims living in domestic violence shelters in three Provinces (the Western Cape, KwaZulu-Natal, and Gauteng) during the lockdown period (Dekel

& Abrahams, 2021: 1). The women's accounts of violence support the claim that GBV was heightened as a result of the pandemic and the lockdown. It has become evident that it was extremely difficult for most women to be isolated in homes with their abusers.
(Dekel & Abrahams, 2021: 1)
Furthermore, government regulations to contain the spread of the virus affected women's access to safe spaces where they could escape their abusers. A 41-year-old woman from the Western Cape stated:
Before the lockdown, after he beat me, I could go outside and take a walk and cry and come back when I stop crying. Or, if I see he is going to beat me, I can maybe quickly run outside and hide in the bush and come back when he's sleeping. But with the lockdown, pooh no there was none of that. You must stay inside and take each and every one of your beatings. You can't even escape one beating.
(Dekel & Abrahams, 2021: 6).

Although women experienced abuse from their partners prior to the pandemic, the exposure to violence worsened during the lockdown.

The government failed to recognise GBV services as essential during a period when there was a rise in GBV cases (Roy et al., 2022: 6). Community-based prevention responses were mainly interrupted because of their reliance on face-to-face activities in large groups, and the regulations around social distancing made this impossible (Roy et al., 2022:). In the same way, shelters also struggled to adapt to social distancing and testing requirements (Roy et al., 2022: 7). Insufficient staff and supplies resulted from movement and travel restrictions within, and across countries, which limited the movement of staff and supplies, leading to shortages (Roy et al., 2022: 6). This lack of funding, staff and supplies affected GBV response services and their ability to provide adequate services and appropriately address victims' needs.

In light of this, the limited access to GBV services encouraged innovation and online counselling and referrals were offered, hotlines were established, and social media and mobile apps were utilised for GBV prevention messaging (Roy et al., 2022: 4). For example, the Ugandan NGO Raising Voices facilitated community mobilisation programming, by transferring GBV-related discussions to virtual platforms on WhatsApp and over the radio. These strategies increased the programmes' reach, but the impoverished, rural women and girls' ability to engage in web- or phone-based programmes complicated this matter. Another example includes the FIDA-Kenya which launched a toll-free hotline that provisioned legal and psychosocial support services while transportation restrictions were sanctioned. In South Africa, staff at 'People Opposing Women Abuse' continued organising GBV case management using WhatsApp and provided psychosocial and counselling services telephonically and through social media (Roy et al., 2022: 7).

We need to comprehend that access to services and vulnerability to GBV were different for diverse groups of people. For example, adolescents, women with disabilities, migrants, refugees, and other marginalised individuals experienced greater difficulty in accessing services than other groups (Roy et al., 2022: 5). As a result of the closure of schools, adolescent girls were more at risk of exposure to sexual and physical violence. Prior to the lockdown, schools were a safe space for girls, where they could receive appropriate information about abuse, prevention strategies and measures. Disabled women have been considered more vulnerable during the pandemic due to the lack of accessible communication for those with vision and hearing impairments. Most significantly, transportation shutdowns affected accessibility to these services. This was especially the case for marginalised groups who depended on public transport for mobility (Roy et al., 2022: 26).

The de-prioritisation of GBV services during the pandemic, at a time when GBV was on the rise, resulted in devastating long-term consequences for women and girls (Roy et al., 2022: 6). Although South African GBV services were not perfect, at least they remained operational (Roy et al., 2022:) during Covid-19 lockdown once they were identified as essential.

In terms of the uptake of vaccination among women, some of the weaknesses identified include the low vaccination uptake, where there were limited vaccination campaigns among pregnant women. The difficulty in accessing maternal mortality information during the Covid-19 pandemic requires the adoption of reporting systems that provide such information in real time. The unintended consequences of the lockdown were the restriction on women's mobility, which resulted in placing women in 'more' danger and harm because women shared the same homes and spaces with the perpetrators of sexual and gender-based violence. The family thus became an unsafe place for many women and LGBTIQ+ persons (evidence in the first edition).

Funding for GBV

In Phase 2 of the GBV Initiative, a total of R 75 million was set aside for funding to GBV service providers to continue with support services across the GBV ecosystem. In February 2021, government approved funding for systemic and community-based organisations' grants that reached 321 organisations. However, tracing the disbursement and utilisation of the funds has been a challenge.

Maternal Health

Challenges faced by women during Covid-19 lockdowns.

The 2020 Covid Report identified lower numbers of institutionalised births during the lockdown period in South Africa. This suggests that more pregnant women opted to give birth outside facilities, under conditions that could have contributed to maternal and neonatal deaths (Ndinda et al., 2021). Maternal and neonatal (child deaths within the first 28 days) survival fell during the lockdown period, where it rose above 12 per 100 live births, thus dropping below the sustainable development goal target that South Africa had set (Ndinda et al., 2021). Maternal mortality increased from 90 in May, to 134 in July 2020, which can be attributed to inadequate care during both the pregnancy and postpartum period (Ndinda et al., 2021). Other challenges experienced during the lockdown periods include poor access to contraception, a decline in measles and polio vaccinations, with the most impoverished population groups being most affected.

Barriers to maternal health care during the Covid-19 Pandemic

It can be argued that the stringent lockdown measures prevented most people from taking trips to a health care facility to collect prescriptions such as contraceptive and ARV medication, particularly in the urban areas where the lockdown rules were more strictly enforced (Panday et al., 2023). Also, a lot of people lost jobs during the Covid-19 lockdowns, thus propelling many to move from urban areas back to their rural areas (Panday et al., 2023). This internal migration could easily cause non-compliance with ARV medication, while these people were still navigating and relocating to rural areas and contemplating whether it was safe to visit unfamiliar health care facilities in their new neighbourhoods, in addition to people being hesitant to take public transport since they feared infection with the Covid-19 virus. People were also fearful of contracting Covid-19 from visiting health facilities due to social media reports that people could easily contract the Covid virus from other patients, or health care providers in health care institutions. Ultimately, the non-compliance with taking prescription

drugs created life threatening complications for women who were pregnant at this time, as the disturbance of ARV compliance could also negatively affect the good management of their pregnancies.

Other barriers to good health care provision for pregnant women can be attributed to health care provider experiences during the Covid-19 lockdowns. On this note, Rees et al. (2021) reported incidents of Covid-19 amongst public health workers, with 14% of all community health workers having been diagnosed with Covid-19 (Jardin et al., 2022). Compared to the clinic staff, pick-up-point staff reported that they struggled with lower rates of access to information about performing their duties during the pandemic (Jardin et al., 2022). This means that ambulance staff would be conflicted as to whether to prioritise attending to Covid-19 patients, or a pregnant woman who was close to giving birth during the periods of the hard lockdowns (Jardin et al., 2022). For children, measles and polio immunisation programmes were disrupted by the pandemic, in addition to the growing trend of social media induced vaccine hesitancy since the Covid-19 pandemic.

How can maternal health care be improved during pandemics such as Covid-19?

The Covid-19 pandemic has increased digitalisation of service provision worldwide. In the health care sector, digitalisation can assist with the better management of maternal health care through digital systems such as SMS-based solutions, mobile health applications, telemedicine, WhatsApp-based systems, and chatbots. Teleconsultation and e-prescription can be used to increase wider access to maternal health care during pandemic periods.

In examining the maternal health care during the Covid-19 lockdowns, the maternal health of pregnant women who migrated from urban areas to rural areas could have enjoyed continued monitoring of their pregnancies, if SMS-based solutions and teleconsultation had been utilised when they moved from one place to another, as this would have resolved the issue of missed appointments which are essential in identifying pregnancy complications at much earlier stages of the pregnancy. The Department of Health did attempt to adopt these measures through apps such as Mom Connect, which is a mobile application used to provide maternal and child health by connecting pregnant women to health services (Munge et al., 2022. The medical fraternity also uses mobile applications such as Vula Mobile applications for consultations, medical chats, and referrals (Mbunge et al., 2022). There is still a lot of work that needs to be done to improve digitalisation of health care provision in South Africa, particularly in the areas aligning information policies, training health care providers to adopt digital methods of providing health care, as well as improving access to this form of health care among marginalised members of society who rely on the public health care systems. It is therefore important to consider all these issues in relation to the upcoming National Health Insurance (NHI).

Recommendations

1. Universal housing designs for persons living with disability.
2. Inclusion of GBV services as essential services, along with opening up of more rescue centres for persons experiencing GBV during pandemics.
3. Keeping schools open for children who might need to get there to avoid GBV in the home environment.
4. Virtual support must be availed to women and children in low-income households in cases of GBV and post-partum depression. This implies using resources to avail toll-free lines, internet connectivity as well as

establishing centres in every community where individuals can access help.

5. South Africa needs to adopt support systems for new mothers to be visited within their homes and supported in the first four weeks of healing after childbirth, particularly where the woman has little or no social support for herself and the child. This implies providing the mother with cooked meals to ensure that she is well fed, checking the vital signs of the mother for the first three weeks and availing her of counselling services in cases of post-partum depression.
6. The home has proved unsafe for women in violent relationships. Alternatives to staying at home must be found to ensure that women and children remain safe even in the midst of epidemics.
7. Keeping the economy alive by avoiding shutting it down is essential, as this financially hurt households which relied on daily wages and resulted in increased levels of GBV when men could not earn an income.
8. There is a need for a centralised, accessible procurement database for Covid-19 and other disaster-related services provided by different organisations. Data should be disaggregated by sex, age, and disability to measure the extent to which women, youth and persons with disabilities benefit from the measures.
9. All government departments and public entities should improve the response rate in submitting disaggregated data on the extent to which women, youth and persons with disabilities benefitted from Covid-19 public expenditure, including relief measures and Covid-19-related procurement. Furthermore, all reports serving at all decision-making structures should include data that is disaggregated by sex, age, and disability in line with the requirements of Gender Responsive Planning, Budgeting, Monitoring, Evaluation and Auditing (GRPBMEA).
10. Departmental targets should be embedded in the department's procurement, performance, and Strategic Plans (SPs) and broader departmental APPs. The current preferential procurement regulations should be reviewed to allow for 40%, 30% and 7% set-aside for WYPD.
11. Departments need to identify departmental needs in relation to gender, youth and disability procurement, key officials should be capacitated, and structures put in place, departments should analyse data on total government.
12. There were opportunities for women to tender for work, but women missed these opportunities, as few, if any, were targeted in terms of their type of business and level of operation. The shifts in the attitude of the National Treasury (NT) to align with the reality of most women workers would go a long way to addressing the income needs and disparities, while at the same time complying with the Public Finance Management Act (PFMA). Critical departments such as the NT need to change if women's empowerment and gender equality in the economic sphere is to be achieved.

The NT Covid-19 dashboard should include information on the ownership of the companies by sex, age, and disability. This would assist in understanding better the extent to which women-owned businesses benefitted from COVID-19 procurement by the government.

REFERENCES

Bhorat, H., Oosthuizen, M., & Stanwix, B., 2021. Social Assistance Amidst the Covid -19 Epidemic in South Africa: A Policy Assessment. South African Journal of Economics, 89(1), 63-81. https://doi.org/10.1111/saje.12277.

Casale, D. and Shepherd, D., 2021. The gendered effects of the Covid-19 crisis and ongoing lockdown in South Africa: Evidence from NIDS-CRAM Waves 1–5. National Income Dynamics Study Coronavirus Rapid Mobile Survey (NIDS-CRAM) Working Paper. https://cramsurvey.org/wp-content/uploads/2021/07/3.-Casale-D.-_-Shepherd-D.-2021-The-gendered-effects-of-the-Covid-19-crisis-and-ongoing-lockdown-in-South-Africa-Evidence-from-NIDS-CRAM-Waves-1-%E2%80%93-5..pdf. Accessed, 10 January 2024.

Dekel, B. & Abrahams, N., 2021. 'I will rather be killed by corona than by him…': Experiences of abused women seeking shelter during South Africa's Covid-19 lockdown. PLoS one, 16(10): e0259275.

Department of Welfare, 1997. Principles, guidelines, recommendations, proposed policies and programmes for developmental social welfare in South Africa. White Paper for Social Welfare, August. https://www.gov.za/sites/default/files/gcis_document/201409/whitepaperonsocialwelfare0.pdf

Dludla, S., 2020. 2020 Review: SA economy rocked by Covid-19. Iol.co.za; IOL | News that Connects South Africans, 20 December. https://www.iol.co.za/business-report/economy/2020-review-sa-economy-rocked-by-covid-19-4ef67084-8159-4cc8-a7e6-8da9f0f2b3fa.

Grobler, R., 2020. SA has a serious gender violence problem, and alcohol is the main culprit. News24, 30 August. https://www.news24.com/news24/southafrica/news/sa-has-a-serious-gender-violence-problem-and-alcohol-is-the-main-culprit-20201113, 10 January 2024

KII with architect by Human Settlements, 31 January 2022. Human Sciences Research Council.

KII with the HDA by Human Settlements. Human Sciences Research Council.

Komanisi, E., Anakpo, G. & Syden, M., 2022. Vulnerability to Covid-19 impacts in South Africa: analysis of the socio-economic characteristics. Africagrowth Agenda, 19(2): 10-12.

Mahlangu, P., Gibbs, A., Shai, N., Machisa, M., Nunze, N. & Sikweyiya, Y., 2022. Impact of Covid-19 lockdown and link to women and children's experiences of violence in the home in South Africa. BMC Public Health, 22(1):1029.

Mbunge, E., Batani, J., Gaobotse, G., Muchemwa, B., 2022. 'Virtual healthcare services and digital health technologies deployed during coronavirus disease 2019 (Covid-19) pandemic in South Africa: A Systematic Review'. Global Health Journal.6:102-113.

Mpani, P.M., 2015. ALCOHOL RELATED VIOLENCE in Kuruman. Johannesburg: TShwaranang Legal Advocacy Centre. https://www.saferspaces.org.za/uploads/files/Kuruman-Report-single-page-Final18072016A.pdf

Ndinda, C., Moolman, B., Adebayo, P., Chimwete, C., Ngungu, M., Maree, G., Parker, A., Lynch, I. & Shozi, M., 2021. Chapter 5.4 Gender Equality. South Africa Covid-19 Country Report [First edition]. DPME

(Department of Planning, Monitoring & Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria: June.

Ndinda, C; Adebayo, P; Fubahj AM (2023). Migrant Women's Experiences of the Covid-19 Lockdown: Lessons for Policy and Programming in South Africa. In R. Baikady et al (eds). The Palgrave Handbook of Global Social Change, https://doi.org/10.1007/978-3-030-87624-1_393-1.

Ndinda, C; Ndhlovu, P.T; Juma, P; Asiki, G; Kyobutungi, C. (2018). Evolution of NCD Policies in South Africa. BMC Public Health 2018, 18(Suppl 1):956 https://doi.org/10.1186/s12889-018-5832-8.

Nduna, M. & Tshona, S.O., 2021. Domesticated poly-violence against women during the 2020 Covid-19 lockdown in South Africa. Psychological studies, 66 (3): 347-353.

Pandey, A. & Galvani, A., 2023. 'Exacerbation of Measles' mortality by vaccine hesitancy worldwide'. The Lancet: Global Health. Volume 11, Issue 4, April 2023.

Parry, B., R. & Gordon, E., 2021. The shadow pandemic: Inequitable gendered impacts of Covid -19 in South Africa. Gender, Work & Organization, 28(2): 795-806.

Presidency of South Africa, 2021. Development of a Country Report on the Measures implemented to Combat the Impact of Covid-19 in South Africa. South Africa Covid-19 Country Report [First edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria: June.

Rees, K., Dunlop, J., Abrahams, P., Struthers, H., McIntyre, J., 2021. 'Primary healthcare workers during Covid-19: An analysis of infections in HIV service providers in five districts of South Africa'. The South African Medical Journal. Vol 111, No 4.

Roy, C.M., Bukuluki, P., Casey, S.E., Jagun, M.O., John, N.A., Mabhena, N., Mwangi, M. & McGovern, T., 2022. Impact of Covid-19 on gender-based violence prevention and response services in Kenya, Uganda, Nigeria, and South Africa: a cross-sectional survey. Frontiers in global women's health, 2: 780771.

Saloshni, N. & Nithiseelan, N.R., 2022. Vulnerability of South African women workers in the Covid-19 pandemic. Frontiers in Public Health, 10: 964073.

Spaull, N., Daniels, R.C., Ardington, C., Benhura, M., Bridgman, G. and Brophy, T., 2021. NIDS-CRAM wave 5 synthesis report. Southern Africa Labour and Development Research Unit.

Stats South Africa, 2019. http://www.statssa.gov.za/publications/P0211/P02114thQuarter2019.pdf

Statistics South Africa (2021). Quarterly Labour Force Survey. Pretoria: Statistics South Africa. http://www.statssa.gov.za/publications/P0211/P02114thQuarter2020.pdf. Accessed on 09 January 2024.

The world's women 2020: Trends and statistics (no date) United Nations. Available at: https://www.un.org/en/desa/world%E2%80%99s-women-2020.

Abstract

When the Covid-19 epidemic occurred in South Africa in 2020, human settlements became a site for the prevention and control of the

CHAPTER 5.5

HUMAN SETTLEMENTS

epidemic. The Covid-19 pandemic occurred in a context where housing typologies ranged from formal brick structures, through informal settlements and traditional dwellings, to no shelter at all for those who slept rough on the streets. In the continuum of the quality of living spaces, the street homeless were the most vulnerable, as they had no abode of their own and slept wherever they found space at the end of each day. Using the space syntax theory, this chapter examines the effect of Covid-19 on human settlements with a view to deconstructing the measures that inhabitants of the spaces took to deal with the effects of the pandemic. The chapter draws on thirty-five key informant interviews conducted with stakeholders in human settlements between 2020 and 2022. The findings suggest that the government utilised public health interventions to prevent and control Covid-19. Civil society organisations (CSOs) and the private sector also intervened in the built environment and beyond to ensure that vulnerable groups, regardless of their living arrangements, also survived the Covid-19 pandemic. The contribution of this chapter lies in deconstructing the interventions to deal with Covid-19 in human settlements. The recommendations look beyond the pandemic to draw lessons for future health emergencies and disasters.

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ABBREVIATIONS AND ACRONYMS

BNG	Breaking New Ground
CAHF	Centre for Affordable Housing Finance in Africa
CCH	Capital City Housing
CCT	City of Cape Town
COGTA	Cooperative Governance and Traditional Affairs
CSO	Civil Society organisation
DHS	Department of Human Settlements
DSD	Department of Social Development
DWS	Department of Water and Sanitation
EC	Eastern Cape
EHAP	Emergency Housing Assistance programme
GDP	Gross Domestic Product
GIS	Geographic Information System
HDA	Housing Development Agency
HIV	Human Immunodeficiency Virus
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome
JOSHCO	Johannesburg Social Housing Company
KIIs	Key Informant Interviews
KZN	KwaZulu-Natal
NDHS	National Department of Human Settlements
NGO	Non-Governmental Organisation
NT	National Treasury
PFMA	Public Finance Management Act
PPE	Personal Protective Equipment
RDP	Reconstruction and Development Programme
RRRP	Residential Rental Relief Programme
SADC	Southern African Development Community
SAPS	South African Police Service
SHRA	Social Housing Regulatory Authority
SOHC	Social Housing Company
SOPs	Standard Operating Procedures
StatsSA	Statistics South Africa
TERS	Temporary Employer-Employee Relief Scheme
TRA	Temporary Relocation Areas
TRUs	Temporary Relocation Units
UISP	Upgrading of informal settlements Programme
UN	United Nations
UN-Habitat	United Nations Human Settlements Programme
WCP	Western Cape Government
WCSCU	Western Cape Settlement Control Unit

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Background and Purpose

On the 23rd of March 2020, South African President Cyril Ramaphosa, announced a 21-day lockdown to contain the spread of the coronavirus (Covid-19), starting effectively on the 26th of March (Kiewt et al., 2020). The South African government describes a national lockdown as a state of emergency where citizens, except for those classified as essential workers, are suspended from going to work, school, or attending to any other non-essential activities (Kiewt et al., 2020). The lockdown, which was later known as the hard lockdown (or alert level 5) due to its more limiting restrictions, was announced shortly after a few people tested positive for the virus. The announcement came after the Covid-19 infections had multiplied significantly within a six-day period, from just 61 confirmed positive cases to 402 cases (SA News, 2020). On the 9th of April 2020, the president announced the extension of the hard lockdown by two weeks (Turner et al., 2021). This meant that millions of people who were employed in economic sectors other than grocery stores, banks and pharmaceuticals were forced to stay at home and abstain from work for a 35-day period. Learners and students were also confined to their homes. The directive for people to stay home during alert level 5 and 4 needs to be understood against the background of South Africa's post-apartheid housing policy and strategy. Also critical, is the quality of the stock in the different housing typologies and the spaces to which households were restricted during the lockdown. Shelter satisfies a basic human need for physical security and comfort, and the characteristics of the dwellings in which households live provide an important indication of the well-being of household members.

The post-apartheid government has been involved in the delivery of adequate housing since 1994. The National Department of Human Settlements (NDHS) reported that, as of March 2018, about 4,629, 233 subsidies had been allocated to eligible beneficiaries (Department of Human Settlements [DHS], 2020). The work of the DHS is encapsulated in its motto: houses, security, and comfort (DHS, 2021). Many households which had lacked adequate housing before 1994 now have security of tenure. Statistics South Africa (2018) reported that about 13.6% of households are subsidised. By 2021, the second year of the Covid-19 pandemic, over 5 million housing subsidies had been allocated. As a result, over 21 million people live in subsidised housing in South Africa (DHS, 2021). It is notable that the quality of subsidised housing from its origins (1994) to the present has remained the subject of debate. While the initial conceptualisation was that the dwellings would be starter units which could be incrementally developed (Ndinda, 2004), the shift over the years has resulted in more complete units, leaving minimal space for further development. Not only has the workmanship been a challenge (Ndinda et al., 2019), but there has also been varying adherence to the basic principles of design that include "orienting your building, properly designing the façade of your building, properly designing your window openings, shading, ventilation, having intermediate space between the inside and the outside" (Key informant interview, Academic, Pretoria, 2022). The Covid-19 pandemic thus exposed the lack of basic features of design in subsidised housing. As a result, some people had to be removed from their own homes to selected venues when a household member became infected with Covid-19.

While government interventions focused on de-densification, the creation of temporary residential areas and temporary residential units, concerns regarding housing design abounded:

...even if you go high-rise if you just properly orient your building and you properly design a façade so that you capture the sun when you need it and you screen the sun when you don't need it. You can reduce... your reliance on mechanical systems which means you reduce your energy use, which means... if you design intermediate spaces, the way that we design a lot of times in South Africa, it's in-out. And a façade is something, that, as you said, that can't be operated on, you can't shade or screen or open as the user of the building. But if you have an intermediate space and your façade also allows user intervention, like you can operate parts of your façade, then you know, then people can move in and out into the intermediate space. They can open and close depending on weather conditions. You have a relationship with the external environment, which is incredibly important, and with Covid, those principles are even more important. And of course, looking at issues around energy use and climate change and economy (Key informant interview, Academic, Pretoria, 2022).

The status of residential buildings not only presents a challenge, but also prompts practitioners and policymakers to re-design human settlements that are appropriate for both living, working, and quarantining when necessary. Critical elements that need to be integrated include the creation of intermediate spaces, integrating climate change concerns such as extreme heat and cold, and greening the environment.

Despite achievements made in housing delivery, the typology of the houses in informal settlements remain a critical issue. As of 2022, there were 2600 informal settlements, housing 1.4 million households in South Africa (DHS, 2022). Despite ongoing investment in the delivery of adequate housing for all, the need for affordable housing grows, and it is within this context that Covid-19 occurred and necessitated government intervention. The first and most urgent call was for all to stay at home, thus making human settlements (formal or informal, established, and temporary shelters) both a site of prevention and control of the Covid-19 epidemic. The home became the site of Covid-19 prevention and control. Given the strict separation of work and home spaces before Covid-19, we are compelled to examine concepts of space, not only in residential construction, but also in commercial buildings due to the pandemic.

The discussion on human settlements is framed around the notion of adequate housing as articulated in the UN Habitat and the Housing Act 107 of 1997. Adequate housing is among the socio-economic rights enshrined in the South African Constitution. This legislation ensures that citizens have a place to dwell and fulfil their civic duties. The Covid-19 lockdown caused humanity to focus on the home and revisit what it means to dwell in a place. The legislative instruction was based on the dominant assumption that the majority of the population had a dwelling place, and that they would remain confined within that space.

Methodology

This chapter reviews both published and grey literature to unravel the effects of the Covid-19 pandemic on human settlements, living conditions, and related dimensions such as cities. The chapter examines the performance of relevant policies and programmes during the Covid-19 pandemic to understand their performance during this time. The chapter draws on empirical evidence derived from 35 key informant interviews (KIIs) conducted

among stakeholders in human settlements. The KIIs were analysed through content analysis that helped to draw out key themes related to human settlements. The themes focused on different housing typologies and how these performed during the Covid-19 pandemic. The themes drawn addressed topics such as the importance of Covid-19 regulations, technology, leadership, and lessons learned. Not all themes were addressed, but the chapter builds on previous work (Ndinda et al., 2021; 2023) to focus on the different housing typologies and how these performed during the Covid-19 pandemic. Through the integration of the various sources of data and information, the chapter identifies government interventions in human settlements during the Covid-19 lockdown.

Theoretical/Conceptual Framework

Strict observance of lockdown regulations during alert levels 5 and 4 resulted in the confinement of household members to the limited spaces of their homes. The dwelling space became a multi-functional site for work, schooling, and care of the ill and elderly. While the multi-functionality was possible for households that lived in large spaces, the confinement took its toll on parenting and caregiving. Every space within the home became a site of diverse activity throughout the day. This chapter deploys the theoretical lenses of space syntax and urban interiors to reconceptualise the notion of home, taking into consideration spatial patterns and processes, and how these impact the well-being of the household. It then outlines some consequences of these changes on the urban environment and associated bulk services such as sewer, internet, waste management, parking, and how these may be reflected in the building regulations.

In the pre-Covid period, the home was significantly separate from the work environment. It was a place of rejuvenation and relaxation, providing safety and security, as well as a social economic identity for the household. Home means different things in different contexts. The South African Bill of Rights postulates that everyone has the right to live in an environment that does not harm their health and well-being. The right to an environmentally safe environment includes the right of present and future generations to live in an environment that is ecologically safe. Section 24 of the Bill of Rights, contained in the South African Constitution (1996), underscores the rights of people living within the governance of the nation. The rights articulated include the right to (a) an environment that is not harmful to their health or well-being, and (b) to have the environment protected for the benefit of present and future generations. These rights do not depend on ethnicity, nationality, or race, but are inalienable and ought to be enjoyed by every individual living within the borders of South Africa.

The Covid-19 pandemic exposed long-standing structural issues of inequality and housing security, particularly for social housing tenants. Their exposure to these structural challenges increased their vulnerability to the pandemic as they were more susceptible to contracting the virus, and, if they contracted the virus, they were most likely to experience complications and possibly death due to underlying conditions. As proposed by Parke and Adebayo (2021), “one’s access to and the quality of housing, nutrition, employment, healthcare, transportation…” determines one’s health status, and well-being. Earlier research draws a parallel between access to quality housing and health status, using four pathways as a basis of assessment, namely, stability, the physical conditions within a home, the conditions of the neighbourhood in which the home is located, and the affordability or tenure of

the housing unit (Gibson et al., 2011; Robert Wood Johnson Foundation, 2011; Taylor, 2018).

The stability pathway describes the way access to a stable home positively impacts health. Conversely, an unstable home negatively impact's one health as shown by ample research on the correlation between chronic homelessness and increased levels of morbidity in physical and mental health as well as increased mortality (Gibson et al., 2011; Taylor, 2018). Gibson et al (2011) question the often limited and dichotomous perceptions of housing which tend to view people as either homeless or housed. They argue, rightfully, that this constrained perspective ignores various precarious and unfavourable housing conditions in which people find themselves, more specifically, the most vulnerable populations. To this end, Taylor's stability pathway allows for an in-depth analysis and understanding of housing security, such as falling behind on rental obligations, and its subsequent health implications (Gibson et al., 2011; Taylor, 2018). With Covid-19, some social housing tenants, and others in rental housing options experienced housing instability due to their inability to meet their rental obligations resulting from job losses and the economic shutdown, as did others who relied on the informal sector for their livelihood. The threat of eviction from social housing units and other structural challenges during the lockdown remains a sufficient cause of anxiety, thus "demonstrating the link between housing and mental health" (Gibson et al., 2011, p. 9).

Concepts and Theories

Home is created by dwelling in a space. Heidegger (1971) argued that to be at home is to dwell in a place, describing the space and place beyond the physical, but including the four-fold of the earth, sky, mortals, and divinities. He asserted that dwelling entails more than just shelter and that "we do not dwell because we have built, but we build because we have to dwell". (Norberg-Schulz, 1996:423) further theorises the spirit of place (the genius loci) as a proponent of place-making, taking dwelling beyond the physical structure and arguably into the metaphysical context.

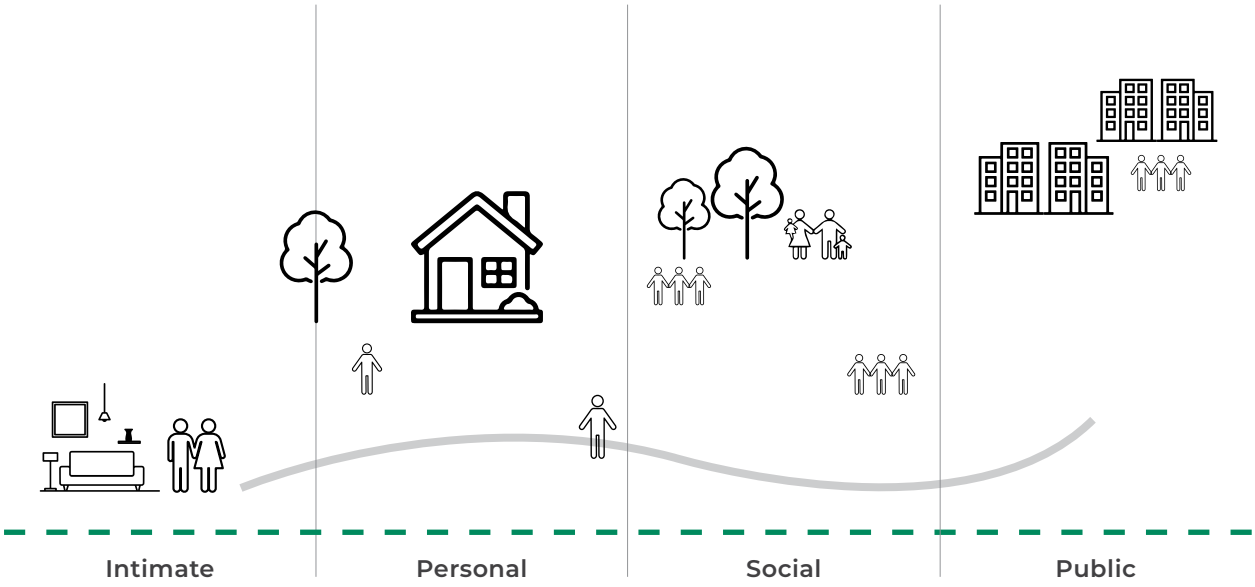
Various housing typologies are recognised by the South African government which include informal, traditional, formal, and other (Table 5.5.1). Further categories are identified as the privately owned homes, rented apartments, social housing, homeless shelters, backyard shacks, informal settlements, and various forms of communal living, including gated estates and homesteads which are more prevalent in rural areas. Each of these housing typologies varies in terms of ownership, autonomy in the use of space and spatial boundaries, while some spaces are architecturally designed (shaped and applied by trained professionals), others are designed by the occupants, over time, who use and reappropriate space as needed, often disregarding legislated guidelines, with many life-changing lessons, as in self-help housing projects in informal settlements.

In understanding the space, the space syntax theory is used. This theory allows for the creation of connections and decoding space configurations. Glassier (1990:52) offered two approaches to decoding space – firstly, by geometrically providing the base for a unified envelope, and secondly, by creating the interior as an extract from the exterior. Hanson (2003:39) further described the syntax of space using the axial – one dimension, convex two dimension, or the isovists (visual fields). Space syntax allows for the understanding of spatial relationships in the built environment and contributes to decoding the spatial properties of a city. In this chapter, the spatial relationships and properties of different places are discussed and their relationship to society is decoded.

Furthermore, space is defined by boundaries. The idea of boundaries is achieved in various ways architecturally. It can take place by physically building a wall or a fence or digging a gorge or a mound. In the interior spaces, a boundary can be achieved by lowering the ceiling, changing the floor finish, etc.; the boundary could be a hard one, whereby it brings about complete disconnection, or one that still allows for visual access, but removes contact and audible connection. The boundaries, therefore, are an effective way of creating space, a sense of place, and creating connectivity and communities, which was what the hard lockdown was guarding against. The imposed lockdown, due to Covid, questioned physical connectivity of space and required a minimum of 1.5 metres distance between people. It meant the identification of boundaries for human interaction. However, this was not possible within homes. It is thus important to consider what the physical space of home means to different population groups.

Developing space syntax theory using Activity Contour Maps, Ivanovic (2014:37) showed how space and activity permeate each other constantly and argued that place-activity relationships could be measured representatively without boundaries. According to Ojo-Aromokudu (2018), space can be mapped in terms of intimate, personal, social, and public space, creating the spatial continuum, which was needed to be guarded against during the lockdown. The figure below shows the degrees of connectivity at various levels in the human settlement and the spatial continuum, which plays out on various scales of the dwelling space.

Figure 5.5.1: Researchers' interpretation of the Covid-19 regulations in the built environment



Living space can be described in three physical dimensions, micro, meso, and metaphysical, some with visible boundaries and others without. These boundaries provide a level of security for the inhabitants, giving them the right to appropriate the space as desired. To better understand the perception of spaces, the theory of phenomenology, which has to do with individual experiences, is used as a theoretical frame. Norberg-Schulz (1968) argues that "there is common sense knowledge in objectifying social forms noting that individuals approach reality with knowledge composed of common-sense constructs and categories that are social in origin". As such, meaning created in space is subjective, and that spatial definition is flexible, giving the concept of home personal meanings.

At a regulatory level, the National Building Regulations, SANS 10400-A "set out requirements to ensure that buildings will be designed and built in such a way that persons can live and work in a healthy and safe environment" (RSA, 2010:2). Good design engages the basic design principles of balance, rhythm, emphasis, proportions, and scale, movement, contrast, and unity, to produce the built form that embraces the Vitruvian qualities of firmness, commodity, and delight. The SANS 10400 makes a clear distinction between deemed-to-comply and the deemed-to-satisfy requirements of the NBR. According to the SANS 10400, the deemed-to-satisfy provision means a non-mandatory requirement, compliance with which ensures compliance with a functional regulation, this allows room for innovation and flexibility in interpretation of the regulations, whereas the deemed-to-comply term refers to strict compliance with regulations.

To contain the spread of Covid-19, the government asked people to stay home, to avoid public gatherings and crowded spaces, to maintain physical distance by staying one-and-a- half-metres apart from others in public; to wear masks in public; to avoid handshakes and to constantly sanitise. These guidelines were valuable public health interventions for tackling a pandemic of crisis proportions. The need for social distancing was well publicised, and, where not possible, physical barriers were introduced. For example, screens were introduced in doctors' consulting rooms and other similar physical interactions. Within the home, barriers meant walls, doors and windows, and occupants were isolated in separate rooms, especially if sick. The case was different for the homeless and those living in informal settlements who had lived in the boundless urban environment and were now affected by the lockdown movement restriction. The government recognises various population groups, and, from a socio-economic perspective, also diverse income categories, the higher middle-income, lower middle-income, the poor, and the poorest of the poor. The classification of the poorest of the poor is premised on no income at all, referring to groups who are unable to engage with the housing market to meet their housing needs. It is envisaged that the other income groups can engage with the market with little or no assistance from the state. It is therefore important to consider the dwelling spaces which differ in terms of spatiality, which is closely related to the socio-economic conditions of the households and the housing typologies.

Impact of Covid-19 on Human Settlements

Job Losses, Adequate Housing and Evictions

The Covid-19 pandemic and the subsequent lockdown had a devastating effect on the economy, leading to businesses shutting their doors permanently, or decreasing their workforce. The pandemic disrupted the construction sector which contributes 3.9% to South Africa's GDP and employs approximately

1.3 million people. The severity of the lockdown levels, reduction and shrinkage of infection rates and vaccination of vulnerable groups impacted an already weak economy and the residential property market adversely. On the one hand, developers and contractors were under strain, battling to maintain cashflows and funding commitments due to project cost over-runs. On the other hand, housing affordability was affected by job losses and reduced and/or inconsistent income.

Construction sites were cleared, and equipment was removed. Even then, the sites were vandalised, materials and fittings in incomplete units were stolen from sites that were not completely secured. Added to the loss of income, lack of activity and the need to address the damages incurred, such losses contributed to the losses that builders incurred due to the lockdown.

During the second year of the pandemic (2021/22), the economic situation was aggravated by the riots in KZN and Gauteng. The apprehension of an outbreak of Covid-19 in the affected regions, (Gauteng & KwaZulu-Natal) was real. The riots worsened an already poor economy and added to the burden of recovery from Covid-19. As the Department of Health representative indicated, health care staff were unable to access facilities because the roads were blocked and they feared for their lives; warehouses of pharmaceuticals were looted and vandalised, and vaccination sites were also vandalised. The riots not only affected the health sector, but impacted residential construction because workers could not return to construction sites for close to two weeks. When construction workers returned, some of their sites had been looted and recovery was very difficult in an economy that had been ailing before the Covid-19 lockdown.

The Quarterly Labour Force Survey reported that, by the end of 2021, the number of people employed had dropped overall by 2.1 million jobs from its peak before Covid-19, with a very partial recovery in employment during 2021, dropping back again by the end of the year (Financial Mail, 2022). Jobs continued to be shed, with 660 000 lost nationally in the third quarter of 2021, for which the July riots would also have been partly accountable, but which were probably due mainly to the pandemic. These job losses underlie the qualitative reports of large numbers of homeless people flowing onto the streets during the Covid period. The influx of the people on the streets seems to have been due to people becoming detached from their housing as a result of evictions from informal settlements and backyards after retrenchment or job loss, but this sequence is difficult to trace in published statistics.

The employment sector hardest hit by known job losses was construction (Financial Mail, 2022), which was the single sector accommodating the largest share of rural migrants prior to the pandemic. Furthermore, the construction sector was the slowest of any to revive and recover during 2022. Thus, the largest single grouping of the new homeless under Covid-19 may be former construction workers. In 2020 total employment declined by 671,000 (-6.6% year on year between June 2019 to June 2020). The decline in employment was due to the job losses in trade (180,000 i.e., 8%); business services (-140,000 or -6%); Construction (-111,000 i.e., -18.5%); manufacturing (100,000, i.e., 8.2%) community services (90,000, i.e. -3.2%); transport (-35,000, i.e., 7.0%) Mining (12,000, i.e. -2.6%) and electricity (-3000, i.e., 4.9%) (Statistics South Africa, 2020). The total employment decreased by 552,000 (-5.4%) between March 2020 and March 2021 (StatsSA, 2021). However, between 2021 and 2022, the employment situation improved. In this period, the total employment increased by 200, 000 (2.0%) between March 2021 and March 2022 (StatsSA, 2022). There was, however, a decline

in total employment in the construction sector (-9000 i.e., -1.7%); trade (-18000, i.e., 0.8%); business services (-8000, i.e., 0.3%); and transport (-2000, i.e., 0.5%) (StatsSA, 2022)

The loss of income due to the hard lockdown resulted in distress for homeowners in terms of servicing their mortgage loans. Households that could not afford to pay rent were also in distress during the hard lockdown (alert level 5 in March - June 2020). The loss of income, which is the key determinant for access to adequate housing, left households in distress, while some were subjected to crises as they lost their income because of the lockdown. The banking sector intervention was to grant payment holidays, or debt consolidation, which relived some of the pressure on households. About 2.4 million people benefitted from payment holidays provided by banks for various types of loans (mortgages, vehicle loans or personal loans). Other interventions included renegotiating the terms of the loans, or debt consolidation, and these amounted to R489 billion. About 59% of banking clients were assisted in terms of loans during the pandemic.

The Covid-19 pandemic exacerbated long-standing, socio-economic challenges in terms of which many South Africans are constantly under threat, including hunger and homelessness, and it widened the stark income inequalities. As per the assertion by the Centre for Affordable Housing Finance in Africa (CAHF), the pandemic exposed the persistent state of disaster in which households in various housing typologies, i.e., informal settlements, subsidised Reconstruction and Development Programme (RDP) houses in townships, or rented units in inner cities, exist (CAHF, 2020). The interventions by the private sector, through banks, relieved the distress of privileged households that not only had home loans, but other forms of loans during the hard lockdown, when they lost their jobs or received partial income. While the payment holidays and loan consolidation helped individuals and families where the income earners had formal employment, it is not clear how workers in the informal sector dealt with their housing challenges. Some rental tenants in formal affordable housing, which caters to those who work in the informal sector, faced potential evictions due to their inability to meet their monthly rental obligations (Mashele et al., 2021).

In line with the human settlements policy, there are rental tribunals in all the provinces, and these operate within the provincial human settlements departments (DHS, 2023). Although reports are not available for all the provinces, the available data points to the challenges that residents in rental accommodation faced and the challenges that the Rental Tribunals dealt with. The Western Cape Rental Housing Tribunal recorded 1944 complaints in 2020/202 financial year compared to the 3180 complaints received in 2019/2020 financial year (Western Cape Government, 2021). Most of the complaints brought to the Rental Tribunal related to the failure of landlords to refund deposit (27%); unlawful notice to vacate (27%), failure to pay rent (14%), failure to pay municipal services 9%), unlawful evictions (6%), failure to do maintenance (7%) and various other issues (8%) (Western Cape Government, 2021).

The government allocated grant funding to intervene and assist those who lived in affordable rental accommodation, including social housing. However, the intervention through the relief grant funding in social housing did not provide the much-needed relief due to inadequate implementation and stringent qualifying criteria, among other factors. Furthermore, the grant funding support did not include migrants and refugees, who are some of the most vulnerable groups in society, yet they are often excluded from vulnerable groups. Most migrants and refugees received help from religious institutions, foreign aid

organisations, and, on rare occasions, from local municipalities.

Informal Settlements

Informal settlements are the dominant housing typology after formal housing comprised of brick structures (Ndinda et al., 2011; Ndinda et al., 2017). The spontaneous way in which informal settlements are established, implies that the inhabitants occupy spaces that are unplanned, without basic services such as water, sanitation, and electricity (Ndinda et al., 2017). The dwellings are also semi-permanent, which predisposes them to destruction during extreme weather events such as hurricanes or flooding (Ndinda et al., 2017). However, in appropriating space, informal settlement dwellings provide the most basic structures which, at times, may only contain a bed, and the dwelling extends beyond the shelter (Ojo-Aromokudu, 2018). The recognition that informal settlements were a form of housing provision in urban areas led to the design of the Upgrading of Informal Settlements Programme, (UISP). The objectives of the UISP remain relevant, i.e., tenure security; ensuring health and safety; and empowerment of communities living in these settlements (Ndinda et al., 2017). Although the government has been upgrading targeted informal settlements over the years, the number of settlements keeps rising, as does the population of people who live in the settlements (See Table 5.5. 1).

During Covid-19, the National Department of Human Settlements (DHS) estimated that about 2.2 million households lived in informal settlements (DHS, 2021). In the same period, Statistics South Africa (2022) indicated that 11.7% of the population lived in informal settlements. Informal settlements are the most common form of accommodation after the formal housing stock which accommodates 83.6% of the population (Table 5.5.1).

Table 5.5.1: Housing typologies

	WC	EC	NC	FS	KZN	NW	GP	MP	LP	RSA
Other	0.5	0.6	0.5	0.0	0.0	0.0	1.4	0.0	0.0	0.5
informal	17.3	5.4	12.3	15.4	5.0	19.1	17.0	7.1	2.9	11.7
Traditional	0.1	21.6	0.5	2.0	9.3	0.4	0.1	3.1	0.7	4.2
Formal	82.2	72.6	86.8	82.6	85.7	80.5	81.6	89.8	96.3	83.6

Source: Statistics South Africa (2022).

The percentage of households that lived in formal, informal, and traditional dwellings by province, in 2021 (Table 1) shows that slightly more than eight-tenths (83,6%) of South African households lived in formal dwellings in 2021, followed by 11,7% in informal dwellings, and 4,2% in traditional dwellings, (StatsSA, 2022). Households that lived in formal dwellings were most common in Limpopo (96,3%) and Mpumalanga (89,8%) (StatsSA, 2022). Approximately one-fifth of households in Gauteng (17,0%) and Western Cape (17,3%) lived in informal dwellings. Traditional dwellings were most common in Eastern Cape (21,6%) and KwaZulu-Natal (9,3%) (StatsSA, 2022).

Emergence of Informal Settlements

The main mode of establishing informal settlements is through occupation of vacant land. The loss of jobs and income during alert levels 5 and 4 meant that workers who had previously lived in backyard units or informal settlements where they paid rent were unable to keep up with their rental payments (Reinders, 2020). Rent became unaffordable for the low income casual and informal workers. As a result, the low-income earners, without jobs and income during the lockdown, sought land which they could occupy to build homes and live rent-free.

Depending on where one is positioned in terms of land ownership and administration, the terms used to describe illegal occupation of land include land invasions, land grabs, land seizure, siege, opportunistic and criminal invasions, and occupation, among others (Parliamentary Monitoring Group, 2020; Reinders, 2020). However, households who occupy land and build informal dwellings do not consider themselves 'invaders' or an 'invading army'; "But we're not here to fight or cause trouble for the city. We just need a piece of land to live [on]. A place where we don't have to pay rent. We're not an invading army" (Reinders, 2020). As shown by the land occupation of spaces by residents who fell on hard times due to Covid, the relationship of the informal settlements, and the spatial relationship of new settlements with the planned city is often antagonistic.

During the Covid-19 pandemic, both the illegal occupation of private and municipal land occurred (Reinders, 2020). During the lockdown (April 2020 and August 2021) the Western Cape experienced 1078 attempts of illegal land occupation (Konco, 2021). In the city of Cape Town, illegal land occupations resulted in the establishment of 54 new informal settlements of varying sizes (Konco, 2021). According to the City of Cape Town, the major hotspots for land occupations were Khayelitsha, Kraaifontein, Mfuleni Delft, Phillipi and DuNoon (PMG, 2020).

In the City of Cape Town, some of the new informal settlements established during the Covid-19 lockdown included Izwelethu ('Our Land' in isiXhosa) commonly known as the Covid informal settlement by the Kuils River and next to Mfuleni Township (Reinders, 2020). Other settlements established in the same period were, Sanitiser and 19 (shortened form of the pandemic name) (Reinders, 2020). When Izwelethu/ Covid was established in March 2020, there were 800 shacks and about 3000 people living there without water and sanitation. What the authorities' failed to acknowledge, was that the new settlements provided income-generating opportunities for the shack-building entrepreneurs who followed the 'invasions'. Income was also derived from the spaza shops, ad hoc moving companies, household goods' traders, food vendors, shebeens and transport business who established routes alongside the settlements. Water vending in the new settlements was also a lucrative business.

Not only were vacant parcels of land invaded, but incomplete housing units were also occupied. In the Cape Town Metro, Breaking New Ground (BNG) units were occupied and some were vandalised (Western Cape Government, 2022). In the Western Cape, an estimated 147 land invasions occurred, and 115 protest actions were reported by the MEC for Safety and Security during the hard lockdown (alert levels 5 & 4) in 2020. The Western Cape Government (WCG) noted that over 700 housing opportunities were lost due to vandalism and invasion. The WCG estimated that between 2020 and 2023, about 1600 land invasions occurred; and more than 100 BNG housing units were vandalised. Mr Dan Plato, the Mayor of Cape Town, reported that there had been more than 100 land invasions in the Cape Town Metro region. The Anti-Land

Invasion Unit demolished over 55,000 structures in 30 parts of the Cape Town Metro region within the same period (Reinders, 2020). The Western Cape Department of Human Settlements spent about R355.8m securing land and construction sites against invasions (Mtethwa, 2021).

During the lockdown, evictions were banned for nine weeks after the national government placed the country under a nationwide lockdown. However, the Covid-19 pandemic laid bare the forms of marginalisation that informal settlement dwellers experience in accessing basic human rights. Ndhlovu (2022) noted that the major South African cities, including Cape Town, Johannesburg, and eThekwini, continued to use municipal law enforcement agencies and private security companies to forcibly remove people from informal settlements. In the Western Cape, the authorities mobilised the anti-invasion unit and the SAPS to evict inhabitants of informal settlements.

The global Covid-19 regulations (such as social distancing, sanitising, and staying home, among others) were critical public health interventions for the prevention and control of Covid-19 (Ndinda et al., 2023; Ndinda et al., 2021). However, in South Africa, where dwellings in informal settlements are built with little or no space between them; water and sanitation are scarce; and where the number of people per dwelling often exceeds the required number of occupants for healthy living, a more nuanced approach to the implementation of the regulations might have worked better than the one-size-fits-all approach that was taken (see sections on homelessness).

Interventions - Informal Settlements

State intervention ensured that people living in informal settlements were provided with basic services to ensure the prevention and control of Covid-19. The government, through the provinces and municipalities, identified informal settlements that lacked water and provided water tanks for handwashing. The provincial governments were required to set aside funds and provide personal protective equipment such as masks to prevent and control Covid-19 infections in informal settlements. As a key informant indicated:

The response in terms of the washing of hands was that the provinces and the municipalities had to identify projects where there was [a] lack of water, so they did that and they did… their responsibility to prioritise funds and set them aside for the provision of the PPEs as well, where they deemed that they were necessary, and they had to buy them and make sure that was used to curb the pandemic. (KII_National_official_2)

At the beginning of the pandemic, the government introduced food relief and social grant assistance programmes to ensure food security and stabilised welfare for the most impoverished households in the country. Other government initiatives to assist informal settlements included the provision of personal protective equipment (PPE) and hygiene support, mass sanitisation programmes and disinfection of common areas within informal settlements (Ndinda et al., 2021). The National Treasury (NT) approved R306 million for Covid-19 interventions by the Department of Water and Sanitation (DWS) (DWS, 2020). The DWS had, by April 2020, installed 7698 water tanks, with a carrying capacity of 5000-10,000 litres, in informal settlements throughout the country (Department of Water and Sanitation, 2020). Foot-operated hand washing facilities with soap and water were also installed in public places. Areas close to the water and sanitation facilities were also disinfected to reduce contagion as residents used the facilities. To tackle the challenge of sanitation in dense informal settlements, containerised sanitation facilities

were provided and connected to the municipal water supply and sewer facilities.

Although the water tanks addressed the emergency need for water during the pandemic, these methods attracted criticism for a failure to address the need for safe running water for all residents in the informal settlements (Cilliers and Victor, 2018). Some residents had to walk longer distances to reach the water tanks. The water in the tanks was not potable.

Street Homelessness

There is often a tendency on the part of municipalities to conflate informal settlements with street homelessness. However, the street homeless population is not the same as the population of the informal settlements. Informal settlements are semi-permanent occupations, usually on public land, with internal land rights, which are usually collectively organised, and which strive to negotiate with local government to be upgraded to permanent status. Objectives include a formal township situation, with formal housing, middle class taxpayer status and government support to obtain these goals (stepSA, 2014). Informal settlement residents save diligently for their planned future: for housing, family goals and/or for sending remittances. After a typical initial land-rush phase of informal occupation in a new area, people coming into a new settlement are required to pay to obtain membership, shelter, and to stay on.

Homelessness is a lower socioeconomic grade of occupation held by people who are destitute or close to destitute, and the marginal people who live on the streets are often, or usually, looked down on by the people in informal settled communities who have access to self-defined permanent shelter, usually have an income, and want to be recognised as full urban citizens.

Homeless camps represent an unstable, floating population. Occupations in public spaces are inherently temporary and subject to enforcement, implying expulsion, under compulsion to pick up and move on to the next similar site. Risk of eviction is continual, shelter is minimal, community cohesion is important, but fluid and limited, and stays are temporary and usually free of charge. Most of the homeless end up on the streets without shelter because of mental health issues (Gcwabe, 2022). Thus analysts postulate that mental health and homelessness are interdependent (Gcwabe, 2022), that is, one causes the other and vice versa. Thus existing street homelessness requires support for mental health care and illnesses such as Tuberculosis, drug addiction and malnutrition.

Homeless encampments rarely, if ever, have any path to upgrading, and the street homeless in South Africa can be accurately described as the people who cannot afford to rent accommodation in the informal settlements. Such people earn income from odd jobs and from begging on the streets. NGOs interviewed for this study defined the homeless as individuals with the following characteristics: no proper roof; that is, living from place to place; no proper housing; living from couch to couch.

While street homelessness represents an assumption that the term refers to the popular perception of what being homeless is, the phenomenon is not always obvious, and is perhaps difficult to detect among those who do not necessarily live on the streets, but are, in fact, homeless. Street homelessness is thus a complex phenomenon that includes sleeping rough on the streets with a wide range of reasons for being on the streets (Key informant interviews). The emergence of Covid-19 raised questions regarding the status of the homeless. Although they were accommodated in the

temporary shelters set up by municipalities, the conditions in the shelters caused dissatisfaction and concerns related to the Covid-19 regulations.

Whereas as the national regulations required people in public spaces to observe social distancing, this was hardly possible in shelters that were shared with strangers. The challenge of the shelters was not that there was no accommodation, the conditions in the shelters were conducive for the virus to spread, so much so that some of those accommodated in homeless shelters moved out and returned to the spaces in the city which they had occupied before the lockdown.

So, this is very interesting because it represents a hidden form of homelessness, ...we... accommodate people that come from the street that have been living rough (Homeless shelter _CPT1).

Although some uncertain proportion of South African street-homeless people are willing and able to adopt medium- or long-term residence in homeless shelters run by civil society groups, reports appear to reflect a surge of new people overflowing onto the streets as the pandemic broke through into massive national job losses ***(Finmail, 2022)***, sparking what seems to have been a wave of evictions from informal accommodation nationwide that overwhelmed existing shelter capacity. The existing shelters could not take more people because their regular clients stayed with them.

Because we're a second phase shelter, we didn't take the people from the street. Oh, no, I'm saying wrong. We only took the guys that were already in our center. So, so we didn't, we didn't admit in the hard lockdown. We didn't admit more. We kept only kept, and we could only accommodate 40 people. So therefore we, we, we kept with a 40, I think, as I said, I think we were 37. And, and we didn't add new people, for that hard lockdown. Then when it started opening up, there was two or three weeks, and we still didn't come up with new people and old people didn't kind of leave. But, but then when the guys started leaving, we could admit, more people, but never more than 40. So that helped us with, with the social distancing as well (Interview: Homeless Sheter official, Western Cape).

Without help from civil society or other outside intervention, in most cases, there is no way back into housed society for the street homeless. Although mortality rates of the homeless are not available, the general trend is that the homeless often die due to preventable causes. Citing local studies, Gcwabe (2022) noted that the stereotyping of homeless people's bodies as undeserving and unworthy of medical services contributed to a reluctance among health care workers to provide services. It is thus not uncommon that the homeless die due to neglect at health facilities, particularly because they seem unkempt, exhibit bad body odour, tattered clothes, etc. (Gwabe, 2022). Challenges that the homeless experience in accessing health care include the lack of transport, lack of time off because they work in the informal sector, and stigmatisation by health care staff. The homeless are stigmatised because of their mental health problems and physical state. As articulated by Ndinda et al. (2023), the housing rights of marginalised and vulnerable groups whose livelihoods are precarious, have a bearing on other social and economic rights. The lack of adequate housing undermines the right to health when individuals live far from health care services or when these services are denied due to underlying prejudices among health care workers. The right to adequate housing is undermined when individuals such as the street homeless do not have identity documents that are required to apply for subsidised housing, education, and social grants (Ndinda et al., 2023).

During the Covid-19 pandemic, the homeless who accessed existing shelters and temporary shelters were required to comply with Covid-19 regulations. At shelters, residents were required

to keep a distance, wear masks, and sanitise all the time. The shelters were provided with support to procure personal protective equipment (PPEs).

Governance

The view at national department of human settlements was that interventions for Covid-19 were fully located at local municipal level. However, there appears to have been little direct communication between local and national levels to refine or develop the approaches taken locally.

Accordingly, the results from the different municipalities varied as they tried to tackle the potential role of the homeless population in an epidemic spread of the virus. Without direct guidance from the national level, in most of the major metros the immediate outcome was a frantic effort by the municipality, on its own, to bring the homeless, who were suspected to be potential spreaders of the virus, off the streets and into municipal-operated shelters to enable quarantining of such persons.

From the governance side, the key issue has been how national government conceptualises the options and transfers these policy directives down the ladder to local government, and from there how local government responds. From the viewpoint of the National Command Council, the central government body in charge of the pandemic response, the main concern tied to street homelessness appears to have been to prevent assumed contagion by rounding up the homeless and placing them in shelter accommodation. At ground level, perhaps, the key issue emerging has been the attempts to use large, disused buildings or complexes as mega-shelters to carry out this priority, which worked out poorly in practice.

From the side of the street homeless population, the main priority is to access the kind of housing assistance required to achieve solid, long-term accommodation acceptable to them: many homeless people have been unwilling to accept shelter accommodation due to the stringent rules which often apply. Civil society shelters vary widely, and all are limited by budget constraints, but many, or most, do not allow daytime use of the facilities, and/or tend to maintain curfew hours for the client population to return at night. Nearly all require strict sobriety, most with barracks-type accommodation; probably most do not allow pets.

While some shelters were committed to reintegration and worked effectively to deliver support, a significant share appeared to offer accommodation only, with minimal programmes and without making clear commitments to help homeless clients to regain skills and competencies to re-join the housed society. In this sense, the quality and outcomes of shelter stays are highly variable and uncertain in themselves.

As confirmed by the interviews conducted, some undefined number of existing homeless shelters run by civil society were already full and were thus unable to take in any of the newly-evicted street homeless during the pandemic. Over the course of the pandemic, the ordinary, routine shortage of shelter accommodation capacity was compounded by the sudden surge of new homeless people losing their housing.

Beyond rounding up street-homeless populations, the fact that the Department of Human Settlements is not closely involved in developing policy thinking around homelessness – when the homelessness issue is fundamentally a housing issue – is concerning, as unemployment continues to rise, potentially putting increasing numbers of less-qualified workers into a homeless state. At local level, the seeming near-lack of systematic, direct communications between the national policy level and the local implementation level,

represents a gap that leaves the municipalities expected to develop workable alternatives on their own, to deal with an expanding homeless population on their streets.

In addition, it seems as if national departments do not always monitor the unfolding of local-level pandemic response, and furthermore, it appears that no institutional channel for good information flow is available to DHS, as the key government department for street homelessness, concerning how national-level policy declarations affecting housing access are being implemented and managed by local government. The national/local communications' interface, as well as policy development, may not be well managed at present in respect of the homelessness crisis. At the same time, housing access remains a key solution toward bringing the overflowing homeless population back into an ordinary housed society.

Cities: Stadiums as Mega-shelters

While eThekwini established perhaps the most successful programme – which moved more than 1500 homeless people into eight temporary shelters within a few days, by making use of effective collaboration between the metro municipality and partners in civil society (de Beer & Vally, 2020) the other major metros encountered difficulties at various levels. Although Johannesburg hosts arguably the largest homeless population in South Africa, the city response was reported as relatively slow initially. Five temporary shelters were organised, which seem unlikely to have accommodated all, or most, of the whole street population at the time. Mangaung's initial response is also characterised as somewhat disorganised and uncoordinated from the outset, with various organisations and structures mounting different initiatives as part of the city's overall response. Cape Town and Tshwane framed larger and more ambitious programmes, based on accommodating the homeless in disused sports' stadiums. In hindsight, it looks as if the local governments may have tried to move too quickly in a well-intentioned effort to prevent contagion.

Cape Town attempted to bring its entire homeless street population to a stadium in Strandfontein, which was cited by medical commentators for its poor preparation and seriously sub-standard conditions (KII_ Medical NGO, 2021). One former occupant described it as "the hell that was Strandfontein" (Mesquita, 2022). With a homeless population of more than two thousand, and local residents and civil society complaining that people were being brought in by the police against their will, the Strandfontein mega-shelter was finally closed after a legal struggle and the homeless residents dispersed into other, smaller, temporary facilities.

As a result of the failed stadium initiative, a new social action committee was formed in Cape Town, including civil society organisations, as well as the Strandfontein residents and municipal representation. This structure appears to be a promising initiative in relation to the potential for future sudden quarantine requirements affecting the street homeless population.

Tshwane, a metro which has had a close focus on its homelessness challenges over several years, and which had a metro homelessness policy in effect by 2019 (COT, 2019), initially relied completely on a response structured and run by the city, without collaborators or partners. This initiative placed most of the Tshwane homeless population at Caledonian Stadium, a large, abandoned venue estimated to have quickly come to accommodate a further 2000 homeless street people at its peak occupancy (Marcus et al., 2021; de Beer and Vally, 2021).

While many came in voluntarily, the situation of the residents deteriorated under conditions of poor supplies and services in a homelessness context. It is reported that 500 residents of the stadium's tent camp were active substance users and went into withdrawal symptoms within a few days, creating a major crisis for which no demand had been anticipated (Marcus et al., 2021). The lack of medical options in place forced the tent shelter's city managers to call in civil society and university assistance, setting up a harm reduction programme to allow the victims chemical substitutes for their usual substances.

The entry of civil society participants with more experience in working with homelessness also helped to bring general conditions under better control, but the initiative could not be rescued, and was shut down, with residents being moved into a range of other shelter options. In the aftermath, a more intensive collaboration initiative was constructed between the social partners concerning the means to deal with future homelessness crises, which was situated at the University of Tshwane and involved a wide range of concerned stakeholders (Mahlokwane, 2022).

These first responses to the national priority of bringing the homeless off the street came from the municipalities alone, without recourse to their potential partners in the universities and civil society; it appears as if these rapid responses tended broadly not to be well-informed, or adequately planned, even in the municipalities that were well aware of and actively engaged with the homeless as a vulnerable constituency needing particular attention (de Beer & Vally, 2021). At the same time, in most cases, it looks as if the main municipalities were short of essential supplies and resources, did not foresee the challenges, and were not well organised as they tried to respond with real speed to the spreading pandemic and the state priority set by the National Command Council.

The most hopeful and promising outcome from the early efforts to accommodate the street homeless under pandemic emergency conditions was the subsequent collaboration structures connecting civil society to local government. These took shape as a result of anxious consultations which went back and forth, between local government and civil society, as the cities hunted for effective plans and interventions. As the pandemic moved on and further variants appeared, the planning response from local government level became progressively more and more effective, and better targeted.

At the same time, it also needs to be asked whether the early policies around removing the homeless from the streets proved to be an effective response to the risks posed by the pandemic, and whether the resources allocated to this could not have been put to better use by employing different methods. The urgency of the early lockdown period rested heavily on the overriding municipal goal of bringing the whole street population into municipal shelters. At bottom, these attempts appear to have simply recycled the long-established, urban-government priority of getting homeless people off the municipal streets. It appears that few, if any, South African municipalities had a clear scientific quarantine plan which could demonstrably prevent and control the transmission of the coronavirus.

The Role of Non-Governmental Organisations (NGOs)

Human settlements were central to the prevention and control of the Covid-19 Pandemic. The NGOs that were already in place, dealing with different groups of the

homeless, took on the task of accommodating those who required shelter. Among the NGOs were religious institutions such as churches and mosques which assisted people impacted by the Covid-19 pandemic. While the religious institutions provided food packages and dignity kits for vulnerable groups such as migrants and refugees, the homeless shelters retained their street homeless population and adjusted conditions to comply with the Covid-19 regulations. The role of NGOs and religious organisations was underscored in that they continued to provide support to migrants and refugees, regardless of status, during the lockdown.

Shelters that were already in operation before the pandemic, and which had been serving the street homeless population, continued with their work. Most of the shelters were already full of their 'usual' clients who, in most instances, were paying homeless people who also required rehabilitation for substance abuse from drugs and alcohol. During the lockdown the homeless shelters adjusted their programmes and provided the following:

1. Education of the homeless who stayed in their shelters concerning the Covid-19 protocols, i.e., wearing masks in public spaces, sanitising, observing social distancing of 1.5 metres and washing their hands, among other protocols.
2. The service of taking the temperatures of those in their shelters (accommodation) and reporting on suspected cases of Covid-19 in their environments.
3. Retaining only the necessary staff members while allowing all others to work remotely during the hard lockdown (alert levels 4 and 5).
4. Programmes designed by the shelters' staff for their clients during the hard lockdown (alert levels 4-5) to ensure that they were occupied throughout the day.
5. Physical activity programmes designed by shelters to keep residents busy during the day.
6. Provision of the homeless with skills training in art and crafts during the lockdown.
   Homeless shelters made use of technology to help those residents who required therapy, such as remote access to Alcoholics Anonymous and Narcotics Anonymous sessions.

Social Housing

According to the Social Housing Regulatory Authority (SHRA), the social housing sector caters to a broad range of low- and middle-income households, ranging between a minimum income band of R800 and a maximum of R15,000 per month (SHRA, 2020). Although it caters to the housing needs of low-income households, this housing option is, however, not intended for the poorest members of society. It is designed for those who earn a secure income, either in formal or informal employment, in order to afford the prerequisite rental payment in exchange for accommodation (SHRA, 2020). In practice, the income bracket of social housing tenants appears to be more stringent than indicated by the SHRA. Several social housing companies such as the Social Housing Company, also known as SOHCO, the Johannesburg Social Housing Company (JOSHCO), and Capital City Housing (CC Housing) require applicants to earn a minimum income of R3,500 to qualify for a social housing unit (SOHCO, 2019; CC Housing, 2021), further excluding those who are most vulnerable. Furthermore, while both low- and middle-income groups can be accommodated in social housing, to promote integration, government funding mainly targets tenants who are at the lower end of the income bracket.

Notwithstanding the stipulated income bracket as one of the key requirements when applying

for a social housing unit, another notable requirement is that a tenant should either be married or living with a partner. In a case, where a potential tenant is single, or divorced, s/he is required to present proof of financial dependents who live with the applicant permanently (SOHCO, 2019; CC Housing, 2021). This indicates that more than one person lives in a social housing unit. Furthermore, given the national average household size of 3,3 people per household (Stats SA, 2016; Esri, 2021), tenants who fall under the low- and middle-income household category in South Africa, live with several family members, including those in social housing units. Based on the total population size and the number of households in the country's metropolitan areas, the average household size in urban areas is slightly higher than the national average, amounting to approximately 3.4 people, most of whom live under congested conditions in a one-bedroomed sized house, if lucky.

Social housing units in South Africa range between a minimum size of 30m², which typically constitutes a bachelor unit with a separate bathroom, and a maximum size of 55m², which comprises a three-bedroomed unit, with a kitchen, living room and bathroom. However, a government funded unit is currently restricted to a minimum size of 30m² (SHRA, 2020). This means that, an average household of three people with a monthly income of R3,500 or less, occupies a 30m² open-plan unit. At best, households with a slightly higher income live in a one-bedroomed unit of up to 38m², meaning that at least two members of a household will share a bedroom. In such instances, how do households maintain self-isolation and/or quarantine should one of their members contract the virus? For those expected to work from home, and or participate in home-schooling, how do they achieve productivity when three or more family members go about their daily tasks during the lockdown, given the limited space? More importantly, how do the members of the households maintain their sanity and mental health when forced to cohabit all day in congested social housing units without much room for movement, with little to no physical activity, or permission to use common areas?

According to the Social Housing Regulatory Authority (SHRA), many tenants reportedly lost their income during the Covid-19 pandemic, and with that, their ability to pay rent (SHRA, 2021). With many losing their jobs and income, the threat of eviction compounded a myriad of socio-economic challenges that were exacerbated by the Covid-19 pandemic for social housing tenants and their families.

Tenants who were unable to meet their rental obligations in the social housing sector moved out of social housing. The question is where these households' found accommodation after this? Previous studies on housing careers suggest that, in times of distress, households downgrade and find alternative accommodation that is affordable, although it might not be adequate (Ndinda & Ndhlovu, 2020). While statistics are not available, informal settlements remain an available housing option of households under financial distress. These allow households to remain near the city and to continue accessing the opportunities that cities offer (Ndinda & Ndhlovu, 2020). The common denominator of informal settlements is the lack of basic services such as water and sanitation. The semi-permanent dwellings expose the inhabitants to the elements of the weather such as rain, storms, and extreme weather conditions. As people experienced financial hardships during the Covid-19 lockdown periods, new informal settlements mushroomed due to the inability to afford rent in formal housing. This situation aggravated the economic shocks of the pandemic on the poor and marginalised.

Thus, the exploration of these issues is central to determining the adequacy and exhaustive nature of government interventions in response to the pandemic and its negative implications. To this effect, the point of departure for government interventions would have been to consider the preparedness of citizens, particularly social housing tenants, to adhere to the lockdown restrictions safely and successfully; to self-isolate, and to quarantine away from family members, should they become exposed to and/or infected by the virus.

Interventions – Social Housing

Due to job losses and reduced incomes, low-income households were unable to fulfil their monthly rental obligations and thus bore the risk of eviction from their homes. The South African government, through the Department of Human Settlements, allocated a R300 million grant to alleviate pressure on social housing tenants – a much needed intervention. Subsequent to the provision of funds, the Department of Human Settlements established a Policy Framework for the Residential Rental Relief Programme (RRRP) to disburse funds appropriately, and to deserving tenants. According to the RRRP Framework, the grant would be paid to social housing landlords on behalf of tenants who had successfully applied for rent relief. However, the allocation of funds did not result in the immediate resolution of rental challenges of the targeted beneficiaries.

It covered the rental arrears amount and we motivated for utilities as well and we motivated to use [it] in instances where the deposit was utilised to re-instate the tenants' deposit. So, it was trying to... but again, it's at that period you had to prove. Now, my experience is this, over those 6 months, March to September, people would have begged, borrowed, dug into savings to be responsible tenants. The impact, it [was] only felt post, in the subsequent waves, and we sort of are hamstrung if you don't roll over the implementation period, because you'd find a person would be retrenched in October, or [their] savings dried out, and they only fell into arrears in December, and the current parameters then just don't... they don't work. So, as a result, we've been unable to successfully implement the rent relief. I mean to date, of the R300 million allocated, we're very, very far behind. I think, at best, in the last Approvals' Committee we have a total of R1.2 million approved from 158 applications (KII_National_Official_1).

For the Department of Human Settlements to release the funds required to provide relief to tenants, the drafting of a special policy framework and the implementation of various administrative processes and procedures was required to ensure compliance with the Public Finance Management Act (PFMA). Establishing these measures and getting approvals took a long time. By the time the RRR policy framework was passed, and subsequently approved in February 2021, some evictions had already been set in motion.

Over the period March to September 2021, there were a total of 94 evictions across a portfolio of 40,000 units... these were either court ordered evictions, or evictions that followed regulations stipulated by the Department of Cooperative Governance and Traditional Affairs (COGTA) (KII_National_Official_1).

By March 2021, a year had almost passed since the R300 million rental relief fund was announced, yet no implementation had taken place, resulting in 94 households being forcibly removed from their homes. Evidently, there was insufficient time for tenants to submit their applications for the grant to Social Housing Institutions, for the Social Housing Regulatory Authority (SHRA) to assess applications and select qualifying applicants for the grant, and then settle a portion of their arrears amount.

In addition to the last-minute implementation of the RRR disbursement framework, the requirements for qualifying for the relief grant were quite stringent.

Those [RRR] policy parameters are quite restrictive... the period of applicability was only from 1st April to September 2021. Given that the time would [have] passed when the policy was adopted, the implementation would be retrospective compensation, which makes it challenging, even without the restrictive parameters. (KII_National_Official_1).

The state of disaster regulations that were put in place and government interventions for social housing rental relief were ineffective in reducing the impact of Covid-19. While the announcement of the rental relief fund was an important intervention by the government, delays in the release of the funds resulted in minimal uptake. The most vulnerable targeted beneficiaries had to vacate their social housing units to avoid the risk of eviction. Tenants who remained in the social housing units went into arrears. For those who remained, few benefitted from the rental relief fund. Although government may undertake noble decisions in response to a crisis, these may be insufficient to address the challenges if the tools for implementation are lacking. Intervening in one domain may require interventions in a range of other domains for a specific intervention to be effective.

Temporary Relocation Units (TRUs)

The National Department of Human Settlements, in partnership with the housing development agency, established temporary relocation areas (TRAs) and built temporary relocation units (TRUs) throughout the country (DHS, 2020). The TRAs and TRUs are financed through the Department of Human Settlements' Emergency Housing Assistance programme (EHAP). The EHAP provides emergency housing assistance during disasters and emergencies as a first step toward a more permanent housing solution. The EHAP is utilised during disasters to assist people living in dangerous conditions: households caught up in disaster or emergency situations, and to assist households threatened with eviction.

The aim of the EHAP is to address the housing needs of persons in difficult housing circumstances due to disasters and emergencies (DHS, 2020). The EHAP caters for special circumstances to address the diversity of household needs in emergency housing. The objectives of the EHAP are to provide temporary assistance in the form of secure land and/or basic municipal or engineering services and shelter (DHS, 2020). During the Covid-19 pandemic and subsequent lockdown, this programme (EHAP) remained active throughout the country. The need for TRAs and TRUs varied by province.

In terms of the building norms and standards, each TRU should be between 24 m^2 to 30 m^2. The units should, as far as possible, be as appropriate to the environment and beneficiaries as is feasible. The units should be built for thermal efficiency to suit the building materials and local environmental conditions. The basic infrastructural services provided include water, sanitation, roads, storm water drainage, and streetlights. The specifications are that one toilet should be provided for every five families. The TRUs provided to deal with the Covid-19 pandemic were spread across the country in different provinces (Table 5.5.2).

TRUs were provided in diverse contexts across the country (DHS, 2020). These included Duncan Village in Mdantsane (1174 units) in Buffalo City municipality, and in Nelson Mandela Bay Metropolitan Municipality, the TRUs were delivered at Kwa Nobulhle Area 11, Phase 4 (500 units), Khayamnandi, (500 units), and Jachvlakte (500) (DHS, 2020). In OR Tambo and Alfred Nzo districts, 1400 units were delivered. In Free State, Maluti a Phofung local

municipality, 638 units were delivered in Linda Mkhonto (DHS, 2020). In Gauteng, Tshwane Municipality, TRUs were delivered at Mamelodi hostels (1000 units) and Mamelodi informal settlements (100 units). In the Johannesburg region, TRUs were delivered at Alexandra Madala Sports Field (880 units) and at Marlboro (1600 units) (DHS, 2020). In Limpopo, Tzaneen, 40 units were built at Talana and 152 units at Burgersfort (Feta Kgomo municipality) (DHS, 2020). The TRUs were at different stages of construction during the lockdown. The process of delivery was criticised due to challenges related to the procurement process.

While the TRAs and TRUs provided much-needed accommodation during the hard-lockdown period, the beneficiaries of these units began to see them, not as temporary, but as an inferior form of accommodation. The beneficiaries considered the TRUs to be shacks. Over time, the services provided in the TRUs were vandalised as people protested.

Province	TRA/TRUs	Notes
Eastern Cape Buffalo City Metropolitan Municipality	Mdantsane, Duncan Village = 1174 units	Planned before Covid & required as part of the Greater Duncan Village Redevelopment Plan.
Nelson Mandela Bay Metropolitan Municipality	Kwa Nobuhle Area 11 Phase 4 = 500 units Khayamnandi = 500 units Jachvlakte = 500 units	Covid-19 impacted minimisation and social distancing.
Free State Maluti a Phofung Local Municipality	Linda Mkhonto = 638 Units	Relocations were undertaken to ensure minimisation of Covid-19 impact and social distancing.
Gauteng - City of Tshwane	Mamelodi Hostels = 1000 units	TRA & TRUs built to decongest Mamelodi hostels; funded by the USDG & part of the CRU development & upgrading programme.
Gauteng - City of Tshwane	Mamelodi informal settlements = 100 units	TRA & TRUs to accommodate Mamelodi flood victims. Households were accommodated in halls & churches.
Gauteng - City of Johannesburg	Alexandra Madala Sports Field = 880 units	
Gauteng - City of Johannesburg	Marlboro Sites = 1600 units	Decongest Alexandra
Eastern Cape – OR Tambo District Municipality and Alfred Nzo	EHA for 1400 in OR Tambo and Alfred Nzo districts	Houses of 1400 families damaged by storms.
Limpopo - Tzaneen	Talana Hostel – 40 units	TRAs & TRUs required to de-densify Talana hostel & informal settlement.

Province	TRA/TRUs	Notes
Limpopo - Feta Kgomo Tubatse	Burgersfort Extension 10 = 152 units	TRA & TRUs required to reduce overcrowding in densely populated Burgersfort informal settlements.

Table 5.5. 2: Temporary Relocation Areas & Temporary Relocation Units

Source: Authors' interpretation of DHS report - Department of Human Settlements, 2020.

Accommodation for Migrants and Refugees

Key informant interviews conducted provide a glimpse of the housing challenges of migrants and refugees in different parts of the country. In Richards Bay, the hard lockdown was particularly challenging for migrant workers. Most migrant workers depend on daily earnings for their accommodation and subsistence. When the hard lockdown was implemented, migrants and refugees not only lost income, but their precarious existence was also worsened by the expiry of their permits and the difficulty of renewing these during the lockdown. The lockdown meant that the daily jobs that had been available before the lockdown were no longer available. These jobs included pushing trolleys, working as car guards at major retail outlets, or as mechanics. Some worked in factories, restaurants, farms, and private firms. The loss of jobs and income had a ripple effect, and migrants and refugees who were unable to pay rent were threatened with eviction and homelessness. Those who could not pay rent were evicted and had to share accommodation with others in overcrowded conditions. The Covid-19 regulations of observing social distancing did not apply in the face of homelessness. The situation was explained as follows:

You are renting a house, you are a tenant, your relationship will be based on the money that you are paying. The moment that you can no longer pay the money to the landlord, you become also useless. The only word for you, it will be for you to evict or to leave the house, so that he can get a better option, get someone who can pay [for] the house. So, a lot of families have been through that situation (KZN_NGO_2).

While NGOs which work with migrants and refugees tried to negotiate for their accommodation, municipal pressure on landlords meant that they too needed paying tenants. Municipalities did not cease to collect their rates and taxes, and this meant that landlords had to continue to service their municipal accounts. Despite government regulations which stipulated that landlords were not allowed to evict tenants during the hard lockdown, migrants were evicted:

We tried... to negotiate even with some landlord[s] on behalf of some of these refugees and migrants, but still, you can negotiate only to a certain level. But when there is no money in and the person is telling you, 'XX the Government is not giving us allowance that we can no longer pay rates, we cannot pay water, so we have to pay regardless of

Covid. So, we can no longer take your people. You must pay money, or you leave'. ...So, life became very difficult (KZN_NGO_2).

When the hard lockdown resulted in the closure of businesses and places of religious worship, migrants and refugees suffered because all, if not most, sources of social support were closed. Some were evicted from their accommodation. Others had to leave before they could be evicted to share accommodation with colleagues. In the time of Covid-19 where social distancing was required, the lack of income and accommodation meant migrants and refugees had to survive. In Richards Bay area, migrants, and refugees, created informal settlements in the forest as those were the only safe spaces, they could occupy to comply with the Covid-19 lockdown regulations. Some moved into existing informal settlements, as those were the only spaces where they could live either without paying, or with minimal payment.

Okay, so, basically with the foreigners coming into Richard's Bay area itself, they generally do take to what we call a place called the Green Belt. The Green Belt generally is a forest area... So, we are surrounded mostly by forest and trees, right? So, these guys generally go and stay in those areas which they now call the Green Belt, and they form informal settlements there with boxes and wire, whatever, cardboard, and stuff they make their homes there... So, they come here looking for food and obviously, because we are not a wealthy organisation, we can't really do something on a committed monthly basis for them, you know (KZN_NGO_3).

The lack of adequate accommodation among migrants was accompanied by a lack of food and basic personal hygiene essentials. As indicated, most migrants work in the informal sector and others rely on daily wages for their sustenance. With the hard lockdown, avenues for earning income, such as parking vehicles, guarding, and other economic activities were not allowed. With increasing hunger and no support in sight, migrants and refugees approached religious organisations for support, and it was the faith-based organisations that stepped in to assist these vulnerable groups with basic needs such as food, shelter, and dignity packs. Although churches and mosques were closed for worship services, they stepped in to assist migrants in distress.

So, some of them take to the, you know, the streets, some take to staying in flats together, in homes with maybe six, seven of them, etcetera., and they share the rent, etcetera. So, that is basically where we at in [the] Richard's Bay area itself. Obviously, our objective is just not helping in the communities only, but we offer different services to the community in the sense of prayers, in the sense of people joining in for counselling, the youth development programme that we reach out to the youth and keep them out of addiction and drugs, where we have sporting activities for them on the weekends. And obviously, in the afternoon, we have our Islamic Science classes with the youth as well. So, there's various work that takes place and, just reaching out to the community is one of the many works that we carry out in our society. So ja, that's where we at, now (KZN_NGO_3).

As a study participant argued, faith-based organisations were not included on the list of entities that provided essential services during the initial lockdown (alert level 5). However, after negotiation with local authorities, the faith-based organisations which were assisting vulnerable groups were allowed to operate to provide social support, but not to open worship services. While meeting the material needs of the population was critical, the National Command Council overlooked the fact that what had sustained the country through various crises was their spirituality. Over centuries and decades of colonialism and apartheid oppression, the spiritual support that the population received from their religious leaders, from congregating

and worshipping together was subsumed by the dominance of the biomedical response to the Covid-19 pandemic. In the bid to prevent and control the spread of Covid-19, eviction from spaces of worship that remained central to keeping hope alive amid the hopelessness, was not a well thought out decision. The lockdown regulations focused on the physical needs and forgot that humans are not just physical, but comprise spirit, body, and soul.

Despite the provision of social support by the Department of Social Development (DSD) which stipulated that migrants and refugees who had valid identity documents should be provided with support, local leaders in townships chose to distribute food parcels and other disaster relief packages to citizens only.

The second example I can give, when Covid started, there was a problem whereby the Government announced that there is food for everybody, but foreign nationals were excluded until when there was some engagements at the national level, that's where the President, as well as the Minister, Lindiwe Zulu, announced that even those who are in the land legally, those with their asylum-seeking permits or refugee status, or those migrants with passports, they can also receive food. But practically, on the ground, this was not easy, because when foreign nationals could go to any office and request a food parcel, they were told that there is no food. They were told the food is being distributed through Councillors, and when they approached Councillors for food, there was no food. Councillor[s] could easily give them an example, say[ing], in my area I have 10 000 people (KII_NGO_KZN2).

However, when migrants mobilised to access support for those among them who were in distress, they shared that support with the local population in the townships. What stands out here are the levels of reciprocity between the local population and migrants and refugees who live side-by-side.

This logic, and we said, 'Okay let us step in'. We started mobilising food through churches, through mosques, through our partners, to also make sure we are also covering the gap. Making sure, I mean foreign nationals, migrants, refugees, stateless, including our locals, they are also receiving food from our office. It went to an extent where I mean our DSD office locally, here at King Cetshwayo, are bringing the list to us of people in need of food, and we made sure we delivered to those people (KII_NGO_KZN2).

While the pandemic impacted the living conditions of both citizens and migrants, some good came out of it. The reciprocal partnerships that were forged between migrants and citizens were instrumental to curbing xenophobic violence in some parts of KwaZulu-Natal. The migrant-local' partnership occurred before the emergence of the Dudula movement that has consistently targeted African migrants and has come to be viewed as the epitome of Afrophobia in the South African psyche.

Government Intervention

Government intervention in human settlements during the Covid-19 pandemic and lockdown period occurred at different levels, in various housing typologies and involved a range of stakeholders. In terms of the dedensification of informal settlements, there was engagement with civil society. The concern was how to intervene and create spaces between dwellings in informal settlements to assist with the emergencies in the various settlements. Civil society also collaborated with government to provide food parcels to residents in informal settlements. Government collaboration with the business sector was also critical to the funding of Covid-19 programmes, particularly in informal settlements and among vulnerable populations across different housing typologies.

Covid-19 also reinforced collaboration between

the different spheres of government. Due to the lockdown and the restrictions placed on local travel, institutions such as the HDA could not travel to identify land parcels, or even conduct inspections of projects that were in progress. The HDA had to rely on their partners at local government level to inspect projects at different municipalities and then rely on the reports submitted to make decisions.

Multisectoral Action (MSA) (Ndinda et al 2018) was critical to government intervention in accommodating the homeless in temporary shelters, provision of services in informal settlements, in the relocations conducted throughout the pandemic, and in the design of the social housing relief grant. Government intervention collaboration was critical in bringing business on board to take bold measures to assist the country to survive Covid-19. In the housing sector, collaboration between government and the banks resulted in the design of Covid interventions that provided relief to banking clients who had access to various types of loans. The relief provided by the banks not only assisted the clients to cope, but also to bounce back once the economy was re-opened. The multiple ways government intervention impacted people living in different housing typologies is discussed in the sections that follow. Starting with homelessness, we note that to directly address the homelessness challenge linked to the pandemic, probably, the final priority is to move toward reintegration of the street homeless who lost jobs during the hard lockdowns. The intense activity in informal settlements during the Covid-19 lockdown and subsequent phases resulted in reciprocally vigorous activity from the local authorities and provincial governments. Local and provincial authorities evicted residents of newly occupied land and provided additional security to protect units under construction from vandalism.

The Western Cape province spent about R24 million securing its properties and preventing land occupations. The response of the Western Cape Province was to mobilise the Anti-Land Invasion Units and to sensitise communities to report land occupations to the South African Police services (SAPS) or the Western Cape Settlement Control unit (WCSCU) (WCG, 2022). The impact of the land occupations, protest actions and vandalisation of units under construction, was that the planned developments in the affected areas could not proceed. For example, the invasion of two sites at Silverton in Khayelitsha meant that more than 500 planned units could not be built. In George Municipality the invasion of Thembalethu, which was part of the UISP upgrade, could not continue to be developed because the installation of services ceased. An attempt to invade a project under construction, the Vlakkeland housing project in Paarl, resulted in additional security being supplied to protect the site from illegal occupation.

Municipalities were ruthless in their evictions of residents of specific informal settlements across the country (Ndinda et al., 2021). This was despite government regulations which prohibited evictions during the Covid-19 national lockdown (Ndinda et al., 2021; Ndhlovu, 2022). While the government has a programme for upgrading informal settlements, the sporadic nature of the establishment and the density of the population make it difficult to clearly establish the total number of informal settlements at any given time, or even the population of such.

Implications and Recommendations (Solutions)

In a country where a large proportion of households live in congested housing conditions, informal settlements, or are homeless, the notion of a total lockdown should have been more carefully considered. Intervening to address one problem (e.g., rental

payment) requires intervention in a range of other domains to ensure that the intervention is effective. This could mean reviewing and revising departmental finance operating policies and procedures to ensure that they are enablers, rather than barriers, to assisting targeted beneficiaries during disasters.

The lessons learned here, one is really how detrimental policy delays or formulation can be. It must be evolving and suit[able], fit for context, so, it should be somewhat adaptable. Putting too strict requirements or parameters, it hamstrings the implementation, so that's just from a practical policy. When it comes to the lessons learned, I think we need to take an honest reflection of government's capabilities to actually spend. I think if you look across the board, they had even problems in all the other programmes so your TERS, and other sort of relief measures, from actually spending the money. And I'm not sure if there's an enhancement or where we... Because it really is government's responsibility to stick [up] for the most vulnerable, but sometimes it becomes very difficult to implement. You can have the best intentions, but they're not always good enough to make it, to expedite it where it matters most, to feel the most impact. Because if that money was done in that year, there would've been a lot more good news stories (KII_National_official_1).

While it is critical to implement global guidelines on prevention and control of epidemics, there is a need to factor in the local context to ensure that interventions are relevant and effective.

Recommendations

1. Given the impact of the lockdown on the residential construction sector, the country should never again consider a total shutdown of the economy.
2. Demarcated emergency funding must be utilised as soon as possible, as was the case in other sectors such as the Department of Police, Department of Social Development, Department of Health, and Department of Education. Although other departments and sectors had existing infrastructures and channels through which funds could be furnished speedily, including the South African Social Security Agency (SASSA), the Department of Human Settlements also needs to invest in the necessary infrastructure to disburse funds speedily during disasters.
3. Policies must be adaptable to changing contexts, such as disasters and emergencies, in order to save lives. While compliance with legislation such as the PFMA is mandatory, it should not take precedence over saving people's lives. Government officials and departments, including the Department of Human Settlements, were reluctant to be found with an adverse audit report due to non-compliance with government regulations, particularly amid reports of misappropriation of Covid-19 funds. Special provisions must be made for expediting funds in emergency situations without compromising accountability measures.
4. The Department of Human Settlements needs to include in its policies, processes and procedures, clauses that can be invoked to intervene in emergency situations. Interventions put in place, such as the moratorium of evictions during disasters must be complied with, and the penalties for non-compliance must be imposed on offenders.
5. Newly homeless people may not even be able to rent a shack unless they retain some savings derived from their loss of housing. Post-Covid recovery needs to implement a programme of rent guarantees, or rent support, to save the newly unemployed homelessness.
6. The pace at which the provision of water and sanitation in informal settlements was carried out during the Covid-19 lockdown should be the same pace that is used to upgrade informal settlements in the absence of a pandemic.
7. The lack of accurate data on land availability,

size, services available on the land, and other critical elements remain a constraint to rapid intervention in human settlements during emergencies. The Department of Human Settlements and its partners should ensure the availability of accurate and reliable data and statistics on land and the status of both public and private land.

8. The design of subsidised housing should include studio apartments which can be used to quarantine individuals during the outbreak of future epidemics.
9. Subsidised housing needs to be designed in such a way that it can be converted for multiple uses during epidemics or disasters.
10. The design of subsidised dwellings needs to include sufficient ventilation, energy efficiency, individual and communal spaces, and community centres and services that can be utilised during pandemics such as Covid-19.

Way forward

This chapter has unravelled the different interventions by government and other stakeholders and provided recommendations for policy and practice in the short- medium- and long-term.

References

African News Agency, 2019. SA has good policies but lacks implementation - trade and industry official. IOL, 18 January.

Altman, M., 2022. Trajectories for South African employment after Covid-19. South African Journal of Science 118: 5-6. https://cramsurvey.org/wp-content/uploads/2021/07.1.-Spaull-N.-Daniels-R.-C-et-al.-2021-NIDS-CRAM-Wave-5-Synthesis-Report.pdf. (Accessed 3 October 2022).

Averchenkova, A., Gannon, K. & Curran, P., 2019. Governance of climate change policy: A case study of South Africa , s.l.: Grantham Research Institute on Climate Change and the Environment

BBC News, 2020. Coronavirus in South Africa: Misuse of Covid-19 funds 'frightening'. https://www.bbc.com/news/world-africa-54000930 (Accessed 10 January 2022).

CAHF, 2020. Housing Finance in Africa 2020 Yearbook: A Review of Africa's Housing Finance Markets. Johannesburg, Centre for Affordable Housing Finance in Africa.

Cape Times, 2022. Homelessness requires a sustainable solution. Editorial, Cape Times online, 11 October.

CapeTown Project Centre, 2015). Informal Settlements in South Africa: Langrug Community. https://wp.wpi.edu/capetown/projects/p2014/wash-up-business/background-research/informal-settlements-in-south-africa/ .

Cawley, C., Kanzaria, H., Levin, B., 2022. Mortality among people experiencing homelessness in San Francisco during the Covid-19 pandemic.

JAMA Network Open.

CC Housing, 2021. What you need to know about social housing. https://www.cchousing.co.za/what-you-need-to-know-about-social-housing/ (Accessed 4 January 2022).

Cilliers, J., Victor, H., 2018. Considering spatial planning for the South African poor: An argument for planning with. In Town Reg. Plan (online), Vol 72. Bloemfontein.

City of Tshwane. 2019. Tshwane Homelessness Policy. City of Tshwane, City of Tshwane Metropolitan Municipality.

Cross, C. & Seager, J. (Guest Eds.)., 2010. Development Southern Africa: Special Edition on Street Homelessness, 27: 1.

Cross, C., Ndinda, C., Makola, J.S., Sello, N., 2020. How labour migration works in the space economy: Labour markets, migration tracks and homelessness as an indicator of failure in Marikana. In L. Bank, D. Posel, F.Wilson (Eds.). Migrant Labour after Apartheid: The Inside Story. Cape Town, HSRC Press.

De Beer, S. & Vally, R. (Eds.)., 2021. Facing Homelessness: Finding Inclusionary, Collaborative Solutions. Aosis Books, Cape Town.

De Beer, S. & Vally, R., 2021. The visibility of street homelessness during Covid-19: how South African cities responded to homelessness during Covid-19. In S. De Beer & R. Vally, (Eds.). Facing Homelessness: Finding Inclusionary, Collaborative Solutions. Aosis Books, Cape Town.

De Beer, S. and Vally, R., 2020. Fostering Pathways Out of Homelessness: Choreographies of Change-Making in the City of Tshwane. South African Review of Sociology, 51(3-4), pp.77-94.

De Beer, S. & Hugo, J., 2021. Homelessness and Covid-19 in the city of Tshwane: research report. University of Pretoria, Pretoria.

De Beer, S. 2020. Homelessness IS a housing issue: responding to different faces of homelessness, a City of Tshwane case study. South African Review of Sociology 54: 56-76.

Department of Human Settlements (DHS). 2021. Annual Report 2020/2021. Pretoria: Department of Human Settlements. https://www.dhs.gov.za/sites/default/files/u16/DHS%20AR%202020-21_FINAL%20usb_web.pdf accessed: 18 October 2023

Department of Human Settlements (DHS), 2020(a). Establishment of Temporary Residential Areas and Construction of Temporary Residential Units: Findings of the Auditor -General's Special Audit. Presentation to Portfolio Committee. 6 October. Pretoria, Department of Human Settlements.

_____, 2020(b). A policy framework for the residential rent relief scheme: Draft version 6, s.l.: Department of Human Settlements.

_____, 2023. The Rental Housing Tribunal. Pretoria, Department of Human Settlements. https://www.dhs.gov.za/sites/default/files/u16/RENTAL%20HOUSING%20TRIBUNAL.pdf Accessed: 18 October 2023.

Draper, A., 2020. Stop Illegal Evictions! A research report into the eviction of shack-dwellers in eThekwini during the Covid-19 crisis. http://www.churchland.org.za/wp-content/uploads/2020/06/STOP-Illegal-evictions.pdf. (Accessed 19 January 2022).

DWS, 2020. Covid-19 interventions. Pretoria, Department of Water and Sanitation.

Environmental Systems Research Institute (ESRI), 2021. Average Household Size in South Africa. https://www.arcgis.com/home/item.html?id=582208ececa2424ab6e387d9cdcf01e3 (Accessed 3 January 2022).

Evans, J., 2021. Cape Town's homeless in spotlight as SAHRC called in to help address security issues. News24, 8 December. https://www.news24.com/news24/southafrica/news/cape-towns-homeless-in-spotlight-as-sahrc-called-in-to-help-address-security-issues-20210901 (Accessed 8 December 2021).

Farha, L., 2020. Covid-19 Guidance Note: Protecting renters and mortgage payers, s.l.: UN Special Rapporteur on the right to adequate housing & Global Director, The Shift.

Financial Mail, 2022. By the numbers: laggards in the South African post-pandemic recovery. https://www.Financialmail.co.za (Accessed 14 July 2022).

Dallimore, A., de Kadt, J., Hamann, C., & Mkhize, S. (2021). Quality of Life Survey 6 (2021/21) Municipal Report: City of Tshwane. Johannesburg: Gauteng City-Region Observatory.

Maree, G., Fatti, CC., Gotz, G., Hamann, C., Parker, A. 2021. (R Ballard, J de Kadt, G Gotz, C Hammann, S P Mkhize, Y Naidoo, A Parker & R Seedat). 2021. https://d3iy114y1zl2zq.cloudfront.net/media/documents/GCRO_data_brief_2021_The_effects_of_the_Covid-19_pandemic_on_the_GCR.pdf. Accessed, 09 January 2024.

Garber, M., 2020. Homes actually need to be practical now. https://www.theatlantic.com/culture/archive/2020/03/finding-privacy-during-pandemic/608944/ (Accessed 7 January 2022).

Gcwabe, L., 2022. Healthcare: Homeless people falling through the cracks. Mental Health News. In Health e-News. https://health-e.org.za/2022/03/03/healthcare-homeless-people-falling-through-the-cracks/. (Accessed 26 July 2023).

Germishuys, P.S., Smith, S., Hugo, J., Madela-Mntla, E. & Botha, T., 2022. The demography and disease burden of the homeless shelter population of Tshwane during Covid-19. African Journal of Primary Health Care & Family Medicine, 14(1): 1-8.

Gibson, M., Petticrew, M., Bambra, C., Sowden, A.J., Wright, K.E. and Whitehead, M., 2011. Housing and health inequalities: a synthesis of systematic reviews of interventions aimed at different pathways linking housing and health. Health & place, 17(1), pp.175-184.

Glassier, H., 1990. Architects, vernacular traditions and society. Traditional Dwellings and Settlements Review, Volume 1: 9-21.

Gotz, G., 2021. Patterns of new work for those economically impacted during Covid-19. Gauteng City Region Observatory, Vignette 41 online.

Haffajee, F., 2021. Broken Johannesburg voters get ready to hang the council. Daily Maverick, State of our Cities, 27 October. https://www.dailymaverick.co.za/article/2021-10-27-broken-joburgs-voters-get-ready-to-hang-the-council/. Accessed 18 October 2023

Hanson, J., 2003. Decoding Homes and Houses. Cambridge, Cambridge University Press.

Heidegger, M., 1971. Building Dwelling Thinking" and "The Thing.". Poetry, Language, Thought, pp.143-62.

Heidegger, M., 1971. Building, dwelling, thinking. In: Poetry, language, thought. New York, Harper Colophon Books.

Herron, B., 2022. Cape Town is becoming a tent city. News24, 16 July. https://www.news24.com/news24/opinions/columnists/guestcolumn/brett-herron-cape-town-is-becoming-a-tent-city-20220716 accessed, 18 October 2023

Heywood, M., 2022. Why can't we live together? The conflict between suburbanites and the homeless in a Johannesburg park. Daily Maverick 168, 10 July. https://www.dailymaverick.co.za/article/2021-06-29-why-cant-we-live-together-the-conflict-between-suburbanites-and-the-homeless-in-a-johannesburg-park/. Accessed 18 October 2023

Hirsch, M., 2022. Local government: Cape Town mayor Hill-Lewis wants to shift approach on homelessness from law enforcement to care intervention'. Daily Maverick 168, 10 July. https://www.news24.com/news24/SouthAfrica/News/western-cape-saw-more-than-1-000-land-invasions-in-past-10-months-20210416. (Accessed, 29 July 2023).

Hugo, J., 2020. Presentation of the 10-point plan for Re-integrating Homeless People to the Disaster Relief Task Team, City of Tshwane, 7 May 2020.

Human, L., 2021. Cape Town passes Unlawful Occupations bylaw, despite protest. GroundUp, 29 September. (Accessed via DM website, 16 July 2022). https://www.groundup.org.za/article/cape-town-passes-unlawful-occupations-law-despite-protest/. Accessed 18 October 2023.

Institute for Race Relations, 2021. Disband the Command Council. IRR online, 15 November. https://irr.org.za/campaigns/disband-the-command-council. Accessed 18 October 2023

Ivanovic, G. W., 2014. People as place-making coordinate. Frontiers of Architectural Research, Volume 3: 36-43.

Kansas City Houseless Task Force (KCHTF) & Housing and Community Development Department (HCDD), 2022. Zero KC: a plan for ending homelessness in Kansas City. Kansas City, Missouri, KCHTF and HCDD.

Kiewt, L., Harper, P., Macupe, B., Saba, A., & Smit, S. 2020. Ramaphosa announces 21-day lockdown to curb Covid-19. Johannesburg: Mail & Guardian, 23 March. https://mg.co.za/article/2020-03-23-ramaphosa-announces-21-day-lockdown-to-curb-covid-19/. Accessed 09 January 2024

Komana, K. & Sathekge, H., 2020. The legality of evictions during the lockdown. https://www.lawtonsafrica.com/post/the-legality-of-evictions-during-the-lockdown. (Accessed 10 January 2022).

Konco, T. 2021. More Informal Settlements could pop up as Covid-19 continues to affect livelihoods. Cape Town: Weekend Argus, July 10. https://www.iol.co.za/weekend-argus/news/more-informal-settlements-could-pop-up-as-Covid-19-continues-to-affect-livelihoods-8a59f4d3-1953-4653-ad8f-321c54c5902c. accessed 18 October 2023

Kotze, D., 2020. What Ramaphosa's Covid-19 decisions say about South Africa's democracy. The Conversation, 16 June.

Lancet Commission, 2021. Report of the Lancet Commission. Quoted Washington Post, editorial, 'After a 'massive global failure' on Covid, what happens the next time?' Washington Post online, 17 September. https://www.washingtonpost.com/opinions/2022/09/17/lancet-Covid-pandemic-failure-reforms/ (Accessed 17 September 2022).

Lobosco, K., 2022. How a Minnesota county is rapidly housing its homeless. https://edition.cnn.com/2022/10/16/politics/minnesota-homeless-affordable-housing/index.html Accessed 18 October 2023.

Loewald, C. & Stern, M., 2022. Discussion paper,

The Covid Initiative. S A Reserve Bank with International Food Policy Research Institute & Economic Research Southern Africa, Pretoria.

Mahlokwane, J., 2022. Three Tuks professors join forces to coordinate care for homeless people. Pretoria News online, 27 October. https://www.iol.co.za/pretoria-news/news/three-tuks-professors-join-forces-to-co-ordinate-care-for-homeless-people-30005266-e8cd-45df-810a-0d6c8b8c3337. Accessed 18 October 2023

Maqbool, D., Viveiros, J. & Ault, M., 2015. The impacts of affordable housing on health: A research summary, s.l.: Centre for Housing Policy.

Maqhina, M., 2020. Covid-19 in SA: R600m rental relief funds untouched. IOL, 24 December. https://www.iol.co.za/news/Covid-19-in-sa-r600m-rental-relief-funds-untouched-ef8d9547-8100-4d09-a0ba-635cba59370a. accessed 18 October 2023

Marcus, T, Heese, J., Scheibe, A., Shelly, S., Lalla, S. & Hugo, J., 2020. Harm reduction in an emergency response to homelessness during South Africa's C19 lockdown. Harm Reduction Journal 17: 60.

Maseko, S., 2020. Ramaphosa applauded for decisions taken to curb spread of coronavirus. SABC News, 25 March.

Mashele, Z., Louw, D. & Raboeane, M., 2021. Facing eviction: Distressed tenants wait in vain for help from the R600m Covid-19 residential rent relief scheme. Daily Maverick, 22 April. https://www.dailymaverick.co.za/article/2021-04-22-facing-eviction-distressed-tenants-wait-in-vain-for-help-from-the-r600m-Covid-19-residential-rent-relief-scheme/. Accessed 18 October 2023.

Mauda, A., 2016. Is Implementation still the missing link? Understandingpublic policy processes: Education Reform in Post-Apartheid South Africa, s.l.: Linnaesus University.

Meldrum, A., 2020. South Africa hits 500 000 confirmed cases, still not at peak. Medical Xpress.com online. (Accessed 10 September 2022). https://apnews.com/46fad6c5cdcaa5c3369150f36e2c39a4 Accessed 18 October 2023.

Menton, M., Milanez, F., de Andrade Souza, J.M. and Cruz, F.S.M., 2021. The Covid-19 pandemic intensified resource conflicts and indigenous resistance in Brazil. World Development, 138: 105222.

Mesquita, C., 2022. Support the funding of a homeless ladder of accommodation to end chronic homelessness. Cape Argus, 8 September. https://www.iol.co.za/capeargus/opinion/support-the-funding-of-a-homeless-ladder-of-accommodation-to-end-chronic-homelessness-fcf1eec2-935c-4556-9e19-4ef27c65e3bd. Accessed 18 October 2023.

Ministerial Advisory Committee, 2020. Presentation to the National Coronavirus Command Council. Salim S Abdool Karim, Chair, 9 July.

Mlamla, S., 2022. PRASA removing land invaders from the railway lines to get train service back on track. Cape Argus online, 10 February. (Accessed 10 September 2022).

Modipa, D., 2020. Government forges ahead with delivery of controversial tin shack houses

despite public outcry and disruption. Sowetan Live, 23 September. (Accessed 10 September 2022).

Molefe, R., 2020. Temporary tin shelters: Limpopo premier blames human settlements department. News24, 6 August. https://www.news24.com/news24/southafrica/news/temporary-tin-shelters-limpopo-premier-blames-human-settlements-department-20200806. Accessed 18 October 2023.

Mthethwa, C., 2021. Western Cape Saw more than 1000 land invasions in past 10 months. Cape Town: News24, 16 April. https://www.news24.com/news24/southafrica/news/western-cape-saw-more-than-1-000-land-invasions-in-past-10-months-20210416. Accessed, 18 October 2023.

National Infrastructure Plan 2050 phase 2, 2022. Gazetted for comment, National Infrastructure Plan 2050 phase 2. https://www.gov.za-files.pdf. (Accessed 21 October 2022).

Ndinda, C. 2004. 'Sweat Equity': Women's Participation in Subsidised Housing in South Africa. Africa Insight, 4 vol. 34, nos 2/3.

Ndinda, C., Sobane, K., Hongoro, C., Mokhele, T., 2019. Residential Satisfaction Survey. Human Science Research Council: Technical Report for Gauteng Department of Human Settlements.

Ndinda, C; Ndhlovu, P.T; Juma, P; Asiki, G; Kyobutungi, C. (2018). Evolution of NCD Policies in South Africa. BMC Public Health 2018, 18(Suppl 1):956 https://doi.org/10.1186/s12889-018-5832-8.

Ndhlovu, T.P., 2022. Gender, evictions, and relocations during Covid-19 in South Africa: Lessons for programming and practice. Agenda, 36(2), pp.29-41.

Ndinda, C., Ndhlovu, T.P., 2020. Access to the city: informal settlements as staging posts for urbanisation in post-apartheid South Africa. In L. Bank, D. Posel, F. Wilson (Eds.). Migrant Labour after Apartheid: The Inside Story. Cape Town: HSRC Press.

Ndinda, C., Hongoro, C., Labadarios, D., Khalema, N.E., Mokhele, T.,...Mahlhangu, N. 2016. Baseline Assessment for future impact evaluation of informal settlements targeted for upgrading. Technical Report Commissioned by the National Department of Human Settlements, South Africa.

Ndinda, C., Hongoro, C., Labadarios, D., Mokhele, T., Khalema, E., Smith, G.W., & Sobane, K., 2017. Status of informal settlements targeted for upgrading implications for policy and practice. HSRC Review Volume 15 (2): 16-19.

Ndinda, C., Moolman, B., Adebayo, P., Chimbwete, C., Ngungu, M., Maree, G., Parker, A., Lynch, I. & Shozi, M., 2021. Chapter 5.4. Gender equality. South Africa Covid-19 Report [First edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria: June.

Ndinda, C., Uzodike, U.O., Winaar, L., 2011. From Informal Settlements to Brick Structures: Housing Trends in Post-apartheid South Africa. Journal of Public Administration Vol 46 no 1.1: 761-784.

Ndinda, C., Adebayo, P., Fubah, A.M., 2023. Migrant Women's Experiences of the Covid-19

Lockdown: Lessons for Policy and Programming in South Africa. In R. Baikady, V. Nadesan, J. Przepereski, M. Islam, G. Jianguo (Eds.). The Palgrave Handbook of Global Social Change. https://doi.org/10.1007/978-3-030-87624-1_393-1.

Nkonki, A., 2022. MEC Hlophe shares plans and strategies to curb substance abuse, homelessness & poverty in Gauteng. The Star online, 12 October. https://www.iol.co.za/the-star/news/mec-hlophe-shares-plans-and-strategies-to-curb-substance-abuse-homelessness-and-poverty-in-gauteng-715938b9-035a-4102-9302-df90152c0eb3. Accessed 18 October 2023.

Norberg-Schulz, C., 1968. Intentions in Architecture. Cambridge, MIT Press.

Norberg-Schulz, C., 1996. The phenomenology of meaning and place. In: K. Nesbit, (Ed.). Theorizing a new agenda for architecture. New York, Princeton Architecural Press, pp. 412-428.

Obose, U., 2021. Shacks continue to increase. City Vision, Cape Town. 11 November.

Ojo-Aromokudu, J. T., 2018. A New Vernacular Architectural Language informed by the use of Space in Informal Settlements: Selected Case Studies in the eThekwini Municipality, South Africa, Durban, University of Kwazulu Natal.

Padhi, A., 2022. The labour market is upside down. Here's what CEOs can do about it. CNN interview with managing partner, McKinsey & Co. North America. CNN online, 31 January.

Parke, D. & Adebayo, P., 2021. Health, Housing and Urban Inclusion in the time of Covid-19: Evidence from Detroit and Durban. Journal of Inclusive Cities and Built Environment, 1(1): 1-15.

Parliament of South Africa, 2020. Parliament welcomes rental relief for social housing during Coronavirus Covid-19 pandemic. https://www.gov.za/speeches/parliament-welcomes-rental-relief-social-housing-during-coronavirus-Covid-19-pandemic-8-jul (Accessed 4 October 2021).

Parliamentary Monitoring Group [PMG], 2020. Land Invasions in the City of Cape Town, Western Cape. https://pmg.org.za/committee-meeting/31087/. (Accessed 27 July 2023).

Pressly, D., 2021. Unwanted visitors: the homeless. https://www.Financialmail.co.za, December 2-8: 13.

Reinders, S., 2020. Photos: Why South Africans Built an illegal Settlement Called Covid. https://www.npr.org/sections/goatsandsoda/2020/11/15/934003088/photos-why-south-africans-built-an-illegal-settlement-called-Covid. (Accessed 26 July 2023).

RSA, 2010. National Building Regulations SANS 10400 -A. Pretoria: Government Gazette. https://ia601406.us.archive.org/0/items/za.sans.10400.a.2010/za.sans.10400.a.2010.pdf. Accessed 09 January 2024.

Rispel, L. C., Marshal, C., Matiwane, B. & Tenza, I. S., 2021. Innovations, contestations and fragilities of the health system response to Covid-19 in the Gauteng Province of South Africa. Plos ONE, 16(12): 1-28.

Robert Wood Johnson Foundation, 2011. Exploring the social determinants of health. Issue Brief 7: Housing & Health, Issue 7. https://www.rwjf.org/en/building-a-culture-of-health/focus-areas/healthy-communities-social-determinants-of-health.html. Accessed 18 October 2023.

Rogers, D. & Power, E., 2020. Housing policy and the Covid-19 pandemic: The importance of

housing research during this health emergency. International Journal of Housing Policy: Taylor & Francis Journals, 20(2): 177-183.

Ruiters, G., 2021. Cape Town's crisis-ridden response to Covid-19. Public Water and Covid-19: Dark Clouds and Silver Lining: 347-360.

SA Cities Network, 2020. Urban Safety Brief: Pulic Space and Urban Safety, Johannesburg, South African Cities Network.

SA News, 2020. President Ramaphosa announces a nationwide lockdown. South African Government News Agency, 23 March.

Shackleton, C. M. & Gwedla, N., 2021. The Legacy Effects of Colonial and Apartheid Imprints on Urban Greening in South Africa: Spaces, Species, and Sustainability. Frontiers in Ecology Evolution, 11(8): 467.

SHRA, 2020. State of the Social Housing Report 2020, Johannesburg, Social Housing Regulatory Authority.

SHRA, 2021. SHRA is ready for residential rent relief roll-out. Polity, 25 March. Accessed: 09 January 2024.

SHRA, 2023. Residential Retal Relief Programme. Johannesburg: Social Housing Regulatory Authority. https://shra.org.za/wp-content/uploads/2023/01/Residential-Rent-Relief-Phase-2-Update-17-January-2023.pdf. Accessed: 09 January 2024.

Sifunda, S., Mokhele, T., Manyaapelo, T., Dukhi, N., Sewpaul, R., Parker, W.A., Parker, S., Naidoo, I., Jooste, S., Ramlagan, S. and Gaida, R., 2021. Preparedness for self-isolation or quarantine and lockdown in South Africa: results from a rapid online survey. BMC Public Health, 21, pp.1-14.

SOHCO, 2019. Social Housing Applications Criteria: Qualification for Renting an Apartment. https://www.sohco.co.za/renting-an-apartment/criteria-for-renting/ (Accessed 4 January 2022).

Spaull, N., Daniels, R., 2021. Synthesis report NIDS-CRAMWave 5.

Statistics SA (StatsSA), 2016. Community Survey 2016 in Brief, Pretoria, Statistics South Africa.
Statistics South Africa (StatsSA). 2020. Quarterly Employment Survey. Pretoria: Statistics South Africa. https://www.statssa.gov.za/publications/P0277/P02772ndQuarter2020.pdf accessed:18 October 2023

Statistics South Africa (StatsSA). 2021. Quarterly Employment Survey. Pretoria: Statistics South Africa. https://www.statssa.gov.za/publications/P0277/P0277March2021.pdf accessed: 18 October 2023

Statistics South Africa (StatsSA). 2022. Quarterly Employment Survey. Pretoria: Statistics South Africa. https://www.statssa.gov.za/publications/P0277/P0277March2022.pdf accessed: 18 October 2023

Statistics South Africa (2022). General Household Survey 2021. Pretoria: Statistics South Africa. https://www.statssa.gov.za/publications/P0318/P03182021.pdf accessed: 18 October 2023.

StepSA, 2014. Grasping the semi-formal housing ladder: how and where poor informal migrants join the middle class. In C. Cross & C Ndinda, stepSA Policy Brief No 4.

Taing, L., 2019. Policy implementation considerations for basic services: A South African urban sanitation case. Water SA, 45(4): 536-546.

Taylor, L., 2018. Housing and Health: An Overview of the Literature. https://www.healthaffairs.org/do/10.1377/

hpb20180313.396577/full/ (Accessed 5 January 2022).

Turner, K. J., Le Grange, K. & Nkgadima, R., 2021. TIMELINE : 10 months of Covid-19 in SA. IOL, 8 July. https://www.iol.co.za/news/south-africa/western-cape/timeline-10-months-of-Covid-19-in-sa-7120954d-e536-4f0e-a7b7-7883b026bada Accessed 18 October 2023

Washington Post editorial, 2022. After a 'massive global failure' on Covid, what happens the next time? Washington Post online, 17 September. https://www.washingtonpost.com/opinions/2022/09/17/lancet-Covid-pandemic-failure-reforms/ (Accessed 17 September 2022).

Western Cape Government, 2022. Over 700 housing opportunities lost due to vandalism and land invasion. https://www.westerncape.gov.za/news/over-700-housing-opportunities-lost-due-vandalism-and-land-invasions. (Accessed 27 July 2023).

Western Cape Government 2021. Rental Housing Tribunal Annual Report 2020/2021. Cape Town: Western Cape Government

World Bank, 2021. South Africa Economic Update Edition 13: Building Back Better Lives from Covid-19 with a Special Focus on Jobs. Washington, World Bank Group.

CHAPTER 6.1
MACROECONOMIC IMPACT AND POLICY

ABSTRACT

During 2021/22, South Africa made significant strides in combatting the unprecedented health and economic crisis brought on by the COVID-19 pandemic. Various support programmes have been rolled out since the pandemic continued to assist vulnerable households and help create jobs. The Presidential Employment Stimulus has achieved remarkable success in a short period of time and contributed greatly to improving an otherwise dire situation for workers. Despite some challenges, social grant and other relief programmes also continued to aid households and businesses in navigating the fallout from the pandemic. Monetary and fiscal policy authorities contributed to rebuilding confidence in the economy through a measured approach that had to juggle expansionary support demands versus concerns about rising inflation during 2022. Unfortunately, the underlying state of the South African economy with many poorly performing institutions meant very little momentum for private business and investors to return to post-pandemic. Government's fiscal space was also severely constrained and therefore unable to provide the scale of support needed during the ongoing recovery phase. Whilst economic growth was encouraging during the post-lockdown recovery phase, at the end of 2022, many industries were still lagging their 2019 pre-COVID output benchmarks. Overall employment also remained below pre-COVID estimates. The implementation of the Presidency's Economic Reconstruction and Recovery Plan, in particular the elements designed to stabilise the energy sector and rebuild key institutions, will be crucial to improving the economic outlook over the medium term.

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ABBREVIATIONS AND ACRONYMS

BEEI	Basic Education Employment Initiative
CPI	Consumer Price Index
DALRRD	Department of Agriculture, Land Reform and Rural Development
DFFE	Department of Forestry, Fisheries and Environment
DHET	Department of Higher Education and Training
DSD	Department of Social Development
DSI	Department of Science and Innovation
DTIC	Department of Trade, Industry and Competition
ECD	Early Childhood Development
EPWP	Extended Public Works Programmes
ERRP	Economic Reconstruction and Recovery Plan
GDP	Gross Domestic Product
MISA	Municipal Infrastructure Support Agent
MPC	Monetary Policy Committee
MTBPS	Medium Term Budget Policy Statement
NDP	National Development Plan
NIDS-CRAM	National Income Dynamics Study Coronavirus Rapid Mobile
PMO	Project Management Office
SARB	South African Reserve Bank
SASSA	South African Social Security Agency
SEF	Social Employment Fund
SOE	State-Owned Enterprise
SRD	Social Relief of Distress
PES	Presidential Employment Stimulus
TERS	Temporary Employment Relief Scheme
UIF	Unemployment Insurance Fund

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INTRODUCTION

GENERAL ECONOMIC OVERVIEW

By the end of the 2021/22 review period[1], most countries around the world, including South Africa, had suspended lockdown regulations and restrictions on economic activity initially designed to counter the spread of COVID-19. Following the largest global economic downturn in 2020 since the Great Depression 100 years prior, virtually all economies saw a sharp recovery in 2021 as restrictions eased and economic activity, trade and travel started to return to normal. South Africa's large drop in real GDP of 6.0% in 2020 – documented in the first edition of this report – was followed by a partial recovery of 4.7% in 2021 and then more modest growth of 1.9% in 2022 (StatsSA, 2023a; SARB, 2023b).[2]

Despite various economic relief measures put in place, the pace of South Africa's economic recovery lagged behind most of its peers and key trading partners as investment expenditure, in particular, continued to struggle. Moreover, South Africa's continued electricity supply problems have strangled growth, as many businesses have been forced to divert planned investment expenditure towards back-up electricity supply systems. By the end of 2022, aggregate real GDP had just returned to pre-COVID levels, but in per capita terms was still lagging at 2006 levels. As discussed later in this chapter, six of the ten main industry groups were also still below their pre-COVID levels of production and value added (StatsSA, 2023a).

Aggregate employment figures continued to show improvement during the 2021/22 review period following the devastating loss of over 2 million jobs in the second quarter of 2020. Employment growth lagged behind the recovery in GDP in the first half of 2021, following which over 1.6 million jobs were added between the third quarter of 2021 and the fourth quarter of 2022, aided by the implementation of Presidential Employment Stimulus (PES) programmes (StatsSA, 2023c; StatsSA, 2023d; Presidency, 2023). However, the estimated total number of employed persons was still about 486,000 fewer compared to the last pre-COVID estimate during the fourth quarter of 2019. The official unemployment rate recovered from a record-high 35.3% at the end of 2021 to 32.7% at the end of 2022 – still one of the highest unemployment rates in the world. The expanded unemployment rate, which includes discouraged work-seekers, stood at 42.6%, and the labour absorption rate at 39.4%, at the end of 2022 (StatsSA, 2023c). When compared to our trading partners and other peers, the employment statistics reflect both a weak post-COVID recovery and serious shortcomings in the institutions and policies that determine labour market outcomes in South Africa. The hope is that some of the COVID-19-related interventions, in particular, through the range of PES schemes, can help address some of these issues and ultimately provide the necessary skills development and employment opportunities South Africans need. Business-friendly policy reforms and incentives to encourage higher levels of private-sector investment and employment are clearly also required.

[1] The 2021/22 review period for this report technically covers the period from mid-2021 to mid-2022, or, in some cases, the 2021/22 financial year for national government, following on from the first edition which covered the 2020/21 period. However, for this chapter, most of the analysis and reporting has been extended to the end of the 2022 calendar year where data was available. The 2021/22 review period can therefore be generally interpreted as the mid-2021 to end-of-2022 calendar year period for this chapter, unless otherwise stated.

[2] In the first edition it was reported that real GDP had fallen by 7.0% in 2020. Since then, data revisions and a rebasing of national accounts data from 2010 to 2015 constant prices, has seen the figure for 2020 adjusted to negative 6.0% as per the SARB Quarterly Bulletin, June 2023. All national accounts data are typically subject to revision up to four years after being initially published.

National Treasury continued to allocate significant funds to the post-COVID-19 socio-economic recovery effort, despite a severely constrained fiscal environment. A number of targeted relief measures, discussed in more detail in later in this chapter, were funded during the 2021/22 review period, with varying levels of success in terms of real economic impact. Importantly, government's debt-to-GDP ratio and primary balance outcomes continued to improve relative to National Treasury's projections in its 2020 and 2021 Budget Review and Medium-Term Budget Policy Statements (MTBPS). Windfall tax revenues from a commodities price boom and terms of trade gain in 2020 and 2021, and subsequent current account surplus of 3.7% in 2021, helped generate more revenue than anticipated. This allowed some fiscal space to continue the funding of various economic support interventions, including the special COVID-19 Social Relief of Distress (SRD) grant. By the end of 2022, the government's debt-to-GDP ratio stood at 71%, marginally up from the 69% at the end of 2021. Although still a large jump compared to the pre-COVID 56.2% at the end of 2019, these figures are a considerable improvement against what was initially feared during the previous 2020/21 review period, with 2020 MTBPS projections suggesting the debt-to-GDP ratio could have reached nearly 90% by the end of 2022. Nonetheless, debt-service costs continued to increase, consuming 14% of consolidated government's total budget, or around R270 billion, during the 2021/22 fiscal year. In light of these increasing debt-service costs, fiscal consolidation continues to be a priority for National Treasury with a view toward stabilising the debt burden in the medium term (Treasury, 2022a, 2023).

Monetary policy was stable in 2021. Following a sharp reduction in the repo rate from 6.25% to 3.5% by the South African Reserve Bank (SARB) between March 2020 and July 2020 during the initial lockdown period, this rate remained unchanged through November 2021 when it was raised by 25 basis points to 3.75% as the economy started to show signs of higher inflation returning. As in many other countries, interest rates were raised on several occasions in 2022, as inflationary pressures, stemming from a recovering demand-side of the economy facing continued COVID-19 related supply-chain bottlenecks and the fall-out of the Russia-Ukraine conflict. threatened to spiral out of control. The repo rate was steadily raised throughout 2022 to 7.0% in an effort to contain inflation which had jumped to an average of 6.9% in 2022, up from 4.5% in 2021 and 3.3% in 2020. SARB's monetary policy committee (MPC) was therefore left with little choice but to raise the interest rate and suspend the accommodative monetary policy environment it had created in 2020. As has been made clear in the SARB's recent MPC statements justifying the series of rate hikes it implemented since late 2021, it regards maintaining price stability and anchoring inflation expectations as foundational elements of the longer-term economic recovery process (SARB, 2023c). Whilst the pace and magnitude of the rate hikes have been widely discussed and debated, even within the MPC, the recent fall in inflation to within the SARB inflation target range for the first time in more than a year suggests that it may have been worth the pain inflicted on the economy during the rate-hike cycle (StatsSA, 2023e).

While the health aspect of the COVID-19 pandemic is now firmly under control, aided by the large-scale rollout of vaccines since mid-2021, the economy is still on life support. The road to recovery over the medium term continues to look fragile, with the economy facing significant headwinds amidst a myriad of domestic and international challenges creating further downside risks to the outlook. To mitigate against these risks, it is essential that the Presidency's Economic Reconstruction and

Recovery Plan, together with other measures to address especially electricity supply, logistics, and other key infrastructure investment challenges, are implemented to help generate the necessary momentum needed to reboot economic and job growth.

OVERVIEW OF KEY GOVERNMENT INTERVENTIONS

A number of important government-led interventions to mitigate against the economic impact of the COVID-19 pandemic continued during the 2021/22 review period. The Presidency's flagship Economic Reconstruction and Recovery Plan (ERRP) identified various key actions, ranging from large-scale infrastructure investment, including much-needed electricity generation capacity, to implementing measures designed to reduce the cost of doing business and improve competitiveness (Presidency, 2020). To date, these plans are yet to deliver any substantial boost to economic growth. The hope remains though that, as the implementation phase moves forward, it will yield returns in the form of not only increased growth and investment potential, but actual productivity-enhancing reforms that helps businesses and households alike.

Other more short-term oriented economic relief measures initiated during COVID-19 will be discussed in more detail under the Targeted Policy Interventions section of this chapter. These include the UIF's Temporary Employer/Employee Relief Scheme (TERS), SASSA's now-extended special COVID-19 Social Relief of Distress (SRD) grant scheme, as well as other small business development interventions. Both the TERS and SRD schemes were substantial compensatory income support programmes. TERS benefited employees across a broad spectrum, but especially in the services sector, while the SRD was targeted more narrowly at poor households. Combined, these two schemes have paid out over R120 billion to date. Unfortunately, concerns about corruption and poor implementation of relief policies were again present during the 2021/22 review period, and will be discussed in the relevant sections of this chapter as well as elsewhere in the report.

While it is difficult to establish causality and determine with certainty what the impact of these relief measures were in an economy with so many moving parts, emerging evidence does suggest that at least some of these measures were successful in achieving their intended goal of providing short-term support (Bhorat et al., 2023; Donaldson, 2022; Presidency, 2023). This gives both policy-makers and the people dependent on such support comfort that well-designed relief measures can indeed make a meaningful difference. A key discussion point going forward will be an appropriate balance between support on the demand-side (households) and supply-side (firms) of the economy, and between income relief and employment initiatives.

CHAPTER OUTLINE

The remainder of this chapter is structured as follows. Key macroeconomic, sectoral, and other socio-economic trends around the 2021/22 review period will be discussed. The information is divided as follows: a general overview of the macroeconomic environment, flowing into a closer look at the components of GDP. Thereafter, the chapter considers how employment and incomes were affected, including insights from the last two rounds of the NIDS-CRAM survey. The performance of individual sectors in the economy is then be evaluated, after which the current economic outlook and challenges facing the South African economy going forward are explored.

Next, fiscal and monetary policy developments and responses are discussed, respectively. Fiscal

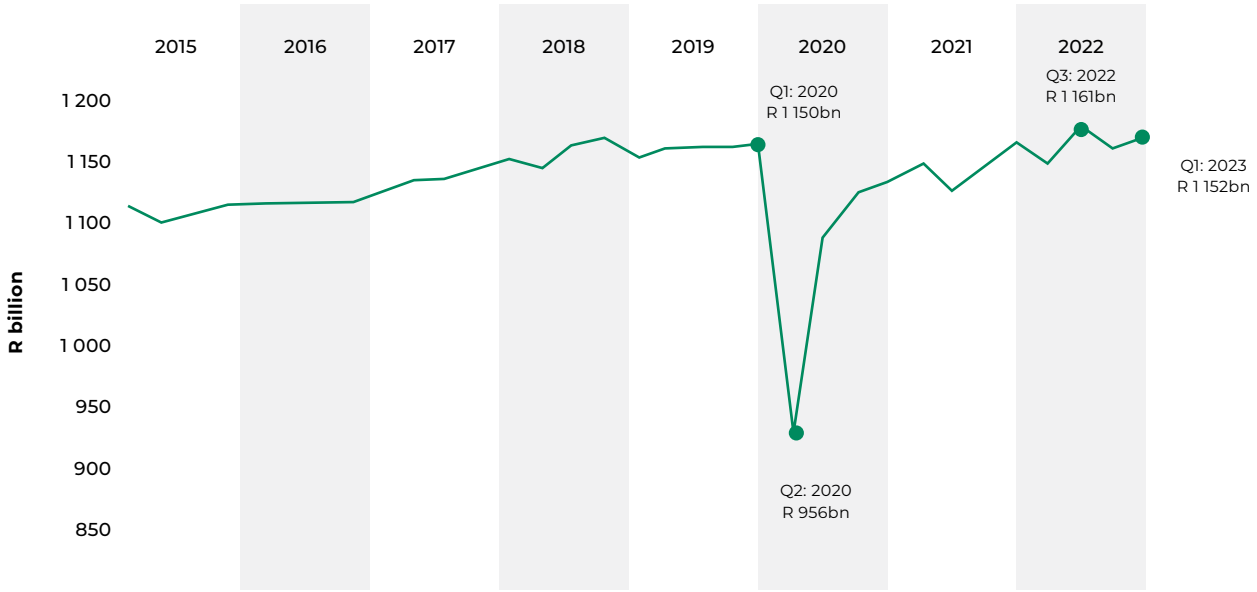
policy has played a crucial role in allocating financial resources to where it was needed most during the COVID-19 affected period, whilst monetary policy had to walk a tightrope, managing inflation expectations while helping the ailing South African economy recover. The main focus of this chapter looks at more specific and targeted policy interventions instituted in the wake of the COVID-19 pandemic and their respective impacts, including considering key income support measures that were successful and continued into the 2021/22 review period. One of the key programmes in the Economic Reconstruction and Recovery Plan – the Presidential Employment Stimulus – will be examined and, finally, the chapter concludes by reflecting on the review period, including the impact of both measures to mitigate COVID-19 risks and accompanying income support and relief programmes, recognising the trade-off policy-makers faced between saving lives and protecting livelihoods. Lessons learned, the need for improved disaster preparedness, and how we can build back better in the wake of the COVID-19 pandemic are also discussed as part of the way forward.

ECONOMIC IMPACTS AND TRENDS

MACROECONOMIC ENVIRONMENT

At an aggregate level, South Africa's real gross domestic product (GDP) growth struggled to gain momentum during the 2021/22 review period following the catastrophic growth numbers posted in 2020. The anticipated bounce back in 2021 delivered growth of 4.7% but was followed up by disappointing growth of only 1.9% in 2022. On a quarterly basis, 2022Q3 was the first time since the pandemic that real GDP eclipsed pre-COVID levels. However, despite the recovery since 2020Q2, the economy was still lagging significantly in per capita terms by the end of 2022, as were many individual sectors of the economy. Equally troubling is that the national economy had also lost further ground to those of many of its peer nations and trading partners during the post-lockdown recovery period. Poor economic growth prior to the pandemic – no doubt dragged down by the misallocation of resources during the now well-documented state capture era – meant there was very little positive momentum for the economy to return to, as well as a low degree of resilience to buffer against the socio-economic impacts of the pandemic. GDP per capita had been in decline since 2014, and the shock of 2020 initially pushed the average South African back to 2005 income levels. By the end of 2022 this metric had only marginally improved, with the average South African hardly better off than s/he had been in 2006. Real GDP per capita at constant 2015 prices was estimated to be R75,726 in 2022, compared to R74,292 in 2006, having peaked at R80,191 in 2013 (SARB, 2023b).

FIGURE 6.1.1: Quarterly Real GDP (Seasonally Adjusted)



Source: Statistics South Africa, Gross Domestic Product 1st Quarter 2023, Statistical Release P0441

As was documented in the first edition of this report covering the 2020/21 review period, COVID-19 restrictions had a major impact on economic activity, trade, as well as investor sentiment. After the third wave of COVID-19 infections between May 2021 and October 2021, the economy was moved to a less restrictive adjusted alert level 1, which remained in place until June 2022 when all COVID-19 related restrictions were lifted. Alert level 1 restrictions only imposed minor restrictions on selected activities, most notably personal services, and were a far cry from the alert level 4 and 5 restrictions experienced during the initial lockdown phases in 2020 which were devasting to so many businesses and their employees.

While there were no significant COVID-19-related restrictions on economic activity or movement in South Africa during the 2021/22 review period, a number of new and pre-existing factors contributed to the slow recovery. Poor growth momentum prior to the pandemic meant very little enthusiasm for investors to return. Investment growth trends have closely mirrored those of GDP per capita, with investment in real terms having also fallen to 15-year low levels. With investment driving productivity and capital growth, the regression in capital formation growth is particularly troublesome, and only serves to weaken the economy's longer-term growth potential. Damage to key institutions and loss of capacity during the state capture era has not been reversed quickly enough. Logistical issues and failures at key rail and port infrastructure facilities have negatively impacted export performance, costing the economy billions in lost revenue. Severe flooding and political unrest hit KwaZulu-Natal particularly hard during 2021. The deteriorating energy availability factor of Eskom's ageing fleet of power plants saw loadshedding worsen even further during the 2021/22 period, with the lack of stable electricity supply costing businesses and households billions of rands. The Russia-Ukraine conflict increased global geopolitical tensions, further exacerbating bottlenecks in a fragile global supply chain still struggling to

catch up after COVID-19, which contributed to a rising food and energy inflation that has led to a synchronous cycle of global monetary policy tightening since early 2022. Finally, the scale and effectiveness of many COVID-19 relief measures was not sufficient to offset the damage done as a result of the pandemic, mainly due to the already weak fiscal position of the state prior to the pandemic.

Despite this challenging environment, an extended recession has been avoided, and cooperation between government and business in response to the pandemic has created a platform for collaboration around economic challenges in the period ahead. Achieving the key elements of the Presidency's Economic Reconstruction and Recovery Plan is central to this effort. The implementation of plans that will support large-scale infrastructure investment and productivity-enhancing reforms must be a top priority for government. To complete the post-COVID economic recovery and move forward, South Africa does not need to reinvent the wheel. At a macroeconomic level, government must focus on improving and strengthening key institutions, re-establishing fiscal discipline, and providing the public infrastructure with foundations to allow the necessary space for sustainable growth and development. In the short-run, more micro-oriented and targeted economic relief measures designed to mitigate against the fall-out from the COVID-19 pandemic, should continue to support vulnerable businesses and households until a strong macroeconomic environment is restored.

COMPONENTS OF GDP

Real GDP, when accounting for environmental concerns such as carbon emissions and other harmful externalities, remains the single most powerful economic indicator to estimate the quality of life for people in a country. Assessing the performance of individual components of GDP from the expenditure side, over time, gives a high-level overview of how the structure of the economy may have changed. It further helps to understand sectoral-level performances, as, for example, a downturn in overall investment expenditure is likely to have a disproportionate impact on the construction sector.

As previously noted, real GDP, and real GDP per capita, in particular, was already in a slump before the pandemic struck in early 2020. The record drop in real GDP of 6.0% in 2020, highlighted by the 16.9% drop, worth nearly R200bn in quarter-on-quarter growth during the second quarter of 2020, massively exacerbated the already fragile state of the economy and the position of many households and businesses. During 2021 and 2022, the absolute size of the economy in real terms managed to recover back to pre-COVID levels on the back of 4.7% and 1.9% growth, respectively. However, with stubbornly low growth projected for 2023 and 2024, real GDP per capita will likely continue its downward trend in the short term.

The largest component of GDP on the expenditure side is final consumption expenditure by households, typically accounting for between 61% and 64% of GDP.

Final consumption expenditure by general government has typically ranged between 18% and 20% of GDP, and has been on an upward trend over the last two decades. In 2020, this number jumped to 20.8% but has since fallen back to 19.6%. Gross fixed capital formation, or investment expenditure, is arguably one of the most important indicators related to a country's long-term economic growth prospects. South Africa's average investment to GDP ratio has fallen significantly over the last 15 years, from a high of 21.6% in 2008, to 14.2% in 2022, with a low of 13.2% in 2021. To give a sense of how low this number is relative to the country's needs and expectations, South Africa's National Development Plan (NDP), now more than 10 years old, targeted growth in the investment-to-GDP ratio from a then 20% to reach 30% by 2030 (SARB, 2023b; NPC, 2012).

Over the 2021/22 review period, the slow growth and recovery in gross fixed capital formation, especially when compared to other peer countries, stands out as the leading contributor to the disappointing GDP growth figures posted since the events of 2020. Following negative growth in real investment spend prior to the pandemic already, and a massive drop of 14.6% in 2020, only modest growth of 0.6% and 4.8% was recorded in 2021 and 2022, respectively. In real terms, this has left investment spending at similar levels to those last seen in 2007 in the pre-COVID era. The RMB/BMR Business Confidence Index highlights some of the underlying causes of the status quo as persistently low levels of business and investor confidence, generally a function of the broader macroeconomic climate, continue to plague the economy. It is imperative that this trend be reversed, as investment directly impacts capital formation, which is essential to economic growth and development.

Table 6.1.1 summarises the recent growth performance in key components of GDP from the expenditure side up to 2022, while Figure 6.1.2 gives a breakdown of investment expenditure over the last two decades:

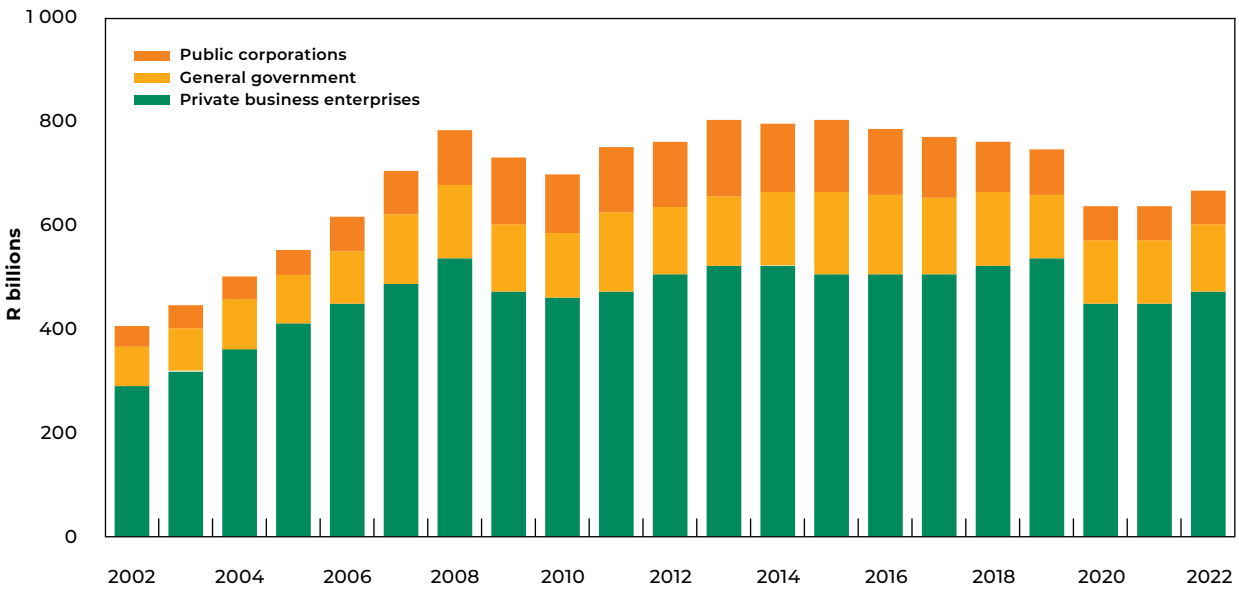
TABLE 6.1.1: National Accounts' Indicators

Period	Gross domestic product (6006Z)	Gross value added excluding agriculture[3] (6626Z)	Gross national income (6016z)	Gross domestic expenditure (including risidual) (6012Z)	Final consumption expenditure by households (6007Z)	Final consumption expenditure by general government (6008Z)	Gross fixed capital formation (6009Z)	Exports of goods and services (6013Z)	Imports of goods and services (6014Z)	Disposable income of households[4] (6246Z)
2005	5.3	5.4	5.6	5.9	6.1	1.1	11.0	8.6	10.9	5.8
2006	5.6	5.8	6.8	8.6	8.8	3.8	12.1	7.5	18.3	7.7
2007	5.4	5.5	4.8	5.8	6.5	6.2	13.8	7.8	9.4	6.0
2008	3.2	2.9	4.1	3.6	1.2	7.7	12.8	1.5	2.8	2.3
2009	-1.5	-1.4	0.9	-1.4	-2.6	1.8	-6.7	-17.0	-17.7	-2.1
2010	3.0	3.0	4.6	3.7	5.7	-0.3	-3.9	7.7	10.8	3.3
2011	3.2	3.1	4.6	5.5	4.1	4.1	6.8	3.0	11.8	3.8
2012	2.4	2.3	1.0	3.1	3.2	4.8	1.8	1.1	3.9	2.6
2013	2.5	2.5	2.1	2.6	1.6	3.2	5.4	3.7	4.0	1.4
2014	1.4	1.3	0.8	0.2	0.7	1.9	-1.3	3.6	-0.7	1.2
2015	1.3	1.3	2.0	1.9	2.2	-1.0	1.3	3.1	5.0	3.0

Period	Gross domestic product (6006Z)	Gross value added excluding agriculture[3] (6626Z)	Gross national income (6016z)	Gross domestic expenditure (including risidual) (6012Z)	Final consumption expenditure by households (6007Z)	Final consumption expenditure by general government (6008Z)	Gross fixed capital formation (6009Z)	Exports of goods and services (6013Z)	Imports of goods and services (6014Z)	Disposable income of households[4] (6246Z)
2016	0.7	1.0	0.8	-0.6	0.7	2.0	-1.9	0.4	-4.1	0.8
2017	1.2	0.7	2.1	1.7	1.7	-0.3	-2.0	-0.3	1.5	2.6
2018	1.6	1.7	1.1	1.8	3.2	1.1	-1.2	2.7	3.5	2.9
2019	0.3	0.4	1.6	1.3	1.3	1.8	-1.7	-3.3	0.6	1.0
2020	-6.0	-6.1	-3.4	-7.6	-6.1	0.9	-14.6	-12.0	-17.6	-4.8
2021	4.7	4.3	6.0	4.8	5.8	0.5	0.6	9.1	9.6	6.2
2022	1.9	2.0	0.2	3.9	2.5	1.0	4.8	7.4	14.9	1.5

Source: South African Reserve Bank, Quarterly Bulletin, June 2023

FIGURE 6.1.2: Real Gross Fixed Capital Formation by Sector



Source: South African Reserve Bank, Quarterly Bulletin, June 2023

Aggregate household consumption recovered well after the drop of 6.1% in 2020, with growth of 5.8% and 2.5% in 2021 and 2022, respectively. General government, walking a tightrope comprised of trying to support the economy while adopting a path of fiscal consolidation, saw its spending grow by only 0.5% and 1.0% in 2021 and 2022, respectively.

Trade has also recovered strongly following the restrictive environment in 2020 that saw exports fall by 12.0% and imports by 17.6%. Despite numerous challenges, export growth over the 2021/22 review period provided significant support to the economy as well as the fiscus, through higher-than-anticipated tax revenues, especially from the mining sector. Following the current account balance surplus of R108 billion recorded in 2020, South Africa achieved a record current account surplus of over R227 billion in 2021, followed by a moderate deficit of R30 billion in 2022 (SARB, 2023b).

A review of the macroeconomic data suggests that the high-level structure of the economy has not been altered significantly since the pandemic started. By the end of 2022, the relative shares of each component of GDP were broadly similar to what they were in 2019, with the slight exceptions of declining shares in gross fixed capital formation to GDP from the expenditure side (15.5% to 14.2%), and compensation of employees to GDP from the income side (55.4% to 51.5%). At an industry level, the major worry is the construction industry, which remains significantly below its pre-COVID levels of production, largely due to weak investment spending from both the public and private sector, as highlighted by Figure 6.1.2 (SARB, 2023b; StatsSA, 2023a). These exceptions reflect two of the key challenges facing the economy. The first is to restore business and investor confidence and incentivise private sector investment, and for government to prioritise large-scale public infrastructure investments, including maintenance of existing infrastructure. The second is to improve labour market outcomes and implement reforms that would make it easier for business to employ workers, striking a balance between employment and real wage growth in the post-COVID era.

EMPLOYMENT AND INCOMES

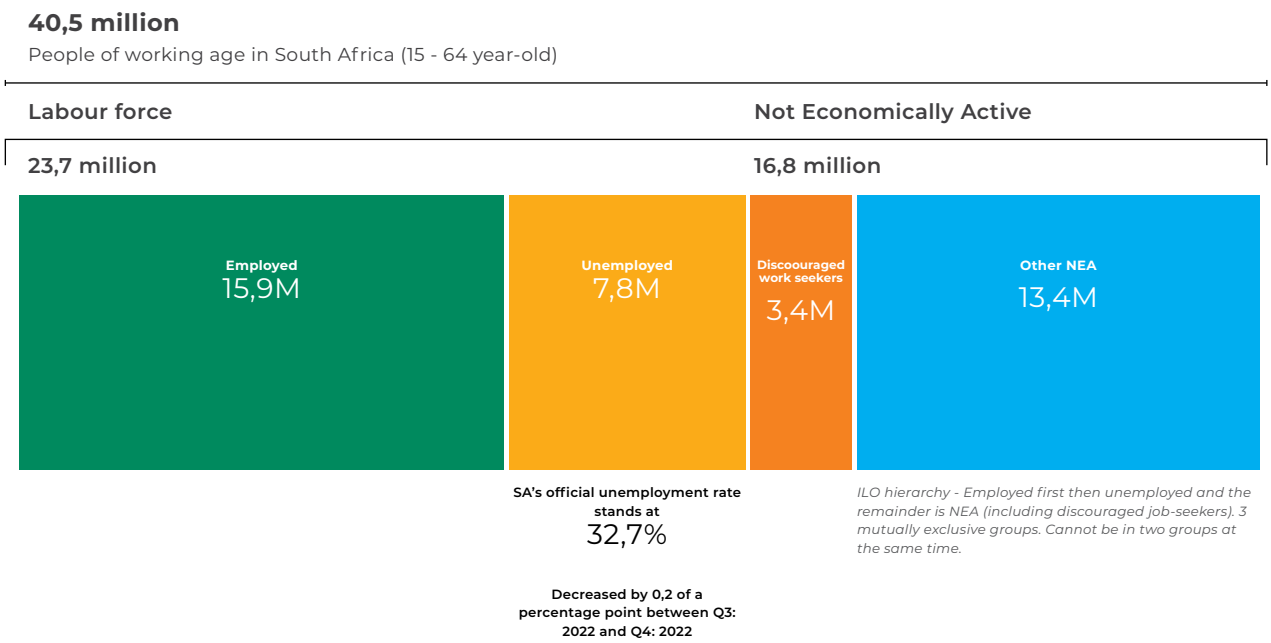
Arguably the most important economic metric in understanding the impact of the pandemic on the average South African has been employment and income figures. The impact of lockdown regulations during the 2020/21 review period on livelihoods has been well documented. Without a job, poverty and hunger have become almost inevitable for the most vulnerable in society, despite the numerous social relief schemes in place.

After losing more than 2.2 million jobs in the second quarter of 2020 alone, the recovery through 2021/22 has been slow and uneven. By the end of 2022, the total number of employed workers stood at an estimated 15.934 million, compared to 16.420 million at the end of 2019 before COVID-19 restrictions were put in place. Just under 10 million of these workers were employed in the formal, non-agricultural sector at the end of 2022, down from 10.3 million prior to the pandemic. To further place these jobs numbers in a socio-economic context, they should be considered alongside the recorded increase in the working age population of 1.7 million people over the same period (StatsSA, 2023b, 2023c).

Early evidence suggests that the Presidential Employment Stimulus, active since mid-2021, has made a significant difference to employment growth and helped turn around the negative trend of job losses seen during the first three quarters of 2021 (Bhorat et al, 2023; Presidency, 2023). Starting from the fourth quarter of

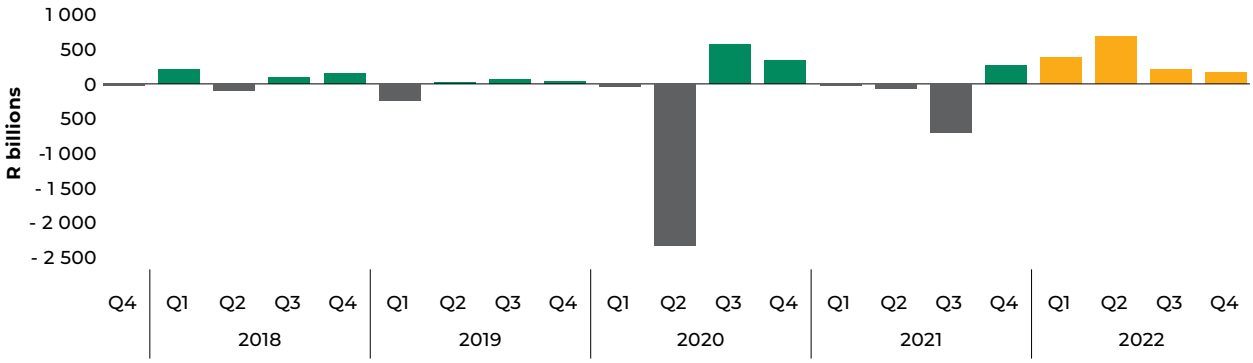
2021, the economy recorded five consecutive quarters of employment growth through to the final quarter of 2022, with over 1.6 million jobs added in that period alone (StatsSA, 2023c). Recent unemployment figures give further hope that the labour market may have turned a corner, although the situation remains critical from a socio-economic perspective. The official unemployment rate stood at 32.7% at the end of 2022, having recovered from a record-high of 35.3% in 2021. The expanded rate, which includes discouraged work-seekers, was 42.6% at the end of 2022, having peaked at an alarming 46.6% during the third quarter of 2021. The labour absorption rate – the number of employed to working age population ratio – has remained critically low at under 40% since the pandemic began, and stood at 39.4% at the end of 2022. Given the large number of additional school drop-outs due to the pandemic, estimated to be over 500,000 in the last NIDS-CRAM survey, the negative impact on education and skills development is likely to further depress labour market outcomes and limit the economy's ability to recover and grow in future (Spaull et al., 2021a, 2021b).

FIGURE 6.1.3: Breakdown of the Working Age Population (end of 2022)



Source: Statistics South Africa, Quarterly Labour Force Survey, Statistical Release P0211

FIGURE 6.1.4: Quarterly Changes in Total Employment



Source: Statistics South Africa, Quarterly Labour Force Survey, Statistical Release P0211

FIGURE 6.1.5: Employment in the Formal Non-Agricultural Sector

Source: Statistics South Africa, Quarterly Employment Statistics, Statistical Release P0277

From a business perspective, a shortage of skilled labour started hampering activity again over the 2021/22 review period, but its restraining impact was noticeably less than during previous cyclical upturns. However, the fact that this has been a constraint at all in South Africa is rather perplexing, given the record-high unemployment rate (Kershoff, 2022).

Informal sector activity and jobs managed to gradually recover to pre-COVID levels by the end of 2022, with just under 3 million workers, in total, making a living in the informal, non-agricultural sector. However, there has been a slight difference in gender outcomes, as women are still trailing their pre-COVID benchmark, whereas more men are now employed in informal jobs than before the pandemic. Despite being one of the few sectors to have grown in real terms since 2020, the agriculture sector continues to employ a similar number of workers. During the fourth quarter of 2022, agriculture employed an estimated 860,000 workers, compared to 885,000 during the fourth quarter of 2019. Apart from better rainfall than in the drought-stricken period prior to COVID, this suggests that capital-driven productivity gains have played a significant role in facilitating the agricultural sector's growth in recent years.

Incomes are, of course, closely linked to employment status. With the significant number of job losses during the 2020/21 period, it is no surprise that incomes have been under significant pressure. The TERS and SRD grants provided an important lifeline for many individuals during this time. The recovery in jobs during the 2021/22 period has begun to offset some of the damage, but the labour market still trails significantly behind its pre-COVID benchmark. As noted in the previous section, at a macro level, compensation of employees to GDP now stands at only 51.7% compared to 55.3% prior to the pandemic.

At a more micro level, interrogating SARS data on gross income and personal income tax (PIT), as well as the number of individuals who submitted tax returns, reveals some interesting insights from over the COVID period. For the 2019/20 tax year, the count of unique tax-paying individuals was 8.1 million. This number fell to

7.4 million in the most directly impacted 2020/21 tax year, before recovering to 7.7 million in the 2021/22 tax year[3]. Adjusted for inflation, gross incomes were also still slightly below pre-COVID levels. These numbers give good support to the estimates in the Quarterly Labour Force Survey, produced by Statistics South Africa, that suggest around 486,000 less workers were employed during the fourth quarter of 2022 compared to 2019.

SECTORAL GROWTH

Ten main sectors or industry groups are generally identified in the exposition of national accounts. These are i) agriculture, forestry & fishing; ii) mining & quarrying; iii) manufacturing; iv) electricity, gas & water; v) construction; vi) trade, catering & accommodation; vii) transport & communication; viii) finance, real estate & business services; ix) general government services; and x) personal services.

By the end of 2022, only four of these sectors had higher levels of production than their pre-COVID benchmarks (StatsSA, 2023a). Two of these sectors, finance, real estate & business services, and personal services, are closely tied to household consumption, which, as noted in the previous section, managed to recover well on the back of low interest rates and the various COVID-19 relief schemes. Government is, of course, a very different economic actor from the rest of the economy, and was required to increase its consumption in order to stimulate the economy due to the pandemic-induced downturn. The agriculture sector – the only sector besides government that managed to grow in real terms in 2020 – continued its strong performance over the 2021/22 review period. Following a prolonged period of drought in 2016-2018, good rainfall returned from 2020 onward, helping produce bumper harvests across most crops. Despite logistical challenges for exporters and continued electricity supply interruptions, the adoption of productivity-enhancing technologies and methods by large-scale commercial farmers also boosted the sector's resilience and ability to cope with conditions to allow for increased levels of output.

As illustrated by Figure 6.1.6, the other six main industry groups were all still trailing behind their 2019 pre-COVID benchmark levels of production at the end of 2022. Mining production was down 8.1% despite elevated commodity prices and revenues. Output was affected by a range of operational challenges, including persistent logistical issues with freight rail and port services, as well as regular power cuts. Manufacturing's total contribution to the economy has slowly eroded over the last 15 years and was down a further 6.8%, relative to its pre-COVID levels, as global supply chain issues that emerged in the wake of the pandemic continued to wreak havoc in many sub-sectors. Rising input costs and electricity disruptions added to the sector's woes. Heavy manufacturing sub-sectors have been severely hit in recent years with local production of refined petroleum products and various iron and steel products, in particular, falling significantly.

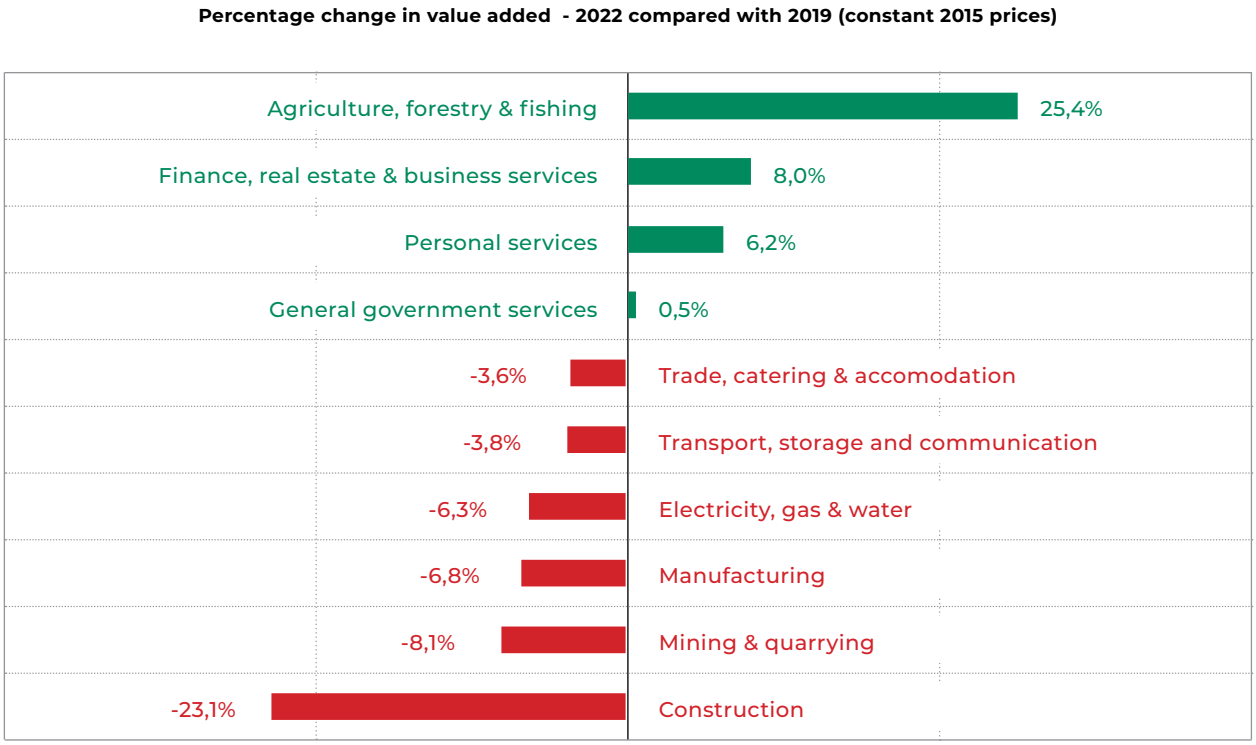
Construction was still down an alarming 25.4% by the end of 2022. This is easily understood in the context of South Africa's poor gross fixed capital formation performance at a macro level, highlighted by the slow recovery in investment spending, post-lockdown, compared to many of our key trading partners. Low business and investor confidence and organised crime that is threatening to spiral out of control, must

[3] These numbers refer to IRP5 submissions by employers, in respect of employees for whom PAYE tax deductions were recorded. Including IT3(a) returns in respect of individuals with no PAYE liability, the total count of unique individuals reporting to SARS declined from 15.2 million in 2019/20, to 14.6 million in 2020/21, before increasing slightly to 14.7 million in 2021/22, also indicative of the lag in recovery of employment.

be addressed as a matter of urgency if the sector is to recover. Public sector investment has also been lagging far below government's own targets and stated intentions in the NDP, hampering growth in the construction and other related sub-sectors.

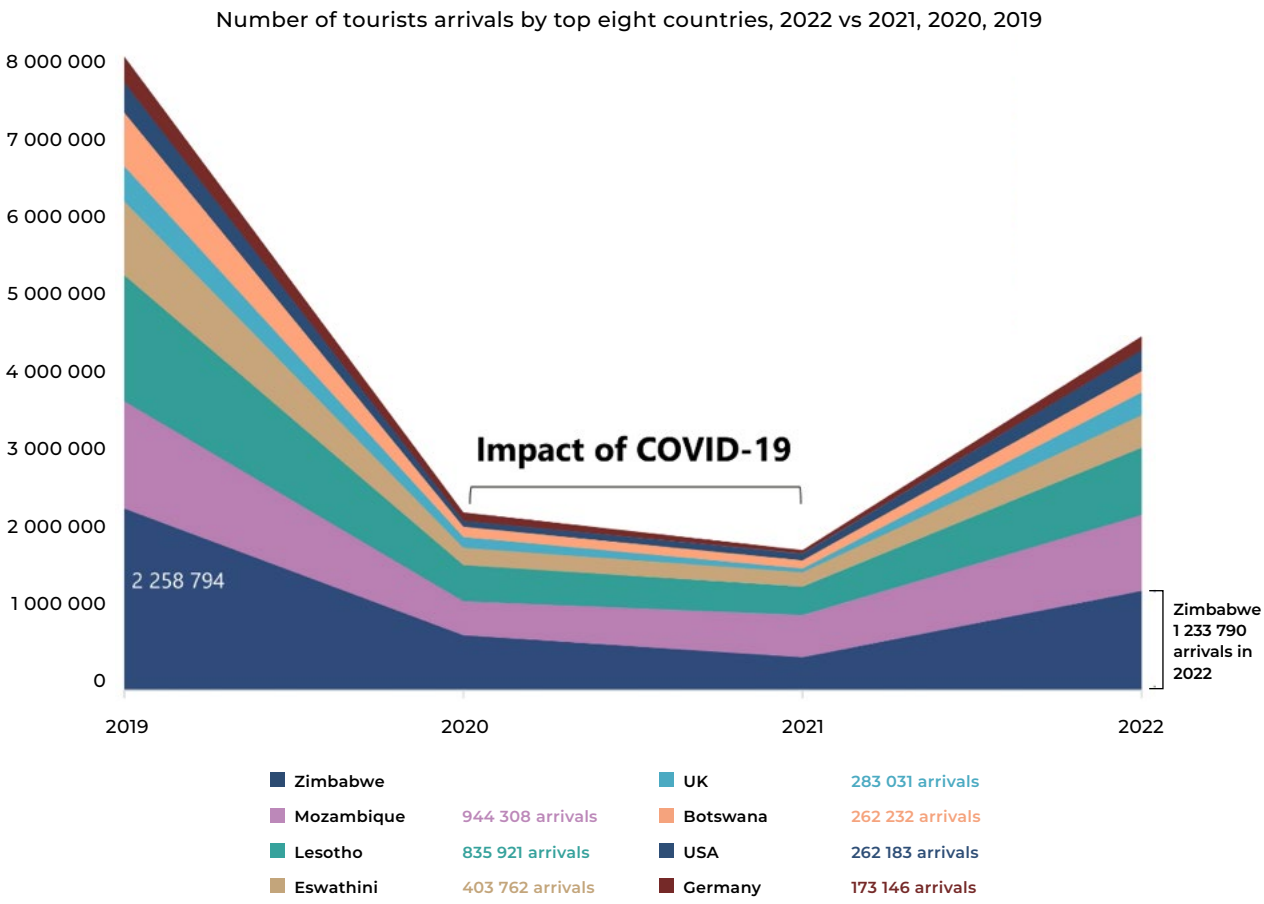
While trade recovered well, catering and accommodation services were still affected by restrictions during the early part of the 2021/22 review period, contributing to the sector's overall decline of 3.6%. Tourism activities were still severely depressed for large parts of 2021 after a devastating 2020, but showed promising signs of recovery in 2022 after economies started opening up again. International tourist arrivals were still down approximately 30% against pre-COVID benchmarks over the 2021/22 review period (StatsSA, 2023f). The creative arts and other service sectors continued a strong recovery over the 2021/22 review period after having been disproportionately affected by lockdown regulations during the 2020/21 review period.

FIGURE 6.1.6: Industry Activity Relative to Pre-Pandemic Levels



Source: Statistics South Africa, Gross Domestic Product 4th Quarter 2022, Statistical Release P0441

FIGURE 6.1.7: International Tourist Arrivals

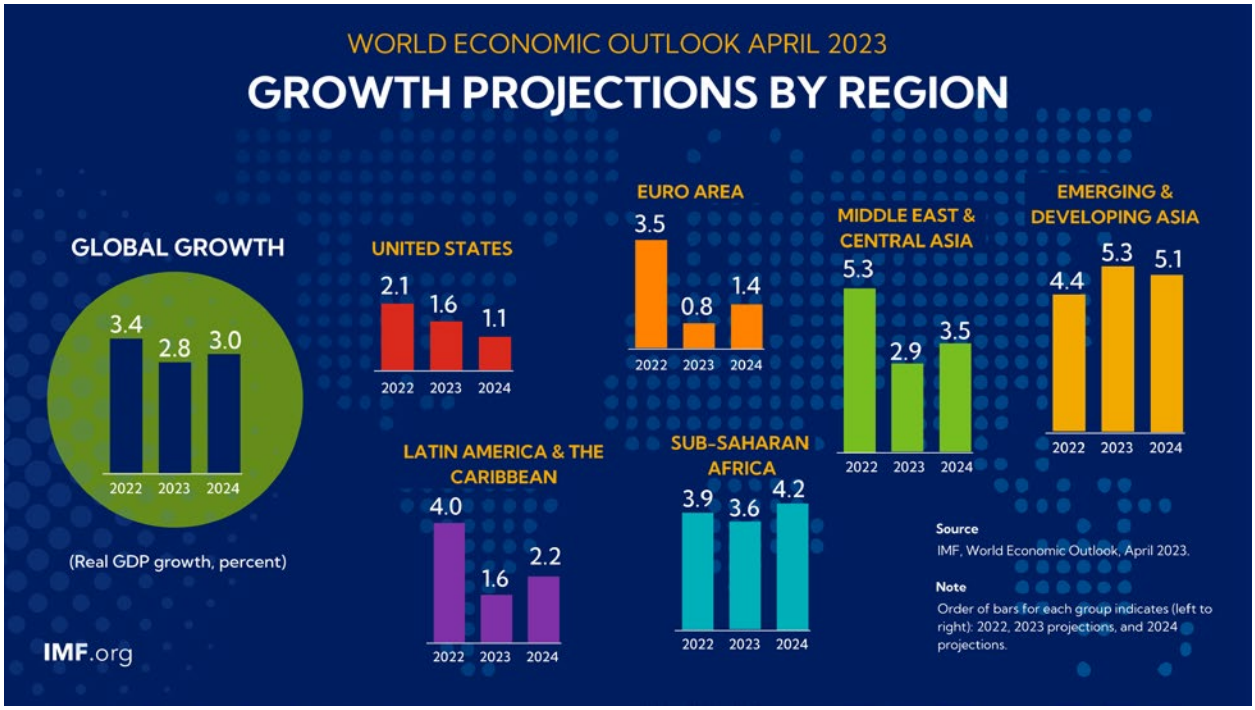


Source: Statistics South Africa, Tourism 2022, Report No. 03-51-02 (2022)

ECONOMIC OUTLOOK

Economic growth over the 2021/22 period managed to recover some of the damage caused during the initial lockdown period in 2020. However, as noted, worse than anticipated growth of only 1.9% in 2022 still left many important indicators lagging far behind their pre-COVID benchmarks, including GDP per capita, investment expenditure, and employment.

FIGURE 6.1.8: IMF GDP Growth Projections by Region



Source: International Monetary Fund (2023) World Economic Outlook, April 2023

To put South Africa's growth performance and outlook in context, growth of 1.9% in 2022, and projected growth of less than 1.0% in 2023, is well below the average achieved in all global regions, as indicated in Figure 6.1.8. The current medium-term economic outlook, as projected by National Treasury for the 2023-2025 period, is dire. Average economic growth through 2025 is barely expected to outpace population growth, and gross fixed capital formation growth is also not expected to lift above 3.8% in any of the next three years (Treasury, 2023). This translates into a continuingly weak outlook for employment growth, even more so within the context of the government's announced commitment to stricter headcount management in order to control its wage bill. If we further consider that National Treasury's economic outlook in the most recent 2023 Budget Review was premised on a number of projections that have already proved to be overly optimistic (projected GDP growth of 2.5% for 2022 against actual growth of 1.9%, and public-sector wage agreements that exceeded targets), it does not bode well for the required recovery effort and government's ability to implement and provide the necessary support and investment the economy needs, given its weakening fiscal position.

The impact of the deteriorating outlook on the post-COVID recovery and government's ability to continue funding some of the support measures and plans in the Economic Reconstruction and Recovery Plan (ERRP) is difficult to judge at this stage. The medium-term expenditure framework (MTEF) does make provision for the necessary spending required to fund the public-sector elements in the ERRP. Some of the smaller economic relief schemes are expected to naturally expire as we move into the post-COVID era. A big question mark relates to how the seemingly institutionalised SRD grant will be considered going forward, especially with the context of the ongoing basic

income grant debate, and trade-offs between short-run, demand-oriented support versus long-run, supply-side-oriented support.

Looking ahead, it is worth emphasising the concept of vulnerability in better preparing ourselves as a country and society for future shocks of this magnitude. Vulnerability can, in simple terms, be thought of as the net difference between exposure and resilience to a shock. While avoiding exposure to certain shocks may not be possible, understanding what is required to blunt the force of such events is mandatory for policy-makers. To reduce the vulnerability of households, businesses and government to future external shocks, a greater amount of resilience must be created across the entire economy. Households will require more and better jobs to be created in order to build savings. Businesses need policy certainty, and efficient public infrastructure and service delivery to create those jobs, grow their markets, and improve their own chances of survival in difficult times. Government needs adequate fiscal space and a ready-to-go policy playbook to respond quickly, and at scale, to crises.

Prior to the COVID-19 pandemic, the vast majority of households and businesses were in an extremely vulnerable position to a shock of that nature, with little to no financial buffer to assist survival. In fairness, even if the economy had been thriving prior to the pandemic, very few households and businesses could be expected to have the necessary resources to survive the impact of restrictions imposed during the lockdown period without support. At an individual worker level, an element of luck, in terms of exposure to restriction specific jobs or activities faced, was also a key factor. This partially determined the need for government support to maintain socio-economic stability. However, despite some positive interventions, the role of government to quickly provide the necessary support during such extraordinary times was hampered due to its own weak fiscal position, slow pace of implementation of various initiatives, and inadequate oversight mechanisms to prevent corruption and mismanagement. With future pandemics and large-scale economic shocks in mind, it is therefore crucial that general government takes disaster preparedness more seriously, and strengthens key institutions that will help improve the resilience of all actors in the economy.

GENERAL POLICY RESPONSES

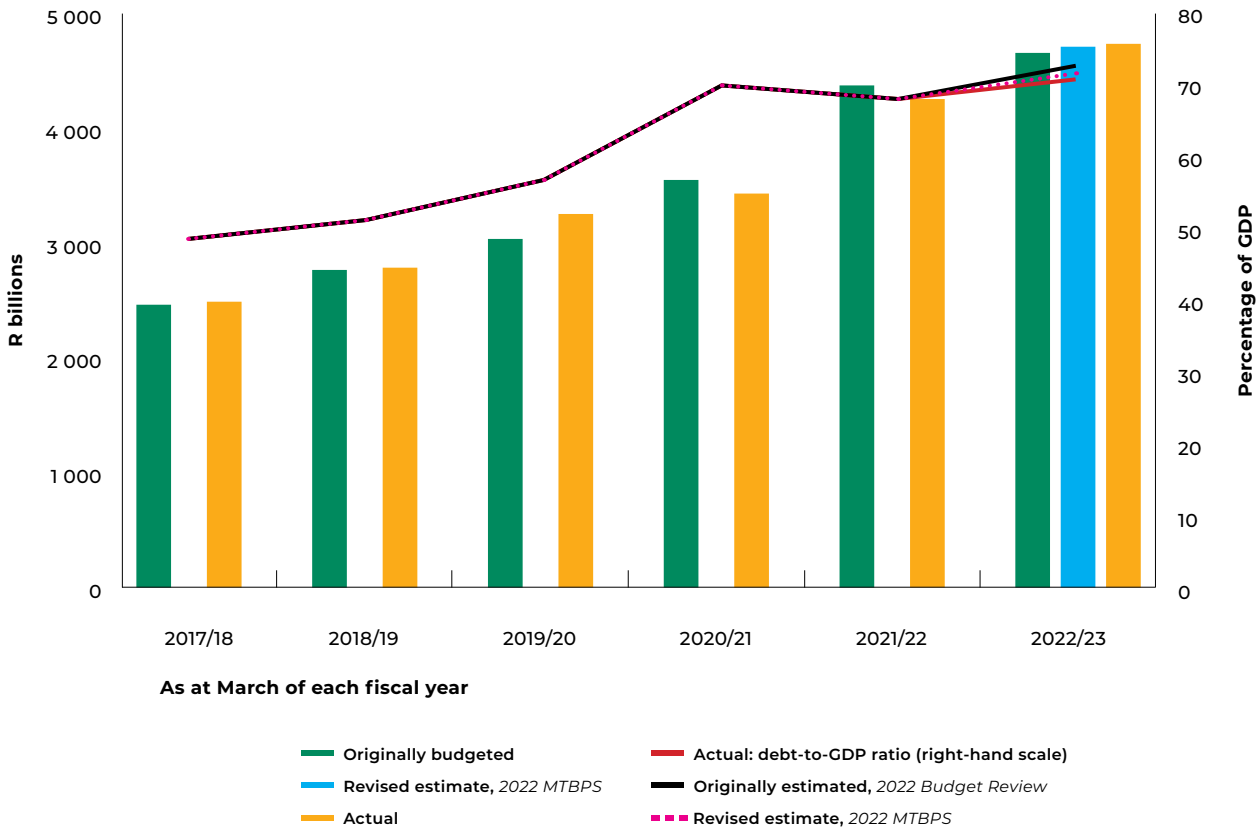
FISCAL POLICY

Prior to the pandemic in February 2020, National Treasury had taken a firm stance that a path of fiscal consolidation was required to return the fiscus to a sustainable path. From a low of 24% in 2008, the debt-to-GDP ratio had steadily increased to 56% by the end of 2019, consistently rising faster than projected in budget documents. Treasury, as on many previous occasions, highlighted the need for structural reforms and faster economic growth in order to raise the necessary tax revenues needed to contain the rising debt, while still funding the country's social and economic development agenda (Treasury, 2022a, 2023).

The unanticipated impact of the pandemic that followed in 2020 was a stark reminder of how fragile even the best laid plans can be. Relative to the business-as-usual baseline at the time, projected economic gains over the next three years were effectively lost, and the debt-to-GDP ratio had rapidly increased to 71% by the end of 2022. This also significantly increased the projected debt-service cost requirement over the medium term, now projected to reach R400 billion by 2025/26. During a time where government and other state institutions were

still trying to undo the damage of the state capture era, the COVID-19 shock placed extreme pressure on government's ability to allocate and manage the country's scarce financial resources efficiently.

FIGURE 6.1.9: Gross Loan Debt of National Government



Source: South African Reserve Bank, Quarterly Bulletin, June 2023

Despite the additional spending requirements to support various public-funded COVID-19 relief schemes since 2020, Treasury has remained steadfast in adhering to its target of achieving fiscal consolidation over the medium-term. Government's gross debt to GDP metric was helped significantly by higher than anticipated tax revenues resulting from the commodities' price boom over the 2021/22 review period. This allowed additional spending on, for example, the continuance of the special SRD grant, and indirect tax breaks by not increasing the general fuel levy or road accident fund levy to be implemented, without having to cut spending elsewhere.

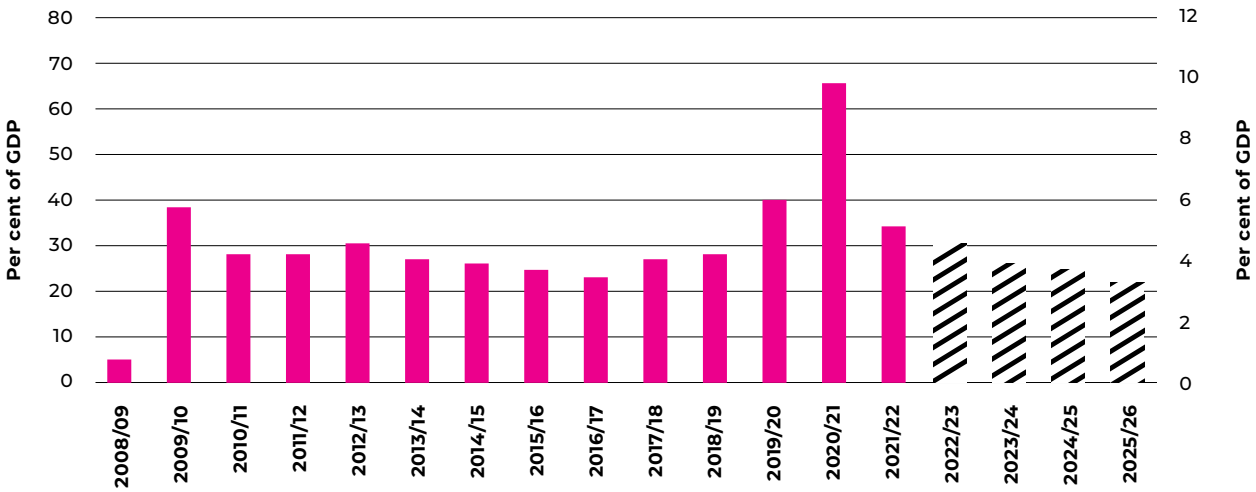
However, despite these windfall revenue gains, a number of factors have complicated Treasury's goal of fiscal consolidation, most notably, its struggle to keep the public sector wage bill in check, and the poor performance of many state-owned enterprises (SOEs) that have contributed to both budget overruns and a depressing impact on economic growth and service delivery. During 2021/22 SOEs made limited progress in terms of promised reforms and improved productivity, and many SOEs missed their capital investment targets, partly due to the lingering effects of COVID-19 lockdowns on their operation. Treasury's decision to take over a large share of Eskom's debt, which had become

unsustainable, is just the latest example of the additional burden SOEs have placed on the fiscus in recent years, either directly, or in terms of opportunity cost.

The recent 2023 Budget Review again emphasised the unsustainable nature and trend of the budget deficit and rising debt-servicing costs, and subsequent need for fiscal consolidation. Spending growth exceeding efficiency gains, and a declining share of infrastructure investment in favour of current consumption, including compensation of employees, stands out among the structural challenges faced by general government and Treasury. Achieving the required consolidation has proven tricky in practice, given the strain many households are still under following the pandemic and period of stagflation. As a result, there has been huge social and political pressure on government to continue these support programmes. Demand-side-oriented support, like the SRD, has done well in providing short-term relief for households, but evidence suggests it will have little bearing on their longer-term fortunes or job prospects (Bhorat et al, 2023). Such support programmes also provide no direct supply-side stimulus to firms to help them expand and create more jobs. At present, the SRD grant is set to expire on 31 March 2024, with no clear indication as yet of how future income support to poor and vulnerable households will change after its conclusion.

In terms of the outlook for fiscal policy, the expectation is for the debt-to-GDP ratio to stabilise within the next three to four years and slowly start to decline beyond 2027/28. Continued fiscal consolidation will be necessary, but not sufficient. Key productivity-enhancing infrastructure investments and reforms must be completed and implemented as a matter of urgency. This is required to help boost economic activity and, as a result, tax revenues. Of immediate concern is the electricity supply situation, and logistical constraints across many important road and rail corridors, as well as ports that have seen both exporters and importers face unacceptable delays. Treasury has allocated significant funds to address many of these bottlenecks, but concerns remain about the efficient use and application of funds by troubled SOEs and other government departments.

FIGURE 6.1.10: Fiscal Ratios over the Medium Term



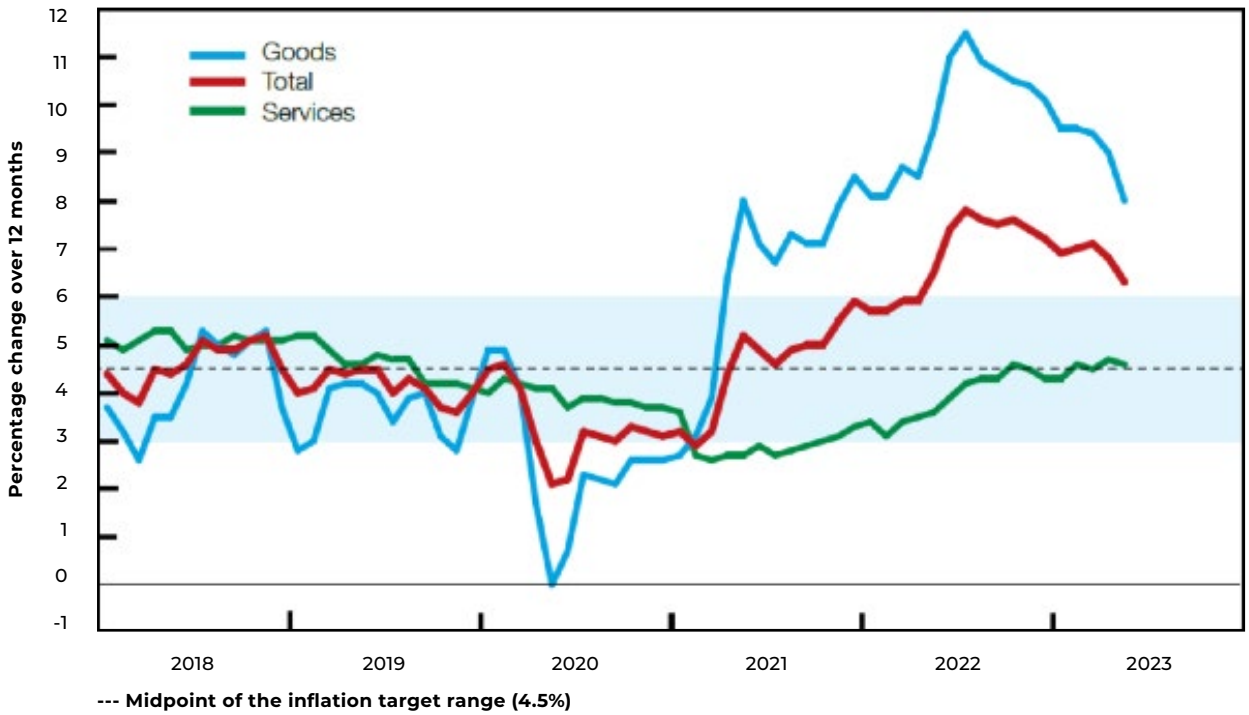
Source: National Treasury, Budget Review, 2023

MONETARY POLICY

South African monetary policy authorities continue their quest to calibrate the economy to the neutral real interest rate in order to close the output gap and stabilise inflation within its target range. This difficult task has been complicated further by the many different shocks that have hit the local economy over the past three years. Monetary policy has gone through three distinct phases since the outbreak of the pandemic in early 2020. As discussed in the ***first edition*** of this report covering the 2020/21 review period, the South Africa Reserve Bank's (SARB) initial response was to lower interest rates to help stimulate the economy during the lockdown period, with the repurchase rate rapidly falling from 6.25% to 3.50% between January and July of 2020. The second phase was a period of stabilisation and economic recovery, with the repurchase rate kept steady at 3.50% between July 2020 and October 2021. Since November 2021, interest rates have risen steadily, as various factors have combined to see the SARB moving quickly to contain rising inflation and anchor inflation expectations (SARB, 2023a).

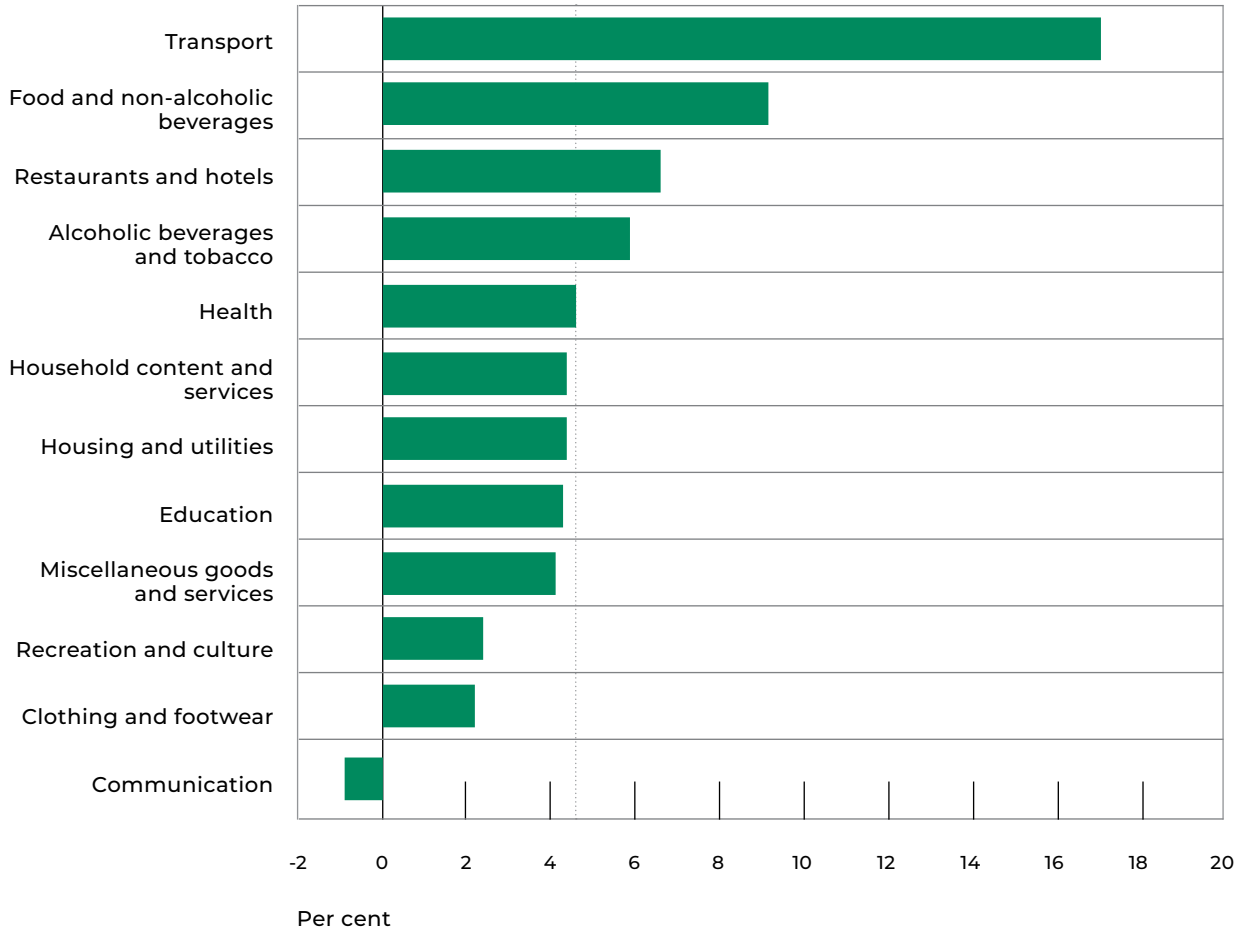
The SARB's monetary policy committee has met every two months since the pandemic to review the latest inflation data and projections and make interest rate decisions. As has been experienced in other countries, prices in South Africa have increased markedly above the SARB's midpoint inflation target range of 4.5% during the 2021/22 review period. The SARB has followed trends in the United States and other key trading partner nations, in raising interest rates since the end of 2021 in order to maintain stability in the financial system and keep inflation from spiraling out of control. Inflation related to transport and food products was particularly severe in 2022. Figures 6.1.11 to 6.1.13 combine to show how rising inflation during the 2021/22 review period was met with corresponding increases in the repo rate.

FIGURE 6.1.11: Headline Consumer Prices



Source: South African Reserve Bank, Quarterly Bulletin, June 2023

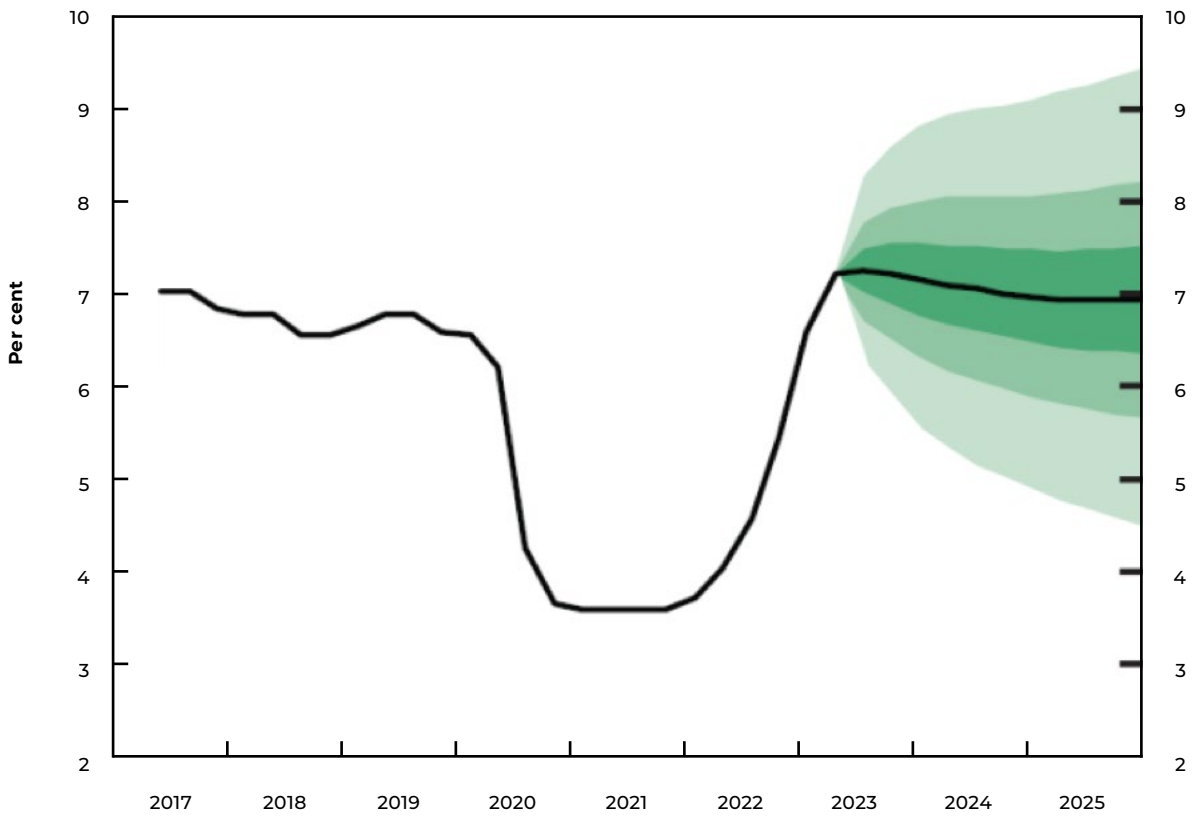
FIGURE 6.1.12: Average Consumer Price Inflation for 2022 by Product Group



Source: South African Reserve Bank, Quarterly Bulletin, June 2023

Looking forward, expectations at the time of writing are that monetary policy is likely to reach the peak of the rate-hike cycle during the second half of 2023 as inflation starts to moderate (SARB, 2023a, 2023c). However, various external risks and uncertainties remain that may lead to the rate-hike cycle being extended, given the hawkish stance on inflation signalled to date by the SARB, and South Africa's exposure to external shocks as a small, open economy. In principle, with the remaining effects of COVID-19 now being overshadowed by other factors such as local infrastructure problems ranging from electricity supply to road and port logistics, lingering international supply chain bottlenecks, and the Russia-Ukraine conflict, there is no longer a direct link between monetary policy and the pandemic. SARB's execution of its constitutional mandate to maintain price stability in the interest of long-term growth and development is likely to come under increased scrutiny in the short-term, as the country braces itself for both slow or declining growth and persistent inflation beyond the 2021/22 review period. Nonetheless, the conduct of monetary policy authorities and the changes in interest rates during and beyond the 2021/22 review period have been consistent with expectations and well communicated, following meetings of the SARB's Monetary Policy Committee (MPC).

FIGURE 6.1.13: SARB Repo Rate (Historical and Projected)



Source: South African Reserve Bank, Monetary Policy Review, April 2023

TARGETED POLICY INTERVENTIONS

INCOME SUPPORT PROGRAMMES

South Africa's main income support vehicle is its non-contributory social assistance grant programmes, of which the largest are the means-tested old age, disability, and child support grants. These amounted to R175 billion in 2019/20, or about 3.4% of GDP. Social grants are the main source of household income in the lowest four deciles of the per capita income distribution, and together with other statutory transfers contribute over half of all income in the bottom half of the distribution.[4]

Supplementary social assistance therefore provided an available mechanism for providing income support to vulnerable households, in response to the loss of employment income associated with COVID-19 lockdowns. With effect from May 2020, the existing social assistance grants were increased, and a special COVID-19 Social Relief of Distress (SRD) grant of R350 a month was introduced for unemployed individuals without other incomes or government assistance. The SRD grant added

[4] Dirk van Seventer, Rob Davies, Shannon Bold and Sherwin Gabriel, A 2015 Social Accounting Matrix (SAM) for South Africa. UNU-WIDER, April 2018, adapted by Faaiqa Hartley, 2020. See also Neva Makgetla, Inequality in South Africa: An Overview. Trade and Industrial Policy Strategies. www.tips.org.za. April 2020.

about 5.2 million beneficiaries to the social assistance system by December 2020.

The social grant supplements fell away after October 2020, whereas the SRD grant was first extended until April 2021, and then reinstated in August 2021. It has been retained since then on an annual basis, at least through March 2024, though with some changes to its admission rules.

For the 2020/21 fiscal year, social grant supplements and the SRD grant raised social grant expenditure from the originally budgeted R187.8 billion to R220.6 billion, equivalent to about 4.5% of GDP. The additional income support through social grants therefore amounted to about R34 billion in that year. In the following year, approximately R32 billion was spent on the SRD grant, and R44 billion was budgeted for it in 2022/23. Actual spending in 2022/23 was just over R29 billion, mainly due to tighter means-test criteria. For the 2023/24 year, R35.7 billion has been allocated for a projected 8.5 million recipients of the SRD grant. It now accounts for about 14 per cent of social assistance expenditure.

Recent research has drawn attention to the possible role of the SRD grant in supporting job search activities and in complementing broader labour market activation policies. It has been argued that it should be retained as a "job-seekers grant", but without associated conditions that might reduce take-up and administrative efficiency and must therefore be carefully considered.[5]

While supplementary social assistance has been effective in reaching many of the most vulnerable households, it was not the largest temporary income support programme during the COVID-19 lockdown periods. Drawing on reserves of surplus receipts relative to disbursements accumulated over some 20 years, the Unemployment Insurance Fund introduced a wage subsidy-based job retention arrangement in December 2019, the Temporary Employer/Employee Relief Scheme (TERS), prior to the COVID pandemic, intended to assist companies in financial distress undertaking turnaround or sustainability programmes. In response to the pandemic, a variation of this scheme was gazetted on 26 March 2020 as the COVID-19 TERS scheme,[6] initially from April to June 2020, but then extended through successive lockdown periods, targeted at industry sectors affected by the lockdown regulations.

For the initial lockdown period of April to October 2020, the UIF paid benefits to around 4.5 million individual employees – about a third of all formal sector employees. Over 420,000 employers registered claims on behalf of their employees. During the 2020/21 year, UIF/TERS benefit payments of R55.8 billion were made, after recovery of fraudulent or erroneous transfers.[7]

Geographically, COVID-TERS claims were concentrated in the economic strongholds of Gauteng, KwaZulu-Natal and the Western Cape, and were distributed across a broad income group. The COVID-TERS benefit was subject to a cap of R6,700 a month, and was calculated though a sliding scale that effectively reduced the proportional subsidy at higher earnings levels.

[5] Kate Orkin, Ingrid Woolard, Maya Goldman and Murray Leibbrandt, SRD grants: how they can be used to help young people into jobs. www.econ3x3.org. April 2023.
[6] Department of Labour Notice 215 of 2020, Government Gazette No 43161, 26 March 2020.
[7] Unemployment Insurance Fund, Annual Report 2020/21, p. 39.

By comparison with the UIF's normal administration of around 940,000 claims in 2019/20 and payments of benefits amounting to R15.2 billion, the COVID-TERS relief programme represented a substantial increase in workload. The TERS benefit and its administration were considerably more complicated than the UIF's normal business, which is limited to specific statutorily defined employee events: unemployment associated with job terminations, illness, maternity or adoption of a child, or death. The TERS scheme sought to replace lost earnings, while encouraging employers to continue to pay at reduced wage rates. Payment of the benefit relied on information provided by employers rather than applications by contributing employees, payments could be made either to employees or employers, and there were numerous difficulties in defining qualifying sectors or firms and determining eligibility. Cooperation between the UIF administration and organised business and labour union representatives, coordinated by the executive director of NEDLAC, assisted in addressing operational difficulties and implementing an online application and vetting process. But claimants experienced long delays in receiving TERS benefits, and subsequent audit investigations highlighted both administrative shortcomings and evidence of fraudulent claims and defective controls.

During 2021/22, COVID-TERS benefits were paid for earnings' losses during the January-March 2021 and June-July lockdown periods. Taking into account the more limited impact of lockdown regulations in these periods, the numbers of employees and amounts paid were considerably lower than in 2020/21. From the inception of the COVID-TERS scheme to the end of January 2022, an estimated 5 million employees were paid a total of R61.5 billion.

Largely based on the procedures adopted in the COVID-TERS programme, the UIF introduced a compensation scheme for loss of earnings during the public unrest in July 2021. By December 2021, this scheme had paid out R10.4 million to 2702 employees.[8]

With the benefit of hindsight, several lessons of the UIF's COVID-TERS experience can be noted:

- Though the UIF has made progress over the past decade in its records' administration, there is still further work to do in modernising and streamlining the interface between employers, SARS (which is responsible for UIF levy collection) and the UIF. This is the essential platform on which both improved administration of normal UIF benefits and the capacity to respond to special needs must be built.
- Application of the UIF sliding scale to a benefit intended to compensate for reduced earnings, rather than replacement income, during periods of unemployment, raises design and incentive-compatibility problems. The difficulties experienced in implementing the TERS benefit also arise in respect of the "reduced working time" benefits provided for in the 2016 amendment of the Unemployment Insurance Act, and the corresponding arrangements for domestic workers employed by more than one employer (section 12(1A)). The sustainability and incentive-compatibility of these provisions needs to be reviewed.
- For temporary relief measures, the tension between simplicity and practicality of design, and categorical targeting of benefits, needs careful consideration. Difficulties arose, for example, in implementing a rules-based TERS benefit through sectoral classification criteria to distinguish industries affected

[8] National Treasury, 2022 Estimates of National Expenditure, p. 588.

by lockdown regulations from those unaffected, derived from the statistical industrial classification codes.

Though the COVID-19 TERS scheme has been terminated, the original TERS programme for companies in distress remains in place, administered by the Commission for Conciliation, Mediation and Arbitration. Under this scheme, 75 per cent of an employee's basic salary can be subsidised up to a maximum of R17,119 per month for a maximum of 12 months. The UIF has budgeted R4.3 billion for this scheme over the 2023/24 to 2025/26 period.

In addition, the UIF continues to invest in training and business support through its labour activation programmes and through strategic enterprise development investments. Annual reports of the UIF indicate that these initiatives have not, to date, yielded the desired results.[9] These activities rest on the statutory authority of section 5(d) of the Unemployment Insurance Act, inserted in 2016, which provides that the fund may be used for the "financing of the retention of contributors in employment and re-entry of contributors into the labour market and any other scheme aimed at vulnerable workers". From a public finance management perspective, there are self-evident risks associated with this open-ended formulation.

In contrast to social assistance and the COVID-TERS initiative, South Africa's existing public employment programmes under the Expanded Public Works Programme (EPWP) were unable to raise their contributions to household income support during 2020/21. Activity was curtailed or halted in these programmes during the lockdown periods, although enrolled workers in many cases continued to be paid. From October 2020, the inception of the Presidential Employment Stimulus (PES) provided significant additional impetus to public employment schemes as part of the Economic Reconstruction and Recovery Plan.

South Africa's public employment programmes are not funded through a dedicated institution or statutory arrangement, but are dispersed across a wide range of implementing agencies and departments. The EPWP unit in the Department of Public Works and Infrastructure compiles a quarterly monitoring report based on submissions from implementing national and provincial departments and municipalities. The estimates in tables 1 and 2 are derived from these reports. They indicate a sizeable reduction in EPWP and CWP employment and wages paid between 2019/20 and 2020/21, and a partial recovery in 2021/22. It is also apparent that provinces and municipalities maintained employment on these programmes to a greater extent than national departments. Provincial employment on social sector programmes, which include community-based health services, increased over this period. The introduction of the PES (not included in these estimates) with its flagship basic education programme, will have substantially increased the overall role of social sector employment programmes since late 2020.

By comparison with supplementary social grants and the UIF COVID-TERS programme – which together added around R90 billion to the incomes of vulnerable households during 2020/21 – South Africa's EPWP programmes contributed an estimated R10.6 billion, or around 14 per cent less than the wages paid on these programmes in the previous year.

[9] Unemployment Insurance Fund, Annual Report 2020/21, , p. 36.

TABLE 6.1.2: Employment and Wages Paid on EPWP and CWP

	Person-years of work				2021/22 as % as of
	2016/17	2019/20	2020/21	2021/22	2019/20
Total: EPWP and CWP	**301,874**	**423,077**	**342,951**	**404,140**	**95.5%**
Infrastructure	92,930	103,271	83,352	102,760	99.5%
Environmental and Culture	62,930	70,778	54,576	63,036	89.1%
Social Sector	83,819	115,524	126,469	145,274	125.8%
Community Work Programme	38,875	110,704	68,060	65,432	59.1%
Non-state NGOs	23,320	22,800	10,494	27,638	121.2%
National Departments (inc CWP)	**96,661**	**169,727**	**101,650**	**116,080**	**68.4%**
Infrastructure	652	2,039	1,054	1,442	70.7%
Environmental and Culture	31,847	34,163	22,039	21,567	63.1%
of which: Environmental Affairs	*28,633*	*28,746*	*19,639*	*18,278*	*63.6%*
Social Sector	1,967	21	3	1	4.8%
Community Work Programme	23,320	110,704	68,060	65,432	59.1%
Non-state NGOs	38,875	22,800	10,494	27,638	121.2%
Provincial Departments	**146,374**	**186,443**	**178,496**	**204,151**	**109.5%**
Infrastructure	64,600	75,798	57,588	68,404	90.2%
Environmental and Culture	11,293	11,490	10,126	11,747	102.2%
Social Sector	70,481	99,155	110,782	124,000	125.1%
Municipal EPWP Programmes	**57,786**	**66,906**	**62,805**	**83,959**	125.5%
Cape Town	3,014	7,416	3,758	9,980	134.6%
Johannesburg	5,716	1,146	663	2,384	208.0%
eThekwini	8,200	9,898	9,134	10,077	101.8%
Other metros & districts	15,865	17,419	17,994	24,373	139.9%
Local municipalities	24,911	31,027	31,256	37,145	119.7%
Memo: Total Work Opportunities					
EPWP	*671,927*	*735,574*	*719,643*	*794,059*	*108.0%*
CWP	*107,318*	*259,125*	*219,045*	*222,587*	*85.9%*

	Person-years of work				2021/22 as % as of
	Calculated Wages Paid (R million)				2021/22 as %
	2016/17	2019/20	2020/21	2021/22	of 2019/20
Total: EPWP and CWP	**7,221.5**	**12,243.3**	**10,577.9**	**12,954.5**	**105.8%**
Infrastructure	2,488.6	3,231.8	2,739.0	3,406.1	105.4%
Environmental and Culture	1,644.3	2,153.4	1,753.5	2,136.9	99.2%
Social Sector	1,883.6	3,747.3	4,234.8	5,187.7	138.4%
Community Work Programme	767.2	2,581.7	1,598.4	1,535.6	59.5%
Non-state NGOs	437.8	529.1	252.2	688.2	130.1%
National Departments (inc CWP)	**2,187.7**	**4,272.4**	**2,634.0**	**2,323.0**	**54.4%**
Infrastructure	49.6	95.0	41.8	56.5	59.5 %
Environmental and Culture	869.9	1,065.4	741.4	810.4	76.1%
of which: Environmental Affairs	*778.9*	*896.5*	*658.5*	*679.4*	75.8%
Social Sector	63.2	1.2	0.2	0.1	8.3%
Community Work Programme	437.8	2,581.7	1,598.4	767.8	29.7%
Non-state NGOs	767.2	529.1	252.2	688.2	130.1%
Provincial Departments	**3,304.0**	**5,688.5**	**5,682.4**	**6,648.2**	**116.9%**
Infrastructure	1,566.8	2,219.5	1,764.5	1,998.5	90.0%
Environmental and Culture	275.3	358.1	326.0	384.2	107.3%
Social Sector	1,461.9	3,110.9	3,591.9	4,265.5	137.1%
Municipal EPWP Programmes	**1,729.8**	**2,282.6**	**2,261.5**	**3,215.5**	**140.9%**
Cape Town	101.4	296.1	156.8	409.0	138.1%
Johannesburg	185.9	50.3	30.4	103.4	205.6%
eThekwini	254.4	341.1	345.1	380.4	111.5%
Other metros & districts	495.4	608.6	693.0	1,035.6	170.2%
Local municipalities	692.7	1,036.2	1,036.2	1,287.1	130.5%

Source: National Department of Public Works and Infrastructure, EPWP M & E Reports.
Note: These estimates include upward adjustments to reflect payment of CWP workers during 2020/21 and 2021/22 lockdown periods and to adjust for incomplete reporting.

PRESIDENTIAL EMPLOYMENT STIMULUS

The Presidential Employment Stimulus (PES) was announced in October 2020 as part of the wider Economic Reconstruction and Recovery Plan (ERRP) of government. This followed an intensive design process in which the Project Management Office (PMO) in the Private Office of the President engaged with government departments to prioritise a set of programmes able to rapidly scale up public employment, as well as programmes supporting selected livelihood activities rendered more vulnerable by the context of the lockdown. The proposed programmes included support to existing Extended Public Works Programmes (EPWP) as well as new programmes. These proposals were subjected to a dedicated budget process with National Treasury, before the portfolio was announced, with 11 participating departments, a target of 694,000 opportunities supported and a budget of R12.6 billion – with these programmes mainly to be delivered in the remaining 5 months of the financial year, and with no commitment to future funding. In effect, this required that implementation planning assumed that programmes would ramp up to this scale, and then ramp back down to zero by March 2022, which were subsequently described by many departments as 'hostile timeframes'. Certainly, these were far from optimal conditions.

While the full target was not met, the PES did deliver 551,882 jobs and opportunities in its first phase – against the backdrop of various stages of lockdown. This performance enabled confirmation of a second phase, with funding of R10.9 billion announced as part of the February 2021 budget by National Treasury. This still had to go through a budget bid process, however, which meant that actual allocations onto departmental votes were only confirmed in the Adjustment Budget in October that year. In the February 2022 budget, funding allocations of R9 billion per annum were confirmed and allocated directly onto the relevant votes for the next two years, to March 2024, finally allowing some 'runway' for effective planning.

By March 2022, the PES had delivered 865,568 jobs and livelihood opportunities. By October of that year – two years after inception – it had reached the one million milestone. As at March 2023, the PES had delivered 93% of total targets funded to that date, reaching over 1.2 million people.[10]

The PES is the largest scale-up of public employment that has happened in South Africa over such short timeframes. Predictably, there are some key lessons that were learned in a context in which the PMO in the Presidency embarked upon the process with the intention of demonstrating the need for what it has called 'a reset' in the approach to the design, resourcing and implementation of public employment. This 'reset', is required, the PMO has argued, in a context in which the EPWP has not expanded for nearly a decade, despite the rising scale of the unemployment crisis.[11] PES provided a window of opportunity to experiment and to do things differently.

In brief, the PMO has proposed more programmatic approaches to the rollout of

[10] Note that the total number of jobs and opportunities delivered against targets is over 1,5 million. However, the figure of 1,2 million beneficiaries takes into account that some programmes involve participation over more than one financial year. In the schools' programme, for example, participants now start at the beginning of the school year in February. They work just two months in that financial year but continue to September in the next one. Annualised reporting as required for audit purposes means that these work opportunities must be reported in both financial years – because they are working in both years and there is a budget against targets for them in both years. But this results in a form of 'double counting,' so the PES strips these examples out from the reported scale of 'total beneficiaries'. This is why – in case anyone does the sums - there is an anomaly between the 'total opportunities against targets' and the total number of beneficiaries reported.

[11] See, for example, Donaldson, A. 'Public Employment Programmes: 'What they contribute to jobs and earnings.' SALDRU Econ 3x3, April 2022.

public employment, in recognition that what has been termed 'mainstreaming' of EPWP programmes in the budgets of public bodies, has reached a point of diminishing returns, along with perverse outcomes in certain contexts.

'Mainstreaming' emerged as the main strategy for scaling up public employment in a context of fiscal constraints. In that context, the EPWP did well to embed public employment within the budgets of public bodies across the state – with public bodies encouraged to fund public employment out of their existing allocations, rather than there being any formal allocation for EPWP itself. This is why analysts – and indeed National Treasury - find it so hard to 'find' EPWP budgets within national, provincial and municipal budgets. It is because they are not, on the whole, specified there. Instead, all unskilled work contracted or undertaken by public bodies is deemed to be part of public employment and public bodies report it into EPWP as such, as designated EPWP 'projects' from within wider programmes and budget allocations. While some EPWP projects are designed and implemented in a programmatic way (such as the Natural Resource Management programmes in DFFE), the mainstreaming of EPWP within all public bodies has led to a proliferation of 'micro-projects' across the state. While there is a case to be made for the budget efficiency of such a 'mainstreaming' approach, it makes evaluation and quality assurance difficult. In addition, the initial gains from resourcing public employment from within existing budget allocations has diminishing prospects for increases in scale if those budgets do not increase. This – the PMO has argued - has been the binding constraint on EPWP's ability to scale for some time.

The PES provided a window of opportunity to demonstrate the potential of more programmatic approaches to the resourcing and rollout of public employment, emphasising also the importance of 'building the architecture for scale' in order to move beyond project-level approaches.

While the full list of programmes is available online[12], only selected programmes are highlighted in this section. The PES was able to reach its targets, not because all programmes were successful, but because some significantly exceeded their targets. While, of course, they all drew on lessons from prior experience in EPWP and elsewhere, the best performers were all programmes that were purpose-designed as new national programmes within the PES, with programmes that tried to scale up existing approaches amongst the weakest performers.

In terms of sheer scale, the most significant of the PES programmes is the Basic Education Employment Initiative (BEEI) run by the Department of Basic Education (DBE). It has now placed over 800,000 young people as school assistants in over 23,000 schools, in three placement cycles since October 2020. This makes it by far the largest youth employment programme in South Africa's history, providing a meaningful 8-month work experience to participants, in a context in which lack of such experience is one of the binding constraints on youth employment. As a comparison, the YES programme – important as it is - has reached just 100,000 young people cumulatively over four years.

Recruitment applications for the BEEI happen over Harambee's zero-rated SAYouth.mobi app, for transparency of process. For the last recruitment cycle, over 1.5 million young people applied for the 255,000 places, with the BEEI acting as a highly effective mechanism for the economic activation of youth. Once on the

[12] https://www.stateofthenation.gov.za/employment-stimulus-dashboard

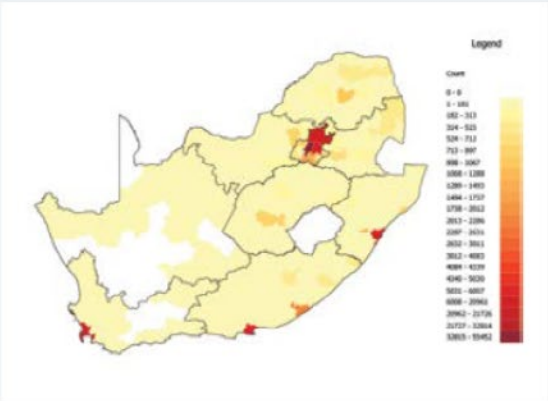
platform, even if they are not appointed, they have access to other opportunities and youth support measures, as part of the Presidential Youth Employment Intervention.

A key feature of the programmes is its spatial distribution. It reaches every community in the country because every community has schools. This distributed network enables scale, but with each school taking just 10-15 school assistants, their management systems are not overwhelmed. Schools have to opt in - they determine the number of assistants they will take, they define the tasks, and are responsible for hiring and firing. This is an example of a national programme providing systems, processes, standards, quality assurance, support and rollout of training, but with the key levers of implementation driven from the school level. It currently has a 93% approval rating from teachers and principals overall – which rises to an astonishing 97% for principals in quintile 1 and 2 schools.

FIGURE 6.1.14: BEEI Spatial Distribution

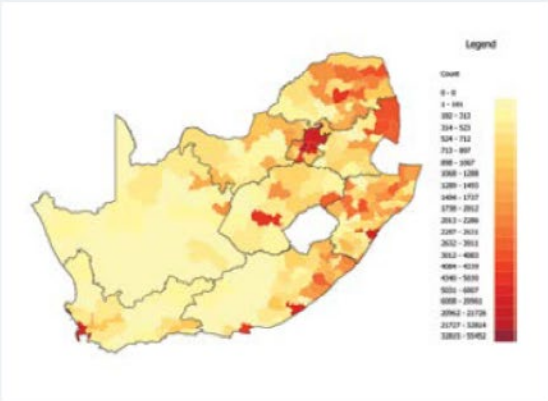
The BEEI has a highly equitable spatial footprint that reaches even the most remote and marginalised communities – because every community has schools.

Figure 1 Youth Employment Density by South African Municipality [**2020**]



Source: Harambee EJ Survey (2020) for 161,097 responses

Figure 2 Youth Employment Density by South African Municipality [**2022**]



Source: Harambee EJ Survey (2022) for 315,650 responses

The map on the left illustrates the distribution of employment opportunities for youth without the programme; the map on the right shows the difference the BEEI makes. Instead of 'jobs deserts' for youth across vast areas of the country, the BEEI brings opportunities.

Source: The Presidency, Building a Society that Works, February 2023

As the programme matures, the scope for layered impacts deepens. This includes using the school assistants to help move the dial on learning outcomes. For example, school assistants have been invited to become Siyavula Maths and Science Champions. They are being trained to support learners to use the Siyavula Maths and Science practice app which has been rolled out in schools. Importantly, the school assistants do not have to be mathematics'

whizzes themselves (although they are expected to achieve a minimum level of proficiency on the app to become a 'champion'). Their role, however, is to mobilise and motivate learners to engage on the app, with the app assessing learner competencies, pushing appropriate exercises to them and tracking their engagement and performance. 'Reading Champions' have been trained to support reading for meaning and E-Cadres are trained to provide support on all things digital in the school.

The next programme – the Social Employment Fund (SEF) – has been established as part of the Social and Solidarity Economy policy area of the Department of Trade, Industry and Competition (DTIC), with the Industrial Development Corporation as the fund manager.

President Cyril Ramaphosa noted that "we are working on the premise that there is no shortage of work to be done to address the many social problems in our society. The aim is to support the considerable creativity, initiative and institutional capabilities that exist in the wider society to engage people in work that serves the common good". The SEF initiative supports employment in community-based organisations to undertake 'work for the common good'. This augments state capacity by crowding in capabilities, energy and vision from the wider society. The work encompasses a wide range of activities that include combating gender-based violence, informal settlement upgrading, river cleaning, food security, community art initiatives, early childhood development and much more. Often, these activities come together in integrated area-based programmes. The SEF uses a hub-and-spoke model to enable scale, with each of its Strategic Implementing Partners supporting as many as 100 community-based organisations that would not, typically, be able to comply with the requirements of public funding on their own.

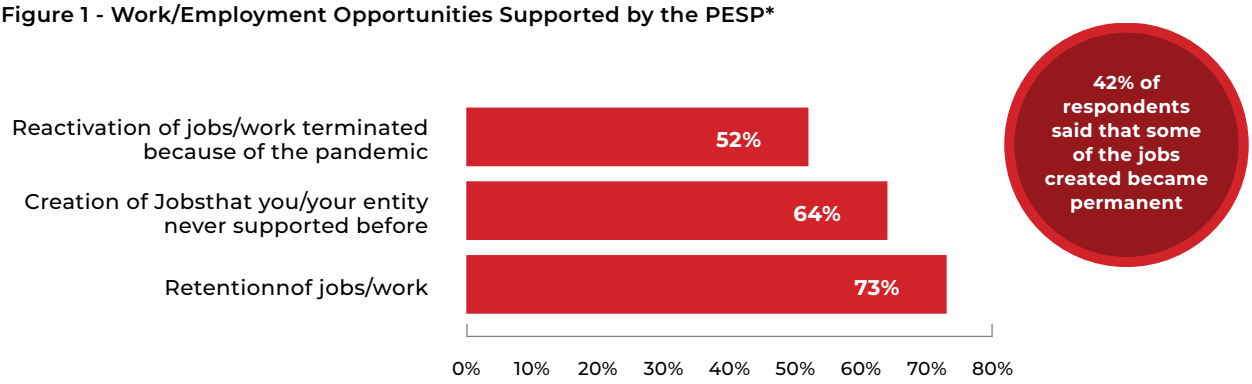
Apart from the SEF's state-of-the-art central payments and reporting system, which enhances accountability by bio-metrically validating participants and geo-spatially referencing where work is taking place, the programme also illustrates another modality for going to scale. While it is currently funded to support 50,000 participants (and has exceeded that target), the number of applicants that met the minimum qualifying criteria for the first RFP for the fund could have created more than 300,000 jobs. This delivered an early proof of concept illustrating the scope for this approach to scale, on terms that crowd in – and build - capacities and capabilities in the wider society, while also augmenting and expanding existing efforts in critical social outcome areas. While this rationale is not new – the Community Work Programme is a case in point - the SEF provides a new benchmark for the quality of systems, processes, and outcomes to which such approaches should be held accountable and illustrates the institutional conditions under which this purpose can be achieved.

Finally, the stimulus to the creative sector is worth noting. The sector was, of course, badly affected by lockdown restrictions during the 2020/21 review period. With most people in this sector in the gig economy, self-employed, or in SMEs, a classic public employment model was not going to work. Instead, through the National Arts Council and the National Film and Video Foundation, a mechanism was developed which invited creatives to initiate work for themselves and others, by crafting new creative work. Despite an unfortunately rocky start in the NAC (which forensic audits confirm involved neither theft nor fraud, but a failure of management systems in the face of an unprecedented challenge), these programmes surpassed expectations (and targets), creating a highly diverse portfolio of new creative work at

scale, providing support to over 60,000 people in the sector by March 2023. Of particular interest here are the knock-on economic stimulus effects reflected below – with this stimulus contributing significantly to GDP growth in the sector over the 2021/22 review period.

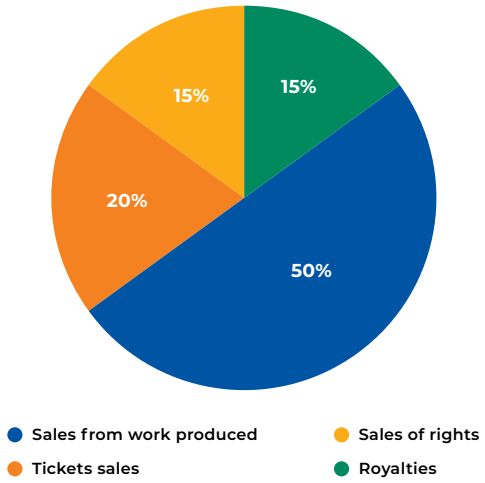
FIGURE 6.1.15: PES Creative Sector Stimulus

Figure 1 - Work/Employment Opportunities Supported by the PESP*



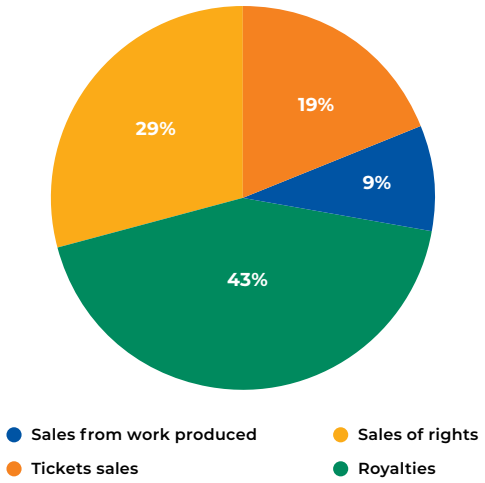
*Respondents could contribute to more than one category.

Figure 2 - Types of additional incomes earned



From the creative outputs produced, beneficiaries were able to leverage further opportunities that enabled them to earn additional incomes - enhancing their sustainability while also increasing the contribution of the creative sector to GDP

Figure 3 - For those that had other funding, what was the ratio of PESP funds to other funds?



Only 36% of respondents had access to other sources of funds with which to undertke their projects. For 72% of these the PESP was the main contributor

Reference: Maybe K. 2022. The Creative Sector Stimulus of the Presidential Employment Stimulus. Working paper. Southern African Labour and Research Development Unit (SALDRU). Cape Twon. University of Cape Town.

Source: Maybe, K. (2022)

OTHER RELIEF MEASURES AND INTERVENTIONS

Other interventions initiated to counter the economic and social effects of the pandemic had mixed success. Treasury's Small Business Debt Relief Finance Scheme was largely unsuccessful. Businesses ultimately did not require additional debt facilities, so much as relief on their existing debt commitments. The Tourism Relief Fund was also mired in controversy due to the racial bias applied by government in the access to funds – an aspect that was successfully challenged in court by industry stakeholders, but not before many small tourism operators and their employees were severely impacted, contributing to the jobs bloodbath experienced in the sector during the 2020/21 review period. Other more general components of the Economic Reconstruction and Recovery Plan were designed with more long-term economic stimulus in mind, such as the building of energy infrastructure. However, these have been painfully slow to move into the implementation phase, despite the urgency of the timelines initially announced.

Other programmes in the PES also achieved some level of success and provided lessons to draw from in future applications. The Department of Agriculture, Land Reform and Rural Development's (DALRRD) 157,000 production input vouchers for subsistence farmers held many lessons; the Municipal Infrastructure Support Agent's (MISA) waste programme; and the graduate programmes of the Departments of Science and Innovation (DSI) and Higher Education and Training (DHET) all contributed to the overall success of the PES in different ways. Despite the valiant efforts of public officials, there were also PES programmes that were unable to meet their targets or which faced particular challenges. For the Early Childhood Development (ECD) support programme run by the Department of Social Development (DSD), the critical challenge was the vetting and verification of informal ECD Centres and the establishment of payment systems at provincial level. The ambition of the programme to include informal practitioners – who constitute the majority of the sector, at risk of collapse at the time – was simply too great for the systems available. That was a design flaw on the part of the PES, as much as an implementation weakness, despite the DSD flagging their concerns from the start. They nevertheless managed to deliver support to 58,000 ECD practitioners, with the lessons learned from that process now informing the design of future support currently in process in DBE, with the participation of the sector.

The Department of Transport simply could not scale up provincial road maintenance in the short timeframes available in Phase 1. Infrastructure requires extensive planning; the lesson was that it does not lend itself to this kind of rapid scale up. More puzzling was the inability of most of the environmental programmes in the DFFE to do so. The assumption was that their years of experience with EPWP would put them in pole position, with resources the major constraint to further scale. Unfortunately, R1.2 billion of PES funds was returned to the Treasury in Phase 1, and despite a much more modest programme in Phase 2, targets were still not met. In both cases, the primary reason given was that 'procurement' could not be completed in the timeframes, so programmes did not even start. This points to the need to design procurement systems that are more flexible and responsive, without giving up the necessary checks and balances to ensure that corruption is eliminated.

LESSONS LEARNED AND THE WAY FORWARD

Many of the lessons learned over the course of the first 2020/21 review period were reinforced by new evidence and data collected during the 2021/22 review period. Perhaps the most important lesson has been the success of targeted interventions versus the relative failure of general interventions in providing support to the economy. Narrow targeted support programmes such as the SRD and TERS programmes were generally more successful in achieving their short-term goals than, for example, Treasury's loan scheme to businesses. However, design trade-offs between the simplicity and practicality of schemes such as TERS and their targeting criteria were evident. and should be reevaluated. In many cases, this led to delays or errors in the distribution of support funds. Counter-productive restrictions on economic activity, in particular alcohol and tobacco, travel and tourism, and various creative arts' industries, proved to be extremely costly, given alternative mechanisms available to achieve the desired health and safety outcomes related to the pandemic. The need for better targeted health and economic interventions must therefore be carefully considered in future and analysed from the onset. The general equilibrium effects of these excessive restrictions resulted in a significant loss of jobs, as well as much needed revenue to the state in the form of excise and other taxes, with little evidence that these measures improved health outcomes.

It has also become abundantly clear that supportive distribution, communication and resource-saving online mechanisms were not in a state of readiness in many parts of the country, as multiple provincial and local government departments or institutions initially struggled to get the necessary support to people and businesses in immediate need. This points to a lack of disaster preparedness and coordination between the different levels of government. The procurement process for the implementation of many programmes at a provincial or local level was also fraught with ***allegations of corruption and mismanagement***. This led to a costly misallocation of resources to the ultimate detriment of those who were most in need of fast and efficient government support, namely poor and vulnerable households. The Presidential Employment Stimulus (PES) was a notable exception, and one of the big success stories of the COVID-19 response by government. The PES has performed above expectations and continues to make a significant contribution to the economic recovery effort. However, the success of the PES and demand-side oriented support mechanisms such as the SRD have also highlighted the need for better targeted supply-side support directly to firms in order to balance the short-term and long-term recovery dynamics.

Many of the problems facing the local economy at the end of this review period are self-induced and have been highlighted long before the COVID-19 pandemic wreaked further havoc. During the state capture era, key institutions were eroded and capacity lost, reducing the country's total factor productivity and potential economic growth rate. Corruption, misallocation of resources, crime, policy uncertainty, and poor accountability, amongst other problems, mean that the state's limited funds to support and reignite the economy often go to waste, and are delivered at a much smaller scale, if at all, than envisioned. The failure of the South African economy to regain its growth momentum after the initial post-COVID recovery is, no doubt, a consequence of a wide range of factors. However, special mention must be made of the collapse of infrastructure investment and maintenance, reflected in the continued weak

state of construction activity well beyond the COVID-19 lockdown periods.

Looking forward, as noted earlier in the chapter, South Africa must reduce its vulnerability to future shocks – which may include anything from the next pandemic to extreme climate events, threatening both the lives and livelihoods of people – through building more resilience into the economic system. Increased fiscal space for government to respond adequately to the next crises is imperative. This will ultimately require both ordinary citizens and political leaders to join hands in supporting the strengthening of key institutions, promoting investment in productivity-enhancing infrastructure, and creating a thriving business and investor-friendly environment in which jobs can organically and sustainably be created. Reestablishing the rule of law will be a foundational component required for the turnaround. While there is always room from government's side to support the economy and help improve employment opportunities during times where markets fail to adequately do so, such interventions cannot be viewed as the preferred option, or a permanent solution to South Africa's economic and employment crises.

REFERENCES

Arndt, C., Davies, R.J., Gabriel, S., Harris, L., Sachs, M. and Van Seventer, D., 2022. Building Back Fairer from the COVID-19 Pandemic in South Africa: Some First Steps in an Era of Fiscal Constraints. South African Reserve Bank Working Paper Series WP/22/02.

Bhorat, H., Kohler, T. & De Villiers, D., 2023. Special COVID-19 Grants Not Only Provided Income Relief – They Also Provided Improved Labour-Market Outcomes. Econ3x3 Brief.

Department of Labour, 2020. Notice 215. Government Gazette No. 43161, 26 April.

Department of Employment Labour, 2022. UIF Annual Report 2020/21.Department of Public Works and Infrastructure, 2023. EPWP Monitoring and Evaluation Report, Year 19, May 2023.

Donaldson, A., 2022. Public Employment Programmes: What They Contribute to Jobs and Earnings. Econ 3x3, April 2022.

International Monetary Fund, 2023. World Economic Outlook, April 2023.

Kershoff, G., 2022. Factors Limiting Production – South Africa's Experience. BER Comment, November 2022.

Makgetla, N., 2020. Inequality in SA: An Overview. Trade and Industrial Policy Strategies. https://www.tips.org.za.

Maybe, K. (2022) The Creative Sector Stimulus of the Presidential Employment Stimulus. SALDRU Working Paper.

Maybe, K. (2023) The Creative Spark of a Public Employment Programme. Econ 3x3, February 2023.

National Planning Commission, 2012. National Development Plan 2030.

National Treasury, 2019. Economic Transformation, Inclusive Growth, and Competitiveness: Towards an Economic Strategy for South Africa.

_____, 2021. Medium-Term Budget Policy Statement 2021.

_____, 2022. Estimates of National Expenditure 2022.

_____, 2023. Estimates of National Expenditure 2023.

_____, 2022a. Budget Review 2022.

_____, 2022b. Medium-Term Budget Policy Statement 2022.

_____, 2023. Budget Review 2023.

Orkin, K., Woolard, I., Goldman, M. and Leibbrandt, M., 2023. SRD Grants: How They Can Be Used to Help Young People Into Jobs. Econ 3x3, April 2023.

South African Reserve Bank, 2023a. Monetary Policy Review, April 2023.

_____, 2023b. Quarterly Bulletin, June 2023.

_____, 2023c. Statement of the Monetary Policy Committee, July 2023.

Spaull, N., Daniels, R.C. et al., 2021a. NIDS-CRAM Wave 4 Synthesis Report.

_____, 2021b. NIDS-CRAM Wave 5 Synthesis Report.

Statistics South Africa, 2023a. Gross Domestic Product, Fourth Quarter 2022. Statistical Release P0441.

_____, 2023b. Labour Market Dynamics in South Africa, 2021. Report No. 02-11-02 (2021).

_____, 2023c. Quarterly Labour Force Survey, Fourth Quarter 2022. Statistical Release P0211.

_____, 2023d. Quarterly Employment Statistics, March 2023. Statistical Release P0277.

_____, 2023e. Consumer Price Index, June 2023. Statistical Release P0141.

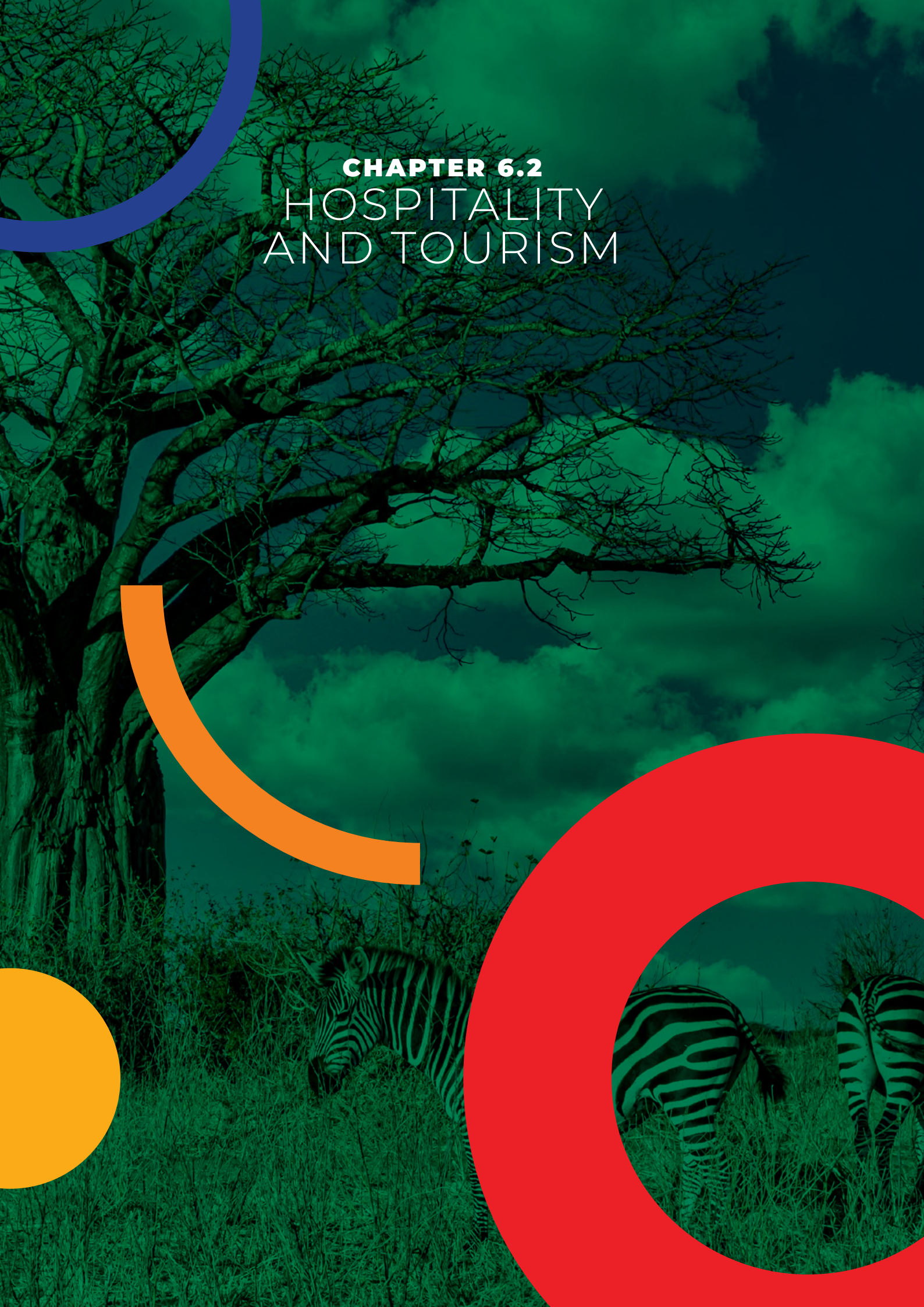
_____, 2023f. Tourism 2022. Report No. 03-51-02 (2022)

The Presidency, 2020. South African Government. Building a New Economy: Highlights of the Reconstruction and Recovery Plan, October 2020.

The Presidency, 2023a. South African Government. The Presidential Employment Stimulus: Building a Society That Works, February 2023, Update.

The Presidency, 2023b. State of the Nation Address 2023. Employment Stimulus Dashboard. Available at https://www.stateofthenation.gov.za/employment-stimulus-dashboard

Van Seventer, D., Davies, R., Bold, S. & Gabriel, S., 2015. Social Accounting Matrix for South Africa UNU-WIDER, April, 2018.



CHAPTER 6.2
HOSPITALITY AND TOURISM

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Abstract:

This chapter reflects firstly on how the COVID-19 pandemic impacted the South African tourism and hospitality industry during 2021. Secondary data show that international tourism continued to contract during 2021. Domestic tourism also declined compared to 2020, limiting the recovery prospects for the industry. As a result, the industry suffered further income and job losses, while the closure of key businesses led to structural problems that may take years to resolve. Secondly, the chapter reflects on the measures that were implemented during 2020/1 to mitigate the negative impact of COVID-19, with the aim of drawing upon lessons learned and making recommendations to better prepare the country for future pandemics. Interviews with policymakers, associations and businesses in various sectors of the industry revealed that only three measures were effective, namely the Temporary Employer/Employee Relief Scheme (TERS) of the UIF, health protocols and vaccinations. The industry was ill-equipped to deal with the pandemic which was exacerbated by insufficient funding, a lack of co-ordination and communication. This calls for a more collaborative partnership between the public sector, the private sector and communities within the tourism industry.

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Abbreviations and Acronyms:

COVID-19	Coronavirus 2019
SME	Small and Medium Enterprise
UNWTO	United Nations World Tourism Organisation

1. INTRODUCTION

During the year 2020, the world came to grips with the COVID-19 pandemic which caused unprecedented disruptions in almost every aspect of human lives. Although it is not the first influenza pandemic of the 21st century, given the H1N1 or swine flu pandemic during 2009-2010, the severity of COVID-19 and the speed with which it spread around the world elicited comparisons with the Spanish Flu pandemic of 1918-1919 that caused the death of between 20 and 50 million people (WHO, 2022b). To control the spread of the virus, countries closed their borders to international travellers and severely restricted internal movement, bringing the $1.5 trillion tourism industry (UNWTO, 2021) to a standstill.

The tourism industry has been identified as one of the main contributors to the spread of the disease around the globe. Baker (2015:5) states that tourism "play(s) a critical role in the movement of microbes globally", as more and more people travel to destinations outside their country of origin, hosting the disease they carry in their bodies concurrently. The UNWTO (2021) recorded 1.46 billion tourist arrivals during 2019 and sustained growth in arrivals for a decade. Compared to the 23.5 million tourist arrivals during 1950, the blossoming tourism industry has become a major role-player in the transmission of person-to-person disease among nations.

COVID-19 is also not the first disease to disrupt international travel during the 21st century. The Severe Acute Respiratory Syndrome (SARS) virus (2002-2003) and the Middle East Respiratory Syndrome (MERS) virus (2012-2015) disrupted tourism flows, although these epidemics remained more regional. The SARS virus was the first and the most severe of the epidemics prior to the pandemic. It emanated in China and spread to 29 countries (Lam, Zhong & Tan, 2003), causing 126 countries to place some form of restriction on tourists from China. MERS was less infectious and remained localised in the Middle East, except for an outbreak in South Korea during 2015 (Shi & Li, 2017).

While both SARS and MERS were under control within a short span of time, the mutation of the coronavirus and the subsequent rolling waves of infections around the world, resulted in a prolonged pandemic with dire consequences for the tourism industry. The optimism that the worst of COVID-19 would be over during 2020 dissipated, and, during 2021, countries around the world still struggled to control the spread of the virus, leading to severe restrictions on travel.

This chapter focuses on the unfolding of the coronavirus pandemic during 2021 in the tourism and hospitality industry. It aims to (i) reflect on how the pandemic unfolded in its second year and impacted the South African tourism and hospitality industry; (ii) reflect on the measures that were implemented during 2020/1 to mitigate the negative impact of COVID-19, and (iii) draw lessons from the COVID-19 pandemic to make recommendations

to normalise the country's situation and better prepare the country for similar future pandemics or disasters.

2. METHODOLOGY

To grasp the effect that the coronavirus pandemic had on the South African tourism industry during 2021, secondary data obtained from Statistics South Africa, the South African Reserve Bank, the international COVID database, as well as South African Tourism were analysed. With the use of graphical analysis, the effect of the pandemic in its second year on the tourism industry is illustrated and discussed. The first phase of the research therefore followed a quantitative approach, before the industry experience was captured using a qualitative approach.

The first Country Report of 2020 identified various fiscal (financial) and non-fiscal measures that were implemented by government to mitigate the negative effects of COVID-19 and the subsequent travel restrictions on the tourism industry. Drawing on the measures identified in the 2020 report, this chapter subsequently focuses on examining the efficacy of the measures implemented. This chapter includes the following sectors of the industry:

- Accommodation and restaurants (i.e., hospitality)
- Tourism transport
- Travel services
- MICE tourism
- Adventure and recreation

The research for this chapter followed a qualitative design, using in-depth structured interviews to elicit the input of key stakeholders in the industry. The interview questions aimed at soliciting information and participant opinions on the following themes (i) the impact of COVID-19; (ii) views on the measures implemented; (iii) evaluation of the various measures implemented, and (iv) lessons for future pandemics.

The chapter authors engaged in interviews with role-players from three spheres of the industry, namely (i) policymakers and national/provincial authorities, (ii) tourism associations, and (iii) tourism businesses. Key stakeholders in each of the sectors were identified and contacted to participate in the interviews that took place online with all, or some, of the authors of this chapter. The interviews were conducted during the period December 2021 to June 2022 using a virtual method and were all recorded with the consent of the participants. The interviews varied in length from 40 minutes to 2 hours. Written consent was provided by the participants to be identified in this research, as well as to be recorded.

Altogether 21 interviews were conducted: one with the National Tourism Authority, 3 with provincial tourism authorities, 2 with national/provincial park authorities, 8 with various associations representing the different sectors of the tourism industry, and 7 interviews with businesses – mostly those operating throughout South Africa. The interviews were transcribed and analysed using both thematic analysis and basic statistical analysis for questions which allowed for it. The second part of this chapter therefore reports the findings of the interviews.

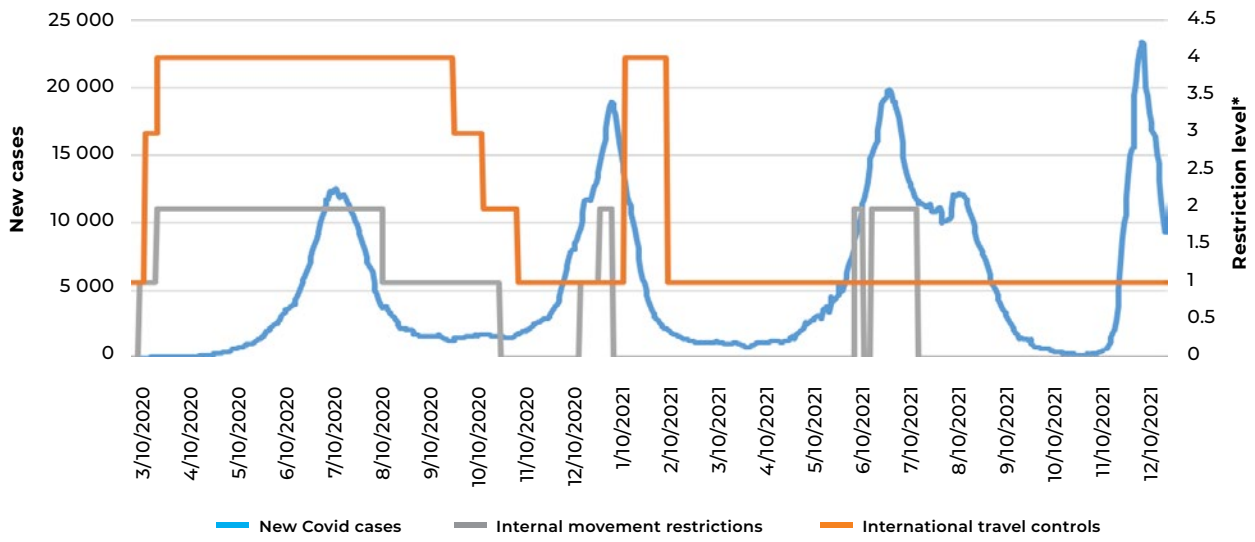
3. 2021 IN REVIEW

The unfolding of the COVID-19 pandemic in South Africa and the subsequent policy response in terms of restrictions on international and internal movement of people are reviewed first, since these controls hampered both international and domestic tourism activities within the country. Figure 1 illustrates the new COVID-19 cases in South Africa (left axis) and the subsequent policy response in terms of movement restrictions (right axis). It is evident that since the first case of COVID-19 was reported in South Africa, on March 10, 2020, some form of restriction in movement has been part of the country's policy response.

The Beta variant of the coronavirus that was prevalent in South Africa during the end of 2020 and early 2021 was accompanied by stringent restrictions on both international tourism, with an outright border closure, and domestic tourism, with restrictions on the internal movements of people. These restrictions are clearly visible in Figure 1, along with the spike in infection rates. By mid-February, after the peak of the infection wave had been reached, the restrictions were moderated.

During 2021, restrictions, and especially internal movement restrictions, closely mirrored the changes in the infection rate. While international travel restrictions remained at alert level 1 (i.e., screening of arrivals), internal movement restrictions were again put in place during the wave dominated by the Delta variant of the coronavirus (i.e., June/July 2021). However, during the Omicron variant of the virus (December 2021), the high infection rate did not result in a similar high death rate, and the policy response in terms of movement restrictions remained low for international tourists and no restrictions were in place for domestic tourism.

Figure 1: New COVID-19 cases and restrictions on movement



*Key for internal movement restriction: 0 = no restrictions, 1 = recommended movement restriction; 2 = restrict movement

Key for international travel controls: 0 = no measures; 1 = screening; 2 = quarantine from high-risk regions; 3 = ban on high-risk regions; 4 = Total border closure.

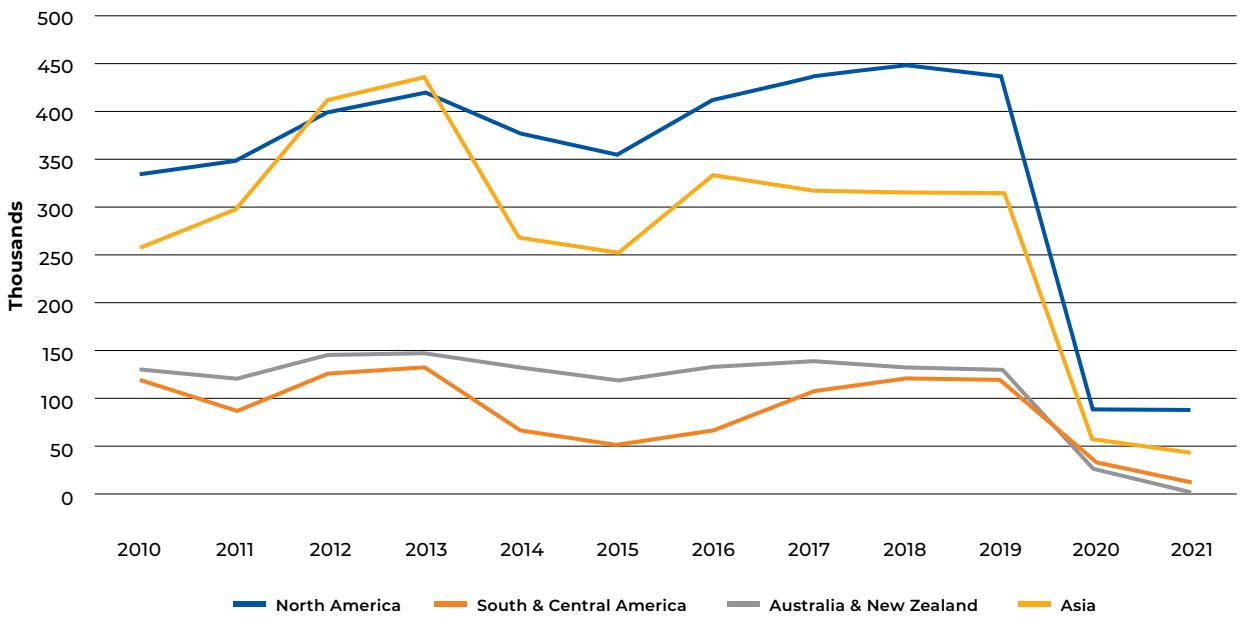
Source of data: Ritchie et al. (2020)

The vaccination programme commenced during April 2021 and, by end December, more than 18 million South Africans had received at least one vaccine dose. As Dube (2022) indicated, the vaccine rollout did not result in the widespread opening of the industry, as expected, since the unequal distribution of vaccines created co-ordination failures. The increased uptake of vaccinations could have been a contributing factor to the lower levels of restrictions imposed during the Omicron variant of the coronavirus.

International tourism

The international travel bans and restrictions on international travel, not only in South Africa, but in most countries around the globe, had dire consequences for international tourism to South Africa. Figures 2 and 3 illustrate the evolution of tourist arrivals in South Africa from 2010 to 2021 from different regions.

Figure 2: South African tourist arrivals from selected regions*

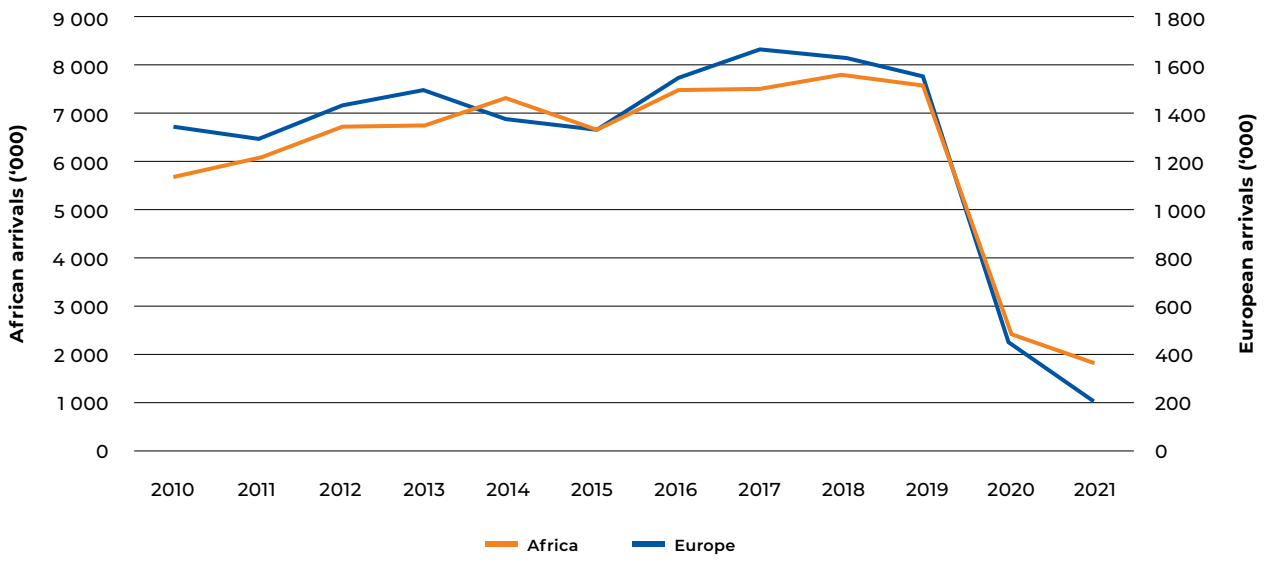


*Due to the scale of arrivals from Africa and Europe, it is shown on a separate graph (Figure 5)

Source of data: Compiled from P0351 Reports of Statistics South Africa (2010-2021)

In both figures 2 and 3, the sharp drop in international tourist arrivals during 2020 is evident. The downward trend lessened slightly during 2021, with the slope of the trends becoming more moderate, and the North American arrival series having reached a turning point. In terms of recovery in international tourism to South Africa, it seems as if tourism from all regions is following a U-shaped recovery, indicating a more prolonged shock, compared to the SARS or MERS epidemics. If a V-shaped recovery was on the cards, the tourist arrival graphs would already have shown an upward trend and not a continued downward trend.

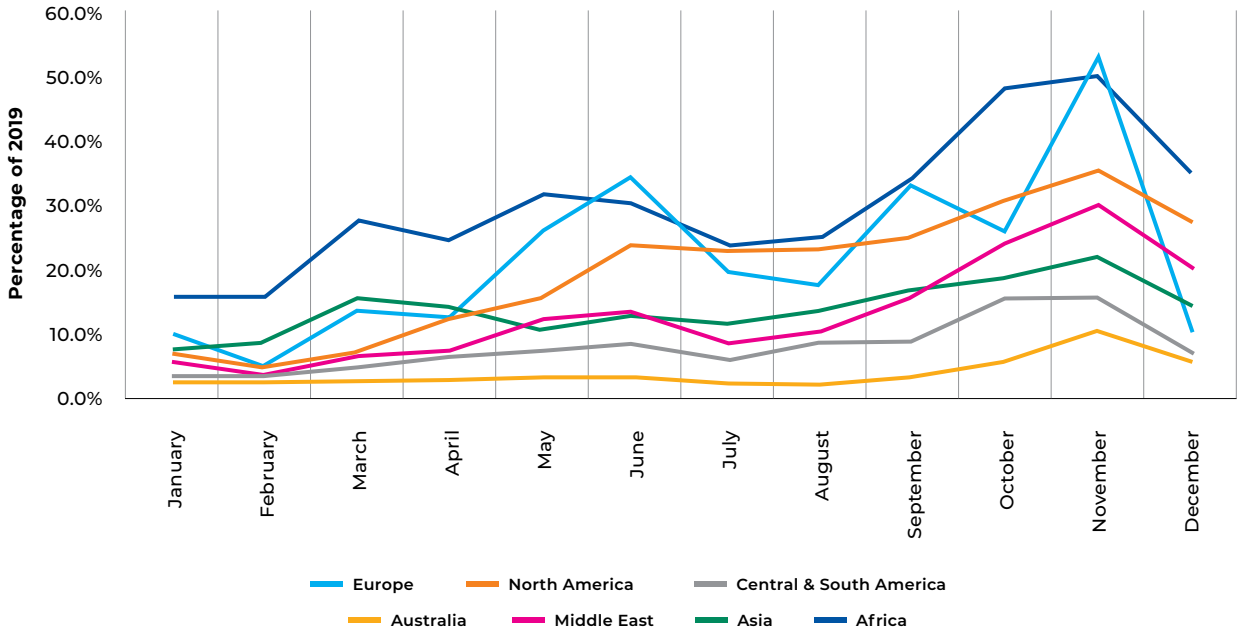
Figure 3: South African tourist arrivals from Africa and Europe



Source of data: Compiled from P0351 Reports of Statistics South Africa (2010-2021)

To place the decline in international tourism in perspective, Figure 4 illustrates tourist arrivals from the various regions as a percentage of 2019 arrivals. As was widely expected, regional tourism recovers quicker than intercontinental tourism and, by October 2021, arrivals from Africa had realised 50% of the October 2019 levels. The discovery of the Omicron variant in South Africa by the end of November 2021 led to a decline in arrivals during December 2021. During 2021, Europe and North America showed stronger recovery than tourism from Australasia, Central and South America and Asia. This can be attributed to the travel bans in these regions that prohibited travel to South Africa.

Figure 4: 2021 tourist arrivals relative to 2019



Source of data: Compiled from P0351 Reports of Statistics South Africa (2019- 2021)

The influence of the decline in international tourism on international receipts for travel services and international passenger fares has been stark, as illustrated in Figure 5. Foreign currency inflows due to tourism declined by 91.6% during the second quarter of 2020, compared to the same period in 2019. Receipts remained low during 2020 and the first quarter of 2021, with the first signs of growth only returning during the second quarter of 2021, albeit travel receipts only reached approximately 25% of 2019 levels by the third quarter of 2021. The effect on international transport receipts from passenger fares followed a similar trend, with almost 0 receipts from quarter 2 of 2020 until quarter 4 of 2021, when passenger fares showed signs of recovery, reaching 3.5% of the 2019 level. The data from ACSA confirm this trend with international passenger arrivals during 2021 a mere 21% of pre-COVID arrivals at OR Tambo, with lower percentages at Cape Town International and King Shaka International Airports (19% and 10% of pre-COVID arrivals respectively).

Figure 5: International travel and passenger fare receipts (2019-2021)

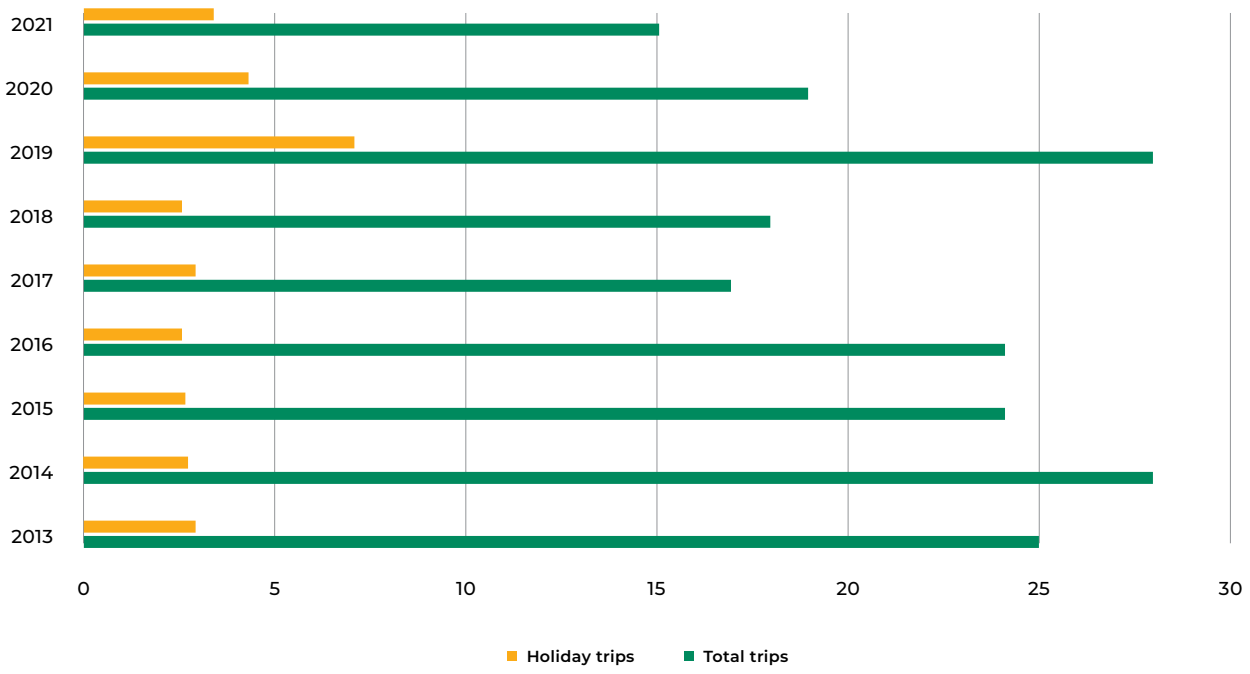
Source of data: South African Reserve Bank (2022) series KBP5041L and KBP5043L

Domestic tourism

The domestic tourism trends from 2013 to 2021 were obtained from South African Tourism and are based on a survey undertaken by Statistics South Africa. The respondents are asked to indicate the number of trips they took within a month. A trip is defined as travelling to a place outside their normal living place for at least one night, but less than 365 nights. A trip can therefore range from an overnight visit to friends/family to a three-week holiday at a tourism product. For that reason, South African Tourism indicate the trips that can be classified as holidays as well.

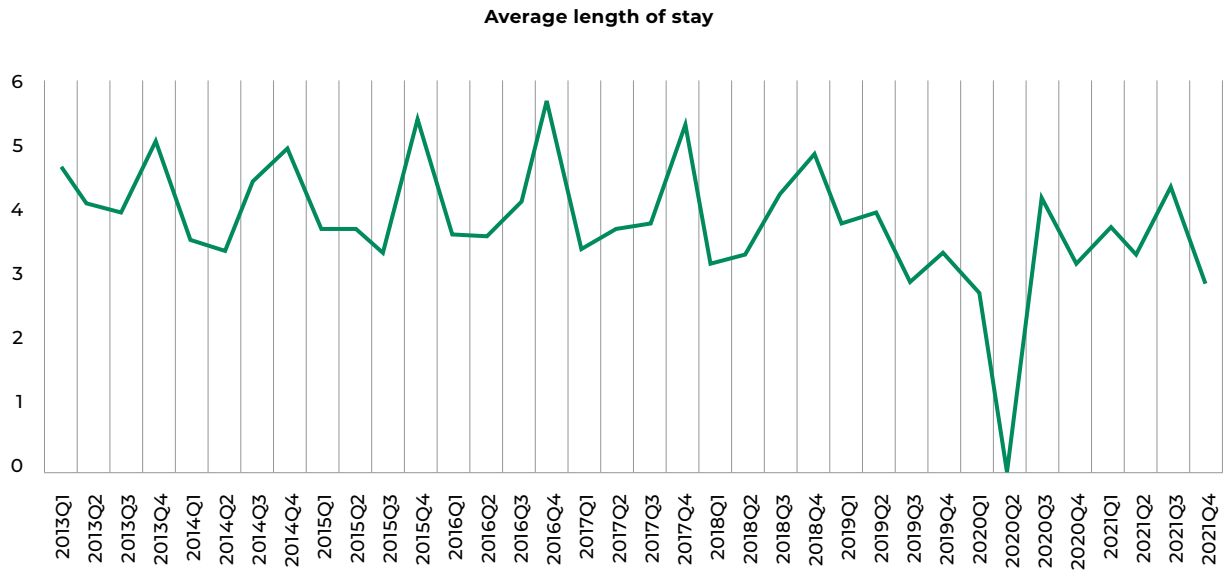
Figure 6 indicates the trends in both domestic and holiday trips since 2013. South Africans undertook approximately 28.5 million domestic trips during the year 2018, of which just more than 7 million of these trips can be classified as holiday trips. Over the past 2 years, both the number of domestic trips, as well as holiday trips have declined steadily. During 2021, the number of trips has almost halved compared to 2019, reaching 14.8 million trips, of which only 3.4 million were holiday trips. The ACSA data confirm this decline, with domestic arrivals at the three main airports in South Africa, OR Tambo, Cape Town International and King Shaka International, reaching approximately 50% of pre-COVID arrivals. This declining trend in domestic tourism is worrisome and indicative of the economic hardship experienced by South Africans due to the COVID-19 pandemic.

Figure 6: Number of domestic trips and holiday trips (2013-2021)



Source of data: South African Tourism (online: https://www.southafrica.net/gl/en/corporate/page/domestic-tourism-report)

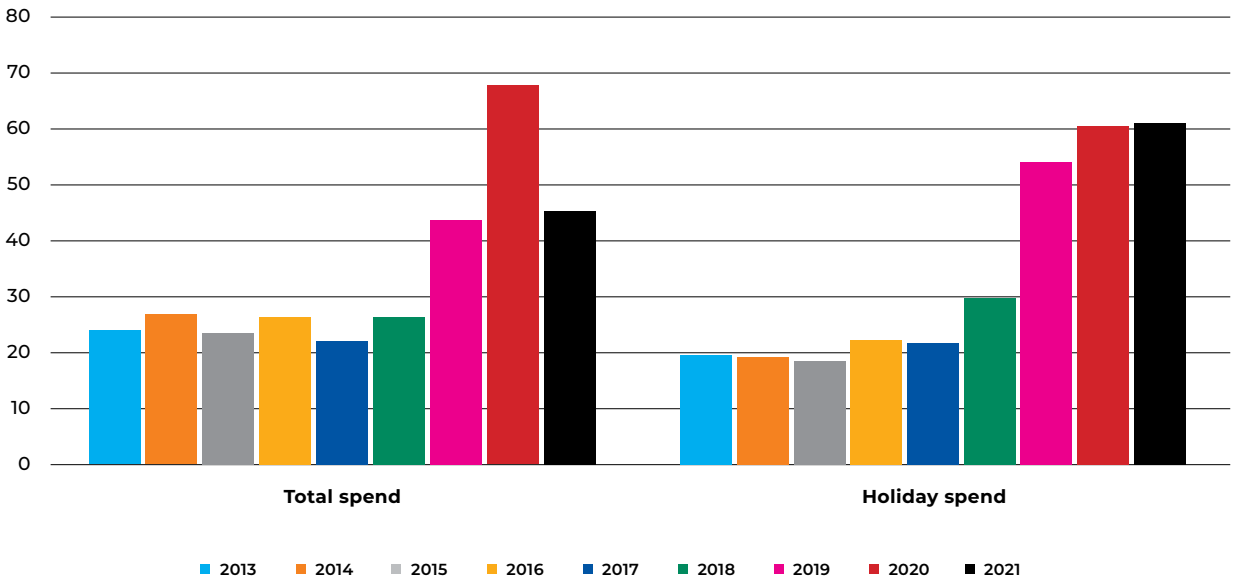
Figure 7: Average length of stay of domestic trips (2013-2021)



Source of data: South African Tourism (online: https://www.southafrica.net/gl/en/corporate/page/domestic-tourism-report)

The average length of stay of a domestic trip is shown in Figure 7. The graph shows that the length of stay has been on a declining trend since 2016, which was exacerbated by the COVID-19 pandemic. The effect of the hard lockdown in the second quarter of 2020 is evident in the graph, with a relatively quick recovery during the 3rd quarter, although the average length of stay remains short and fluctuates around 3 to 4 nights.

Figure 8: Total domestic tourist spending (2013-2021)



Source of data: South African Tourism (online: https://www.southafrica.net/gl/en/corporate/page/domestic-tourism-report)

Although there was a steep decline in the number of trips and the average length of domestic tourism trips during 2020, South African Tourism reports a huge increase in domestic tourist spending during the year. This may be an indication that either more luxury holidays were taken by domestic tourists, or that the price of tourism products increased, in response to the additional safety and health requirements. Most likely, a combination of these and other factors was responsible for the spike in nominal tourist spending (i.e., disregarding inflationary pressures) during 2020. From Figure 8 it is evident that nominal spending declined by 2021, to correspond more closely to 2019 spending.

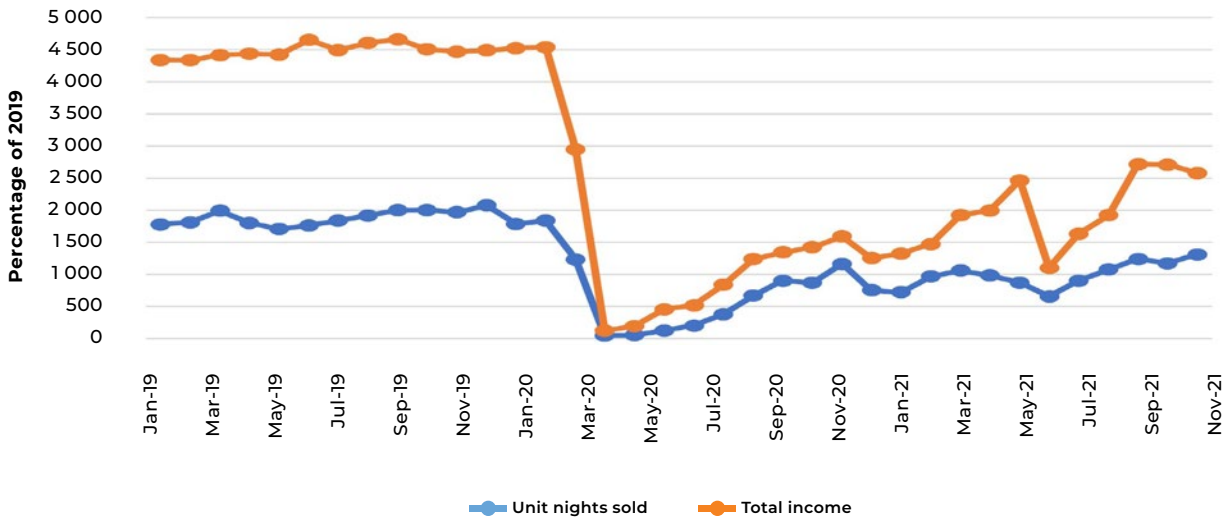
In conclusion, domestic tourism remains important for the survival of the South African tourism industry, and it is evident that it was domestic tourism that carried the industry during the pandemic years. However, the tough economic conditions leave large portions of society without sufficient discretionary income to spend on travel and tourism, which remains a concern for the next couple of years as the economy emerges from the pandemic.

The South African tourism economy

During the year 2020, the South African economy contracted by 6.4%, with the largest negative effect on economic activity experienced during the second quarter of 2020. The national lockdown caused a standstill in economic activity and influenced all sectors of the economy. The year 2021 saw some recovery in economic activity, with economic growth becoming more positive during the second quarter of the year. However, the size of the contraction during 2020 meant that the economy during 2021 was still more than 2% smaller than during 2019.

Two important tourism sectors, namely the accommodation sector and the food and beverage sector, experienced substantial losses due to the restrictions imposed on domestic and international travel. Figure 9 shows the decline in unit nights sold, which started in March 2020 (-38%) and reached a peak in April and May of 2020 (-97%) before the lifting of restrictions led to a slight increase in demand for the second half of 2020. For the year 2020, there was a decline of 59% in unit nights sold, compared to 2019. The year 2021 again started with a decline in demand for accommodation due to the Beta variant of the virus and the subsequent national and international restrictions. The year remained volatile, with demand decreasing again during the peak of the Delta variant, amplified by the July unrests, although some recovery was visible during the second half of 2021. All-in-all, 50% less unit nights were sold during 2021 compared to 2019.

Figure 9: Accommodation income and unit nights sold (2019-2021)

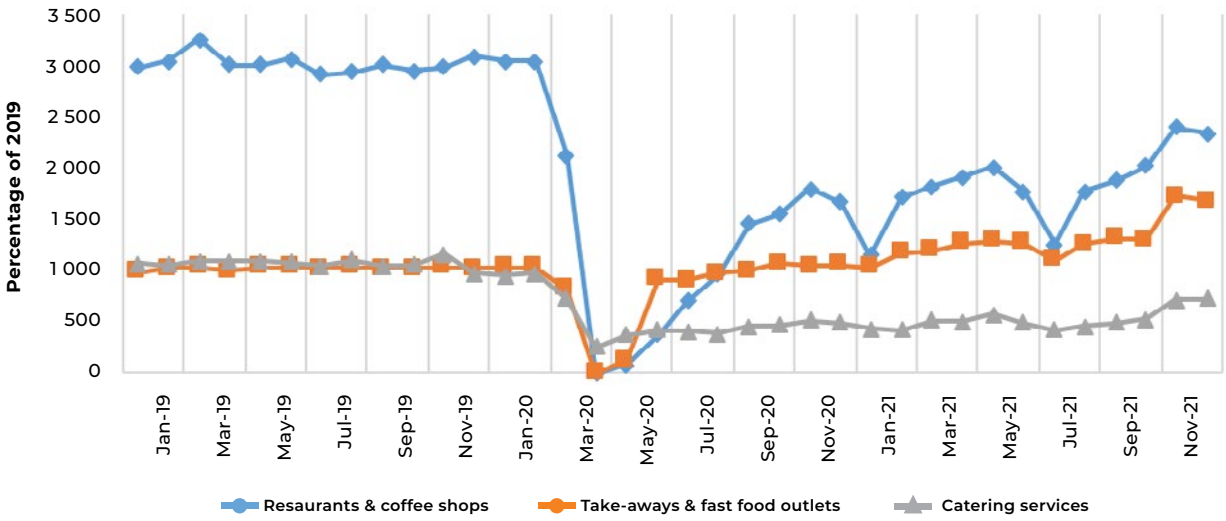


Source of data: Statistics South Africa (P6410 time series)

The income that the accommodation industry received mirrored the decline in unit nights sold. Income received by the industry declined by 63% during 2020, and although there was some recovery during 2021, especially in the second and fourth quarters, income for the year remained 60% lower than that received during 2019.

The food and beverage industry, consisting of restaurants and coffee shops, take-aways and fast-food outlets and catering services, also saw a sharp decline of 95% during April 2020 (see Figure 10) with the initial hard lockdown. On average, the industry contracted by 46% during 2020, with restaurants bearing the brunt (59%) of the losses experienced and take-away / fast food outlets the least (19% decline).

Figure 10: Food and beverage sector income (2019-2021)



Source of data: Statistics South Africa (P6420 time series)

The year 2021 saw some growth in income for take-aways and fast-food outlets, with income increasing 19% compared to 2019. This is, however, the only growth point in this industry. The restrictions on gatherings meant that catering services declined by 55% during 2021, compared to 2019. In addition, the various restrictions on restaurants also led to the industry still operating at just above 60% of its 2019 income receipts.

Since economic activity declined substantially during 2020 and 2021, compared to 2019, this subsequently led to job losses in the South African economy. The official unemployment rate increased from 28.7% during 2019 to 34% during 2021. This represents an increase of more than 5% of the labour force that lost access to a formal job. The tourism industry was also severely affected with job losses, especially the hospitality industry, as a labour-intensive industry that is, therefore, considered a driver for employment creation.

In 2018, the tourism industry contributed about 4,5% of the total employment in South Africa (Statistics South Africa, 2020). According to Dube, Nhamo and Chikodzi (2020), the pandemic crippled the tourism and hospitality industry with far-reaching implications for employment levels and job security for many in this industry. According to the International Labour Organization (ILO) (2020), in 2019, the sector accounted for approximately 330 million direct and indirect jobs worldwide, which accounted for 10.3 per cent of total global employment. According to the Department of Tourism (2020), the COVID-19 pandemic has dramatically altered this, and the impact on tourism employees is unprecedented.

The year 2020 saw a 20.3% decline in formal employment in the catering and accommodation sectors, while the air transport sector shed approximately 41.6% of formal employment. In addition, there was a decline of 11.1% in formal employment in recreation, sport and cultural activities. This trend continued into 2021, although there was a slight decline in job losses, with both the air transport and accommodation and catering sectors shedding 10% additional job opportunities during 2021, and recreation, sport and cultural activities a further 3%.

4. SECTOR FINDINGS

As indicated in the methodology, this chapter focuses on selected sectors of the industry so as not to duplicate what has been assessed in other chapters of this study. The experiences of the various sectors are reported below. The research findings are based on in-depth, structured interviews with key stakeholders in the industry.

4.1 The policymakers' perspective

The results of the interviews with the National Department of Tourism, three Provincial Tourism Authorities and the Tourism Business Council of South Africa, as the national bodies representing various tourism associations and large hotel groups in the industry, are reported in this section to provide a more holistic view of the effect of COVID-19 on the total industry. The text in this section reflects the comments of these participants.

The participants all acknowledge that the tourism industry has suffered immense losses, with tourism businesses closing their doors, mostly due to a loss of income. The Tourism Business Council of South Africa reported, "We had lots of businesses that closed, something in the region of 50 000, counting both formal and informal businesses across the value chain of tourism". There is a general consensus among the five participants that the industry will only recover to pre-pandemic levels by 2024, although additional shocks, such as the Russia-Ukrainian conflict, could prolong the recovery.

Although the tourism industry in all provinces was affected by the COVID-19 pandemic, the provinces more dependent on tourism, and especially, international tourism, (such as the Western Cape, Gauteng and KwaZulu-Natal), are perceived to have suffered greater losses.

Provinces more reliant on domestic tourism, especially the Northern Cape province, recovered earlier, with domestic tourists searching for more remote and less crowded destinations. The Northern Cape participant stated, "[W]e have seen … an influx of tourism to this part of the area also after being locked down for 6 months or more. You know, people … want to get out there and just experience fresh air …".

The importance of the domestic tourism market, and the need to cater for that market, has become apparent during the past two years, and although the domestic recovery has spearheaded the tourism recovery, all participants confirm that it is not sufficient to sustain the South African tourism industry. Statements by participants include, "Domestic tourism certainly will not be enough" and "We will continue to promote domestic… but we do need the injection from all these dollars and euros and all that".

The various participants identified different sectors of the tourism industry that, in their view, were most severely affected and will take longer to recover. Sectors such as events and MICE are expected to take longer to recover, while losses in the air transport sector might also lead to a lengthy recovery in air travel. While it is acknowledged that the whole tourism value chain was adversely affected, it was especially the small- and medium-sized businesses that suffered and where large-scale closures were experienced. Two participants explicitly mentioned SMEs: "… the SME sector was hard hit" and "… we had lots of businesses that closed…. Mostly these are small businesses that are run by entrepreneurs".

Measures implemented

Various measures were implemented to assist businesses in the industry during the course of the pandemic and the most recognisable measures implemented are subsequently discussed.

a) Fiscal measures

The most recognisable intervention in the tourism industry is the Tourism Relief Fund. The fund was intended to provide cashflow assistance to small businesses and altogether 4 000 businesses benefited from this fund. The second fiscal measure identified by participants was the credit guarantee scheme. The Director-General of the Department of Tourism noted, though, "The R200 billion credit guarantee scheme… did have its own challenges… the last figure I checked was about R23 billion that actually got to be accessed" (Tharage, 2021).
Thirdly, the Unemployment Insurance Fund's Temporary Employee/Employer Relief Scheme (TERS) which assisted workers was recognised by all participants as a valuable financial support measure, but, as one participant correctly mentioned, "The UIF worked for many employees, but only for those that are in a formal business. So informal tourism businesses benefitted nothing from all this" [the last statement refers to all three of the abovementioned measures].

The provincial authorities additionally identified provincial grants, discounts and provincial business relief funds that provided financial assistance to the tourism industry during the pandemic, especially smaller businesses. Only one participant mentioned the Industrial Development Corporation Relief Fund as a measure that assisted the industry.

b) Non-fiscal measures

Compared to the fiscal measures identified, diverse, non-financial measures were identified by the policymakers. The health protocols, together with the vaccine drive, were viewed as important measures to foster confidence in

the industry and to reopen public gatherings. One participant confirmed, "... the introduction of the digital vaccination certificate... [is] a very important step, particularly as we begin to look at the MICE sector; we have seen it with the sporting fraternity making use of this quite successfully in terms of starting to open up some of the games...".

Training and reskilling of industry workers was also identified as an important measure in taking the industry forward, with one participant confirming, "We ran webinars, workshops, training programmes". Improved communication between members in the industry and improved coherence were important in bringing the industry together and building morale. These are seen as positive outflows of the pandemic that could benefit the future of the industry in South Africa.

c) Measures to consider in future

The measures implemented by the South African government "are at par with the WTTC's own protocols". The participants acknowledge that developed countries have better access to funding to support their industries, and that the shortfall in financial support in South Africa, coupled with the extended lockdowns, caused significant harm to the industry. One participant mentioned, "In hindsight a lot of our measures were quite strict by global comparisons and did a lot of economic damage that the country just can't really afford". Another participant indicated that the government in the UK used vouchers to "get people back to the restaurants, to the pubs, and to get people to... travel within their own country".

In searching for alternatives to financial support, one of the participants suggested returning to a staggered school holiday calendar in order to extend the domestic tourism season and to reduce crowding and excessive price increases. This would make domestic holidays more affordable and support the domestic tourism market. Another option is bank holidays to ensure a better distribution of long weekends.
From a policy perspective it is acknowledged that financial aid to businesses will always be welcome by industry, but that this is not sustainable during a pandemic that lasts as long as the COVID-19 pandemic. This necessitates striving toward a more resilient tourism industry that can withstand future shocks to the industry.

4.2 Hospitality

Hospitality forms part of the tourism industry which is the fourth largest contributor to the Gross Domestic Product and one of the largest employers in South Africa. The hospitality sector is one of the major components of the tourism industry, consisting of accommodation (hotels, bed & breakfasts, caravan parks, camping sites, inns, game lodges and time-sharing of apartments at resorts) and the food and beverage (restaurants, coffee shops, tearooms, fast-food outlets, as well as other catering services) sectors. In essence, hospitality is the provision of meals, beverages and accommodation. The hospitality sector is a major contributor to the tourism industry, with 'hotels, motels and inns' dominating the income of the sector. However, Statistics South Africa (2021) indicate that the seasonally adjusted income from accommodation was down by 74% in July 2021 compared to July 2019, while the income was 53% lower in July 2021 than in June 2019 and the average occupancy in 2019 was 46.6% compared to 16% in July 2021. This suggests a decline of activities in the hospitality sector due to stricter lockdown regulations.

According to Le, McDonald and Klieve (2018), the interactions between tourists, the hospitality sector and employees comprise an important part of the tourist's total experience. According to Garrido-Moreno Garcia-Morales and Martin-

Rojas, (2021) the pandemic strikes at the very heart of the hospitality sector by diminishing the unique experiences which are often based on direct engagement with customers and personalised interactions. This was due to the ongoing national lockdown restrictions regarding social distancing: no eating in; the ban on alcoholic beverages and restricted operation time (curfew) which were imposed in South Africa. Such restrictions resulted in exceptional losses in major hotels due to low occupancy as a result of the restrictions imposed. For example, accommodation and food and beverage establishments could not operate at 100% capacity due to restrictions imposed on client numbers to ensure physical distancing (Roger & Roger, 2021).

Interviews were conducted with three businesses that offer accommodation ranging from Bed & Breakfast to self-catering and camping facilities. Two of these businesses were SMMEs and were based in only one province, namely, KwaZulu-Natal, while the other one was a franchise based in four provinces, namely, KwaZulu-Natal, Limpopo, Western Cape, and the North West Province. Their properties ranged from one to seven per business. Three associations, representing major hotels and small accommodation establishments, (hotels, bed and breakfasts, lodges, guesthouses, resorts, camp sites) were interviewed.

The impact of COVID-19 on accommodation establishments

Four important themes were identified from the interviews and are discussed below.

a) Employee turnover in the hospitality sector

As noted in the literature (Department of Tourism, 2020; Dube, et al., 2020; Sucheran, 2021), the pandemic in South Africa has crippled the accommodation and hospitality sector with far-reaching implications for employment levels and job security. Most of the small and medium tourism accommodation establishments experienced employee turnover. Small and medium accommodation establishments whose employees ranged between 7-16 in number, reported keeping their employees on with reduced salaries in some instances, especially in 2021. Larger accommodation establishments were reported to have sustained job losses, while some placed employees on reduced salaries. For instance, one particular establishment noted that they “we had 850 permanent staff which were reduced to 455 by mid-2021 and 55 temporary staff which were not called for duty until to date”. While all businesses reduced salaries in 2020, some managed to return to full packages in 2021. This finding is consistent with the literature which claims that COVID-19 in South Africa has resulted in a high employee turnover in the South African accommodation sector (Dube et al., 2021; Sucheran, 2021).

b) Closure of establishments in the hospitality sector

Most associations reported business closures, especially among small businesses in the tourism industry. For instance, one of the participants reported that a total shutdown of all resort establishments for nine months was experienced in 2020, which was followed by a staggered opening, until all seven resorts opened at the end of 2021. These are mostly small businesses that are run by entrepreneurs. Some establishments reported not having a total shutdown for prolonged periods, although occupancy was low. COVID-19 has had a devastating impact on most accommodation establishments with many activities not taking place. Dube (2021) reported a decline in revenue from 2019 in the accommodation sector. One of the common reasons for the decline in revenue was the low occupancy, as evident in most research findings (Charles, 2020;

Sucheran, 2022). Similarly, associations reported a decline in membership, as "members asked for suspension due to low income and inactive businesses".

c) Recovery of international tourism in the hospitality sector

Given the uncertainties surrounding the socio-economic and political impact of COVID-19 and its future course, it is difficult to predict the future of the tourism industry in most countries (Chan, 2021; Aharon, Jacobi, Cohen, Tzur & Qadan, 2021). However, most of the participants anticipated the recovery of international tourism in the country to pre-pandemic (2019) levels by 2024-2025. While domestic tourism is deemed an alternative approach to revive the tourism industry, it cannot replace international tourism. Those who catered for international tourists felt that domestic tourism does not meet their target. As such, Dube (2022) noted that the emergence of the domestic market also has implications for the various tourism sectors where, within the domestic market, for instance, accommodation establishments have to specifically shape their product to cater for the needs of local tourists.

d) Efficiency of domestic tourism in the hospitality sector

Domestic tourism has been reported in many countries as having the potential and a sound practical approach to revive the tourism industry, particularly the hard-hit accommodation establishments (Chan, 2021; Sucheran, 2022; Yusof, 2020; UNWTO, 2020). The majority of small accommodation establishments in South Africa mainly attract domestic tourists. It was confirmed by most of the participants that domestic tourism comprises the largest market of small businesses in the accommodation sector.

Mostly dependent on domestic tourism: "Yes, I think domestic tourism is sufficient to alternate, we have never thought to have large numbers of international tourists; I am certainly sure that domestic tourism will suffice because [they] come on business and stay for months."

Domestic tourism is quite strong in South Africa, but it depends on product offering. These findings confirm earlier assertions and suggestions that domestic tourism was likely to provide an initial impetus for recovery (Woyo, 2021). While domestic leisure travel was a pillar which carried the industry through in 2021 and 2022 (Dube, 2021; Dube-Xaba, 2021; Sucheran, 2022), it cannot be sustained because most high-profile accommodation establishments do not cater for domestic markets, as their rates are too high and reducing prices to accommodate locals is not a sustainable strategy. The results concur with earlier findings that domestic tourism has, to some extent, cushioned the industry from total collapse, but it is not nearly sufficient to counter the loss in international tourism which the country has experienced, particularly with reference to upmarket hotels (Dube, 2021).

Measures Implemented

The participants responded on the fiscal and non-fiscal measures that were implemented during the pandemic, which were aimed at assisting businesses and employees in the tourism industry. The participants' experiences of these measures are recalled below.

a) Fiscal measures

The South African government followed international trends to provide various programmes focusing on funding or providing credit, to support businesses (Tam, Sood & Johnston, 2021; Aharon, et al., 2021). The two

financial measures implemented by government, which most participants were aware of, that were accessed by the establishments in the accommodation sector were the Tourism Relief Fund and the Temporary Employer/Employee Relief Scheme (TERS). It was noted that 4 000 establishments received money from the Tourism Relief Fund. The relief funding was key, since most of the establishments were not fortunate enough to be awarded credit loans, since they could not access credit to ensure that their overheads were taken care of, particularly smaller hospitality establishments.

One participant noted, "We heard of them, but due to too much of red tape and a number of required documents we just felt not to participate because the forms are not accommodative for rural areas". Similarly, sentiments were shared by another establishment: "The initiatives look good, but the application process is a mammoth task and becomes not doable, they don't make it easier to access those funds".

While a number of employees benefitted from TERS, one participant noted that "the TERS worked for many employees, but only for those that are in a formal business who were contributing to the Unemployment Insurance Fund (UIF)". This means that informal tourism businesses did not benefit at all from all this.

b) Non-fiscal measures

Vaccination is seen as a means to mitigate the spread of the virus and thus revive the tourism industry and bring back tourists. Vaccines in South Africa, although slow, offer some hope for the tourism industry and the general economy (Dube, 2021). As such, participants indicated that vaccination, as a non-fiscal health protocol, was a positive measure since it allowed restrictions to be lifted somewhat. The health protocols and tourism protocols, such as social distancing, allowed establishments to function at half-capacity, and this was fantastic toward controlling the risks of transmitting the virus. Awad-Núñez et al. (2021), highlighted that the adoption of health and safety protocols resulted in greater confidence to tourism facilities and eased fear of travel. Repurposing also emerged as one of the non-fiscal measures, as some of the big hotels used some of their properties for quarantine purposes.

c) Comparability of the measures

The measures were found to be quite similar across the industries, however, some industries had a lot more schemes to participate in, compared to the hospitality and accommodation industry, which only had the Tourism Relief Fund, which was not sufficient. The measures were comparable to those implemented internationally (Aharon, et al., 2021; Chan, 2021) however, the participants felt that the effect was different.

4.3 Transport

The exponential growth of the global tourism industry is primarily attributed to humans' increased mobility, principally because of advances in, and the cost of tourism transport, such as air travel (Lenaerts, Allroggen & Malina, 2021; Spasojevic, Lohmann & Scott, 2018). The mode of transportation is a critical antecedent to tourism, due to its inherent influence on crucial tourist behavioural aspects such as destination choice, the perceived risk associated with travel, and the ability and willingness of tourists to pay for tourism. Within the South African context, two main tourism-oriented transport modes are considered in terms of reflecting on how the pandemic unfolded in 2020, and the measures that were implemented to mitigate the negative impact of the pandemic, namely, air transport and, to a lesser extent, road transport via luxury long-distance coach lines.

COVID-19 and the South African aviation industry

Air travel is synonymous with tourism as the critical linchpin in the domestic and, more importantly, international tourism value chain. However, considering the COVID-19 pandemic, the airline industry was probably the most adversely affected tourism sector globally, due to non-pharmaceutical interventions launched by national governments, including moratoriums on air travel to mitigate the spread of the virus (Economic Commission for Africa (ECA), 2020). Before the pandemic, the African aviation industry supported 7 million employment opportunities and had a GDP contribution of more than USD 70 billion to the continent, despite representing only 3 per cent of the global market (ECA, 2020). In 2020, a contraction of between 55% and 74% compared to 2019 levels cost the global aviation industry an estimated USD 400 billion in revenue. African aviation incurring a loss of USD 6 billion (USD 3.02 billion attributed to South Africa) in revenue and loss of USD 26 billion (USD 5.1 billion attributed to South Africa) in GDP contribution, hence threatening an estimated 3.1 million jobs (252 088 attributed to South Africa) in the sector (Bielecki et al., 2020; ECA, 2020; International Air Transport Association – IATA, 2020). According to the African Airlines Association (AFRAA, 2021), African aviation contracted by an estimated 55%, compared to the 2019 demand, translating to an estimated USD 8.5 billion (-51% compared to 2019) in revenue losses, despite African airlines having opened 81% of their international routes by October 2021. The local South African tourism transport market was then comprised of South African Airways, SA Airlink, British Airways operated by Comair, FlySafair and Mango.

The regional airline perspective was critical since government measures would influence or impact these airlines. "As part of its economic support intervention, South Africa has also deferred payroll, income and carbon taxes across all industries, which benefits airlines established in the country" (ECA, 2020:10). Additionally, the South African government announced USD 700 million in fiscal support packages (Economic Commission for Africa, 2020). However, despite acknowledging the COVID-19 financial relief for airline industry employees through the Unemployment Insurance Fund/Temporary Employee Relief Scheme (UIF TERS), the Airlines' Association of Southern Africa's 2020/21 report indicated not being "... aware of any direct financial aid provided to airlines" in Africa (PO3). It appears that the transport sector was either unaware of these measures, faced significant challenges in accessing these funds, or opted not to utilise them due to various constraints.

The Organisation for Economic Co-operation and Development (OECD, 2020) acknowledges that the support of national governments is imperative to foster the resilience and sustainability of the aviation industry. During the height of the pandemic, the South African government did not have the fiscal capacity to implement the recommended measures such as government-backed commercial loans and guarantees; state equity-driven recapitalisation; subsidies to ignite flight demand, nationalisation of private airlines; tax deferrals and financial waivers; grants; and private equity initiatives (OECD, 2020). Notwithstanding the waning severity and prevalence of COVID-19, the effect and shadow of the COVID-19 pandemic still loom large over South Africa's tourist-oriented transport sector. A major domestic airline, Comair [operator of Kulula and British Airways], is undergoing liquidation due to commercial insolvency, reducing the South African aviation sector's lift capacity by 40%, which will subsequently influence competitive forces in the aviation sector, including price inflation. While this may curtail the recovery of the South African tourism sector, new market entrants such as Lift (https://www.lift.co.za/en) and the

expansion of Flysafair and Airlink may mitigate the impact of Comair's exit.

Airline Experience

During the ongoing pandemic, the airline sampled primarily conducted two lines of business, in South Africa and on the African continent, namely cargo and commercial (70% domestic travellers), operating a fleet of 22 aircraft (commercial hubs in Johannesburg and Cape Town). With 1 100 permanent and temporary (2%) workers, the sampled airline has increased this pre-COVID staff complement to 1,230 employees in 2022 to meet increased demand. The significant business growth of the entity between 2016 and 2019 was severely undercut in 2020 due to the pandemic and government interventions intended to manage the pandemic, including grounding the entire fleet for six weeks during the first hard lockdown. In 2020, the entity experienced a 40% contraction of its business and resorted to asking employees to take their accrued leave days, as well as implementing wage cuts (up to 70%) to avoid retrenchments. However, voluntary resignations left the entity with staff shortages as employees, including pilots, left the aviation industry. The extended lockdown was identified as a significant barrier to the airline's recovery, with the gradual recovery in South African domestic tourism. Despite this, the entity has been reporting an important growth trajectory since August 2021, characterising it as 'phenomenal', buoyed by the absence of other major players in the market such as SAA and Kulula, stating, "I think we've, we've actually bought, or we've gained a lot of trust with the domestic travellers … for the fact that we've been flying right through COVID".

The airline's measured response to the pandemic in retaining employees meant it could scale up operations to fulfil the renewed travel demand and return employees to 100% of their salaries by October 2020, particularly with a fly-as-you-go approach to the contracted pilots who were not full-time. The participants noted imminent staff shortages as most cabin crew who resigned preferred not to return to the industry and moved on to other employment opportunities outside aviation. Despite this, by the end of 2021, the airline had more aircraft operating and more employees than pre-COVID-19 employee numbers, increasing to 3 050 employees. Related to the recovery of the international and domestic tourism markets, the participant believed domestic tourism would recover to 2019 levels by the end of 2023 to mid-2024, while "… international travel will lag at least two years off to that". The participant does caution that South Africa may suffer from a challenge of accessibility, as there is a global skills shortage (pilots in particular) looming over the next five years, which may see airlines struggling to meet demand. This, combined with returning aircraft that had been 'parked' all over the world back to service, may potentially lag tourism recovery. The participant indicated that their airline was not aware of, nor was it a beneficiary of any fiscal measure implemented by the South African government. The participant indicated having approached state-owned entities, "… like the weather services, the air traffic, navigational services, airports company", for financial assistance or support with 'big ticket' items such as aircraft and engine leases. No assistance was, however, available, nor forthcoming for commercial entities. Similarly, the participant bemoaned the non-financial measures implemented by the government which hamstrung airline operations. The absence of flexibility and an adequate lead time when it came to implementing measures such as travel moratoriums negatively impacted operations. The participant cited the case of 16 December 2020, when immediate travel restrictions were announced, resulting in up to 300 flights being cancelled – effectively stranding almost 5 000 travellers. Despite this, health protocols implemented by the government were

acknowledged as, "[...]as non-fighter insurance". To counter the effect of the pandemic on their business, the participant was quick to point out that the flexibility of the company (making payment arrangements with creditors) and its willingness to take risks (like buying aircraft during the pandemic since they were cheaper) paid off for their business. Principally, the ability to scale up and down in line with the operating environment made the difference for the airline. The participant cited the cases of Australia, New Zealand, and Canada for the South African government to emulate, so as to better support the South African aviation industry in the future, as it has proved to be a resilient sector for some commercial players.

COVID-19 and the South African tourism-oriented road transport sector

One of the most notable casualties of the pandemic in 2021 was the major road transport player in domestic and regional tourism, Greyhound (Businesstech, 2021). However, in 2022, the coach line has returned to South African roads, servicing selected local destinations and re-entering the road transport industry. The subsidies instituted by the government were below cost increases, suggesting that the viability of land-based transport, such as bus transport, was not viable due to their reliance on ticket sales constrained by the lockdown and health protocol-driven moratoriums (Luke, 2020).

Road transport experience

To explore the tourism-oriented transport experience of road transport providers, the case of a long-distance luxury coach liner is contextualised in the pandemic. Inter-city long-distance travel constitutes 90% of the sampled company's business. Before the pandemic, this included regional destinations such as Zimbabwe, Malawi, Mozambique and Botswana. A smaller, more tourism-oriented aspect of the business before the pandemic involved providing charter services to tour groups (domestic and international) and transfer services. Unfortunately, due to COVID-19, regional markets such as Malawi and Zimbabwe are no longer being served indefinitely. Pre-COVID-19, the company had 599 employees (320 were temporary) and a turnover of up to R820 million. The pandemic resulted in a 50% deficit, with about 35% of that accounted for by the international market. In 2020, the company managed 30% of its turnover compared to 2019, and only retained 246 employees in total. This, according to the participant, was due mainly to government restrictions on the bus carrying capacity of only 70%.

Employee salaries during this period were on a sliding scale depending on income. At some point, employees were earning 25% of their regular wages. The temporary closure of Greyhound shocked the industry; to the extent that the participant needed clarification on the survival of his entity, only servicing 2% of the available market. The bus company attempted to diversify their core business, admitting that "... at the moment we try to diversify during COVID, by selling some of our buses to, to try the trucking industry, which also didn't get too good". The current fleet stands at ten buses. The participant thinks tourism will begin showing signs of recovery in the summer of 2022, based primarily on tourist familiarity with South Africa, with full recovery, potentially, in 2023.

Regarding government measures, the participant acknowledged some support, whereby the government encouraged banks to give entities reprieves on payments. However, the participant realised the assistance needed to be more substantial. An expanded relief fund for tourism companies is recommended, and, according to the participant, would have assisted cash-based businesses like theirs. In

the future, a more open, consultative process was recommended, whereby long-distance bus operators would be allowed to voice their concerns when decisions on critical aspects such as carrying capacity are being considered.

4.4 Travel services

The travel services' stakeholders are essential to the tourism industry, focusing on tour operators, travel agencies, and associations serving these tourism products. These stakeholders include industry associations such as The Association of Southern African Travel Agents (ASATA), the Southern Africa Tourism Services' Association (SATSA), independent tour operators, travel agencies, etc. ASATA represents between 700 and 800 travel management companies, travel agencies, and independent travel counsellors based in South Africa and selected international destinations. SATSA represents a variety of tourism operators serving as an inbound tourism association operating across all nine provinces, with a smaller footprint in Africa. The participating travel management company serves the public sector, global and corporate accounts. The company started in 2003 and has long-term experience related to the industry, with 80 offices countrywide. The pandemic, however, led to a decrease in members, which influenced the association financially.

The impact of COVID-19

From a business perspective, it was clear from the interviews that the effect of COVID-19 was devastating. It started with the complete lockdown that ended business generation for three months with no trade. Lobbying assisted in opening the borders, with one of the participants stating that "… we were only successful in lobbying the lifting of some of those sanctions around travel bans in June 2022". The effect of the decisions made by other countries allowing travel (or not) should not be underestimated, which was referred to by the participants as the "… traffic light approach". Added to this, the PCR-testing inhibited travel because of its cost. Constant lobbying was needed for the government to realise the status and importance of the tourism industry and how certain decisions slowed down the recovery process. Clearly, everybody in this industry was caught almost off-guard and lost income.

Sadly, many businesses closed or moved offices to homes to save money, retrenched staff, or "… had laid off all our staff obviously in May 2020". Companies entered into short-term contracts with employees, but it was stated that this would change as the tourism industry revived itself. One participant indicated that, pre-COVID, his/her turnover was about R450 million per annum, which declined to around R250 million in 2021. Since this company focused on the government as a travel market, no business was generated due to the traffic light approach imposed on South Africa. To stay afloat, companies shifted their focus to the leisure market, which proved successful. From a travel company perspective, significant changes were made to restructure the business. It was possible to claim from TERS, which assisted significantly, but staff had to be laid off with the extension of the hard lockdown. However, some staff resigned and found other positions, even in different industries; therefore, staff left the tourism and hospitality industry. This may have a significant effect on the labour market in the future since "… good people in the tourism industry have found jobs in other industries and we're not going to get them back; …found a position somewhere else in another industry or whatever, and we could not stop that".

It was stated that international recovery would commence toward the second half of 2022. One participant stated, "… being an optimist that probably the second half of 2022 things will open completely", with South Africa being six months behind Europe. This was supported from an

association perspective, but full recovery is expected toward 2023-2024. However, most participants indicated that slow progress has been made since the recovery process started. Added to the pandemic, aspects such as airlift capacity, "... airlines have been struggling to get back up and running... demand is outstripping the capacity]" and visa processes, "... a lot of consulates and embassies are understaffed" are hampering the recovery process.

The sector realises the value of domestic tourists. Even though their value had been identified previously, COVID-19 accentuated the importance of this market. It was clear from the discussions that the tourism industry had a "... small window of opportunity to attract the domestic market with a new appreciation for their own country". Domestic tourists are important, but it was acknowledged they cannot replace international visitors. Certain prices were reduced by up to 60% to keep doors open and to be able to pay staff. It was stated that "... domestic tourism assisted recovery, but for the high-end properties", the focus would remain on international travellers. It was good that more South Africans travelled, and they might keep travelling after the pandemic. There are changes in the preferences of travellers travelling for family holidays and business that one needs to consider after COVID. "... we've got an incredibly big uncapped and untapped market in South Africa".

Measures implemented

It was stated that COVID-19 was "an absolute leveller" for all businesses. One of the participants stated that the lack of support for the travel agency sector was frustrating. Two funds were mentioned, one where you had to pay back the funds, and a second where the parameters were small, with limited funding. It was clear with these drawbacks that the sector had to sort itself out, which it did. For the travel sector, "... support was non-existing, especially if one compares it with other international destinations that set up funds to provide minimum wages to industry employees". It was evident that the severe restrictions resulted in an inability to trade. Under these circumstances participants felt that businesses should have been supported in a more proper manner such as some international countries. The "... constant changes to regulations, unreasonable inclusion and exclusion criteria, the disappearance of applications, and administrative tardiness" were mentioned as frustrations. The TERS was perceived as very positive, with one of the participants stating that, "... it saved jobs, it saved lives, it saved livelihoods".

Some participants were unaware of all the measures being implemented – it seems that most of them focused only on measures that directly influenced their immediate environment. Participants mentioned the health and safety protocols as a non-fiscal measure which they thought was very successful. It was, however, noted that these were developed in cooperation with the private sector. They mentioned the insurance buyouts, but it was evident that this was challenging at first, although it was certainly a move in the right direction with some assistance to companies. In terms of the Vaccination programme, the participants felt that the government did well, with one of the participants stating, "... the vaccination programme and the rollout was done in accordance to global standards, and I think it was done very well, it's just uptake wasn't at the level that we needed it to get to". It was further mentioned, "I think this for me is one of the biggest frustrations and I do not know whom to point the finger at here because it's not as if the government and private sector have not taken all the steps to make vaccinations available." It was indicated by participants that the uptake of vaccinations was negatively influenced by fake news. Even

though the government did what they could to distribute the vaccinations, the slow uptake negatively influenced the tourism industry.

The industry was very creative, with some businesses becoming estate agents and others pivoting their value proposition and focusing on developing the domestic market. "[...] amazed by my sector; their tenacity, their strength, ... how so many of them actually made it through to the other side". However, these are the exceptions with most businesses not really coping. It was mentioned that attention should be given to "... business survival assistance; the development of a crisis communication process..., ... the development of a central repository for COVID-protocols which we could all access at any given point".

4.5 MICE tourism

MICE (Meetings, Incentives, Conferences/ Conventions/Congresses and Exhibitions) (Trisic & Bojovic, 2018) tourism is one of the industries that has witnessed global growth in the recent years (Welthagen, 2019). MICE tourism is a type of business tourism, popularly referred to as the "Meeting Industry". The MICE market refers to a specialist organisation committed to arranging, scheduling, and facilitating conferences, seminars, and other events, which is a significant money-maker in the tourism business (FIGUEROA, 2018). Prior to COVID-19, this industry was one of the most profitable and competitive market areas, contributing significantly to the economy of many nations (Rogers, 2013). MICE generated R115 billion for the South African economy in 2018 (South African Tourism, 2020). Prior to 2017, the sector of business events contributed USD7.7 billion to South Africa's GDP (SANCB, 2020).

The Global Travel Business Association (GBTA) predicted in 2019 that total business travel spending would exceed US$1.7 trillion by 2022 (Skift, 2019). This prognosis, however, was based on the industry's past performance, which disregarded the potential of a reversal owing to a global epidemic, which altered the MICE landscape (Disimulacion, 2020).

In order to assess the impact of the COVID-19 pandemic on MICE industry in South Africa, four tourism associations were selected to be part of the interviews, based on their membership profile within the MICE sector. Association memberships ranked from events' facilitators, hospitality sector and tourism services and general tourism businesses, including support services. The associations range across the following provinces: Gauteng and Western Cape provinces, of which three (3) out of four (4) of the associations operate across the nine South African provinces. Three (3) out of four (4) have memberships in other African countries, and none in countries outside Africa.

Impact of COVID-19 on MICE industry

It is widely acknowledged that the tourism industry is one of the industries that suffered most due to the COVID-19 pandemic (OECD, 2020), thus many tourism-related businesses had to close and some associations which act as MICE representatives lost their members (OECD, 2020). The majority (75%) of associations mentioned that their members had to close due to the COVID-19 pandemic, although some stopped operations for a little while, resulting in a loss of income.

As stated by one member, "Employees weren't getting paid at all, and it went on for quite a long period". The main reasons for closure were financial as some businesses had to sell some of their equipment to stay in business. Generally, lockdown regulations meant no income (OECD, 2020) for businesses. One participant stated, "We lost 60% of our members and in terms of member companies".

The participants felt that international tourism within the MICE sector might take a good two to three years or even more to recover. "Most of us are looking at 2024, maybe 2025, but with a clear understanding that there will be little fruits of green shoots", one participant stated. Another participant mentioned that the industry's recovery will depend on the policies and regulations set by the government, i.e., vaccination turn-around, regulations for the PCR test, lockdown levels, other barriers for international travel resulting from the pandemic, and people's willingness to follow the COVID-19 written regulations.

The associations acknowledged that South Africa's tourism is largely dependent on international tourism as reported by one participant "South Africa relies heavily on international people visiting the country, so when we run an exhibition, like one which is called mining Indaba, the organiser is not even a South African person ... and [the] international organiser ...meaning the industry brings in hundreds of thousands of people from all over the world".

The participants further mentioned that South Africa's domestic tourism is not performing at the same level as international tourism, although they acknowledged that, during the COVID-19 pandemic, domestic tourism was seen as an alternative for international tourism (South African Tourism, 2022), as there were no other options. All participants felt that domestic tourism cannot be considered a viable alternative, as international tourism brings more money for MICE tourism.

Measures Implemented

a) Fiscal measures

Participants were aware of the measures by the government, e.g., the COVID-19 Relief Fund and Temporary Employer / Employee Relief Scheme (TERS) and agreed that these measures, as implemented, assisted in keeping some businesses afloat during the pandemic and lockdown, although some members who applied did not receive any funds from the government. Besides this, participants felt that South African banks do not understand the nature of the tourism industry in general. As one of the participants explained: "The industry in general is not clearly understood by the banks, you know, that even makes it more difficult going forward. If you are in the tourism industry right now, a lot of financial institutions are not going to assist you because, for one, you need to show them your financial statements, yet you haven't worked for the last two years, while you need to give them some sort of collateral".

b) Non-fiscal measures

The participants indicated that they did not receive any sort of non-financial support from the government. "There was nothing, the government did nothing for us. Instead, we assisted our members by offering them free membership", reported one of the participants."

c) Efficacy of fiscal and non-fiscal measures

Health protocols were rated very effective, however, some criticism were offered on the implementation as indicated by the following comment "The health protocols were a mess, poorly managed, not fair to the tourism industry ...". TERS was also rated as effective although "The process of getting the fund was complicated and not many people enjoyed [the] procedure". Vaccinations were viewed as moderately effective, "although government could have done a better job in making vaccination mandatory".

Bank credit guarantee schemes were used, although credit were given at a high cost, and repurposing was only done by a few businesses,

since "it was difficult to repurpose as the country was mostly on lockdown". The Tourism Relief Fund were not viewed as effective since "the fund did not help all sectors as the MICE sector was excluded". Insurance pay-outs, industry support schemes and the IDC Distress Fund were rated very ineffective in the MICE sector.

d) Comparability of the measures

When comparing South Africa to other international governments, participants felt that international governments provided more support for their tourism businesses during the COVID-19 pandemic. As such, one of the participants reported that "the UK government has put into play an insurance policy that covers any event, or any event organiser or venue should there be a spike in COVID .... [O]ther parts of the world; they had funded homes or families which would allow them to also travel and engage in the tourism industry. And in certain parts of Asia, they were very deliberate in getting their industry activated by providing tax rebates for exhibitors, stand builders, venues and organisers."

Generally, the participants felt that the South African government was very strict when implementing regulations on the MICE sector, compared to other industries.

e) Suggested future strategies

Government should treat all industries in the same way; should forecast and plan ahead for future pandemics and use available research data to prepare for future pandemics thus avoiding reactive responses, and instead, being proactive.

4.6 Adventure and recreation

Adventure tourism is a tourism activity which includes physical activities, a cultural exchange, or activities in nature. Adventure tourism activities in South Africa include hiking, backpacking, zip-lining, rock-climbing, white-water rafting, and mountain biking. Eco-tourism can also potentially fit within this sector and is defined as responsible travel to natural areas that conserve the environment, sustain the well-being of the local people, and involves interpretation and education. Types of eco-tourism within South Africa include Eco-lodging, agritourism, and conservation.

Recreational tourism is the movement of people in their free time with the goal of obtaining the rest required to restore their physical and mental strength. This can include travelling to nature areas within South Africa. Nature parks in South Africa include both national parks, such as South African National Parks (SANParks), and provincial parks situated in the nine provinces.

SANParks derives approximately 80% of its revenues from tourism operations. According to the SANParks Annual report 2020/2021, the COVID-19 pandemic marked a decline in tourism revenue, which forms the bulk of its operational income. During 2020/2021, there was a 66.4% year-on-year decline in tourism, and the total revenue saw a decrease of 21%. This is echoed by one of the participants who stated that "KZN Wildlife, which is responsible largely for ecotourism in the KZN space, [since] the impact of COVID has seen a decline of 21% in terms of visitor numbers between 2020--between 2019 and the current financial year. So, we've seen a decline of 21% that is total day visitors. And in terms of occupancies, we've seen occupancy dropping by 8.2 basis point to around the average of about 16% and so... but that's quite big. And we've lost quite a lot of revenue if one were to look into revenue, I think we've lost over 42% of our pre-COVID revenue". The impact of COVID-19 on the adventure and recreation sector can clearly not be dismissed.

Two interviews were conducted respectively with national and provincial authorities. Interviews were conducted with Ezemvelo KZN

Wildlife and SANParks to evaluate the efficacy of the various support measures implemented by authorities and industry to alleviate the impact of COVID-19 on the South African tourism industry. The findings from the interviews are discussed below.

The impact of COVID-19 on adventure and recreation

The tourism industry is one of the sectors affected most, due to the COVID-19 pandemic. Economies, livelihoods, public services and opportunities were all affected by the pandemic (UNWTO, 2022). According to UNWTO, 61% of experts see a potential return of international arrivals to 2019 levels in 2024. This shows synergy with what the participants mentioned. The participants indicated that they forecast full recovery in the tourism industry only by 2023 to 2025. One participant responded as follows, "I foresee the industry recovery from [an] international point of view happening around 2024 to 2025". The reasons provided include historical references to previous pandemics, and vaccination programmes. One participant stated "The historical point around the influence in the 1918s, so if one is a researcher can look into that, how the economy recovered from that. And secondly, I think it's strongly influenced by the vaccination program at a global level, and there's still a lot of uncertainties, and that is actually due to a number of traditions that are different".

When asked what role vaccination plays in the immediate future of the tourism industry in South Africa, the participants indicated that vaccination would play a lesser role in the future, as the virus weakens, and there will be less emphasis on vaccination. However, the participant highlighted the importance of vaccination, "The quicker the rollout of the vaccination programme in the country, I think the quicker we are to be perceived by other countries as a safe place to travel to".

The participants indicated that the sectors that were the most affected, and will probably take longer to recover, are business tourism in the form of conferences and exhibitions, airline industry and informal traders. The participant stated, "I think one sector which I think within the tourism space that it's very critical, I think let me start putting that context, is the aviation industry". They highlighted those provinces which were affected most included the Western Cape and Gauteng. One participant mentioned, "I think the Western Cape was highly impacted and largely because the traditional market or source market tends to be outside of the country". When asked whether domestic tourism was a suitable alternative to international tourism to counter the effect of the pandemic, the participants indicated that ideally it should be. However, in South Africa, one would still require the international market. The participant added that "...dependence on [the] domestic market, honestly, I don't see it as being sustainable, much as other people who like to convince themselves that is the way to go, but we still need the international market, particularly the European market".

Measures implemented

The participants responded to the fiscal and non-fiscal measures which were implemented during the pandemic, aimed at assisting businesses and employees in the tourism industry. The participants' experiences with these measures are recounted below.

a) Fiscal measures

Participants were aware of the measures by the government, e.g., the Tourism Relief Fund, however, they felt that this was not adequate to save some of the companies in the tourism

industry. As highlighted by one participant, "I can think of [the]Tourism Relief Fund that benefit most of the SMMEs although it was... it didn't make that much of a difference".

b) Non-fiscal measures

When questioned regarding which non-fiscal/ non-financial measures they were aware of those that were implemented by government and industry to support tourism businesses, one participant responded as follows: "...collaboration from the public and the private sector, collaboration in marketing initiatives". Later on, the participant also mentioned, "...another initiative that was implemented by government was to utilise both private and public sector facilities as quarantine sites, which kept some of the facilities running during the pandemic from the revenue point of view". A follow-up question asked what measures the participants would have liked to see. Responses included running more educational programmes around the vaccination programme. As stated by one participant, "I think as to one, more educational programmes around the vaccination programme".

c) Comparability of the measures

Regarding the comparability of the measures applied to other industries in South Africa, and internationally, one participant explained as follows when referring to vaccinations: "Internationally, I think they were quite proactive in implementing the vaccination programme, while in South Africa, it took quite a lot of political debates and religious debates that made it very difficult for it to move at a relatively speed of... speed that would have acquired. We're still struggling to this day for people to be receptive of [the] COVID[-19] vaccination, and so that made us to take a little bit of a slower trajectory in terms of both from [an] economic point of view and tourism recovery perspective, because the vaccination programme, there is still some hesitation around it". Participants added, "...if one were to look into sport tourism, for example, in Europe, it's booming. In South Africa it's completely dead and one can tell what was the difference".

5. EVALUATION OF THE EFFICACY OF FISCAL AND NON-FISCAL MEASURES

The first Country Report (Rogerson, 2022) evaluated the effects of the COVID-19 pandemic on the tourism industry during 2020, and identified various financial and non-financial measures that were introduced by government and industry to assist tourism businesses. This research evaluated the efficacy of the measures implemented on a scale from 1 to 5 (1 = very ineffective; 2 = quite ineffective; 3 = moderately effective; 4 = effective and 5 = very effective). A summary of the mode of the responses is reported in Table 1, and it is evident that the measures deemed the most effective were the UIF employee/employer relief scheme, health protocols and vaccinations. The reasons for the scores afforded to the different measures are subsequently explained.

Table 1: Effectiveness of the various measures introduced

Measure	Mode
The Tourism Relief Fund	(3) Moderately effective
Tourist Guides' Fund	(3) Moderately effective
Temporary Employee/Employer Relief Scheme	(4) Effective
Fiscal transfer to heritage and protected area institutions	(3) Moderately effective
IDC COVID-19 Distress Funding	(3) Moderately effective
Bank credit guarantee scheme	(2) Quite ineffective
Health protocols	(4) Effective
Insurance pay-outs	(3) Moderately effective
Industry support schemes to support local businesses	(3) Moderately effective
Repurposing	(3) Moderately effective
Vaccinations	(4) Effective

a) The Tourism Relief Fund

While the R50 000 given to a selection of tourism business during 2020 assisted those businesses to alleviate financial pressure, the general agreement is that the fund was not sufficiently capitalised to reach a significant number of businesses, nor to cover the extent of the crisis, especially as the pandemic dragged on into 2021. One participant noted, "How far can you stretch R50 000 when you have 18 months of disrupted business activity?" As such, the fund only provided temporary relief.

In addition, the guidelines to apply for funding were not clear, and one participant stated that, "Many businesses did not qualify based on the

criteria", while another mentioned that "A lot of businesses in the end did not apply, because they thought... they weren't qualifying anyway".

b) Tourist Guides' Fund

The Tourist Guides' Fund targeted a very specific group within the industry. Although it is viewed overall as moderately effective, there are concerns that the funding did not reach everyone in the targeted group. Many participants were not aware that such a fund existed, and those who were, indicated that the amounts given to tour guides were not sufficient. One participant mentioned, "Even though it was not sufficient... at least it gave them the process... to recover".

c) Temporary Employee/Employer Relief Scheme

This scheme, implemented by the Unemployment Insurance Fund (UIF), is ranked as one of the most successful forms of financial relief given to the industry. The general view is that a lot of people benefitted from the scheme, especially the lower income earners, even though it had its challenges in terms of administration and corruption.

One participant indicated that, "There was a lot of fraud committed in that system outside of the hospitality industry... [it] helped a lot of the staff members, but the actual process was poorly managed, unfortunately". Another participant said, "It saved jobs, it saved lives, it saved livelihoods". Another participant agreed, stating "... it was a little bit of a mess, but at the end of the day, it actually did a lot of good."

d) Fiscal transfer to heritage and protected area institutions

Like the Tourist Guides' Fund, this was a very specific intervention targeted at sustaining heritage and protected area institutions, which the few participants who were aware of it, regarded as being moderately effective for its purpose. Many other industry role-players were unaware of this financial assistance provided to these institutions. However, this funding was "basically a form of bailout" to keep these institutions open, when they could not levy any entrance or conservation fees.

e) IDC COVID-19 Distress Funding

Although the IDC Distress Funding is viewed as moderately effective, it was not specifically targeted at the tourism industry, and therefore few tourism businesses benefitted from this scheme. The view is that it was more efficient in aiding other industries rather than tourism industries, with participants saying, "I haven't seen someone says, it really helped me" and "Not a lot of people have taken that up", or "The feedback I got was it's too complicated". Some of the business participants indicated that they preferred to approach their banks for loans rather than borrowing from the IDC.

f) Bank credit guarantee scheme

While bank guarantee schemes are generally viewed as a fairly ineffective measure of assisting the industry, this result comes with a caveat. Large business participants utilised this financial aid method and indicated that it was effective to very effective, while provincial and national authorities viewed it as ineffective. This measure is clearly better suited to businesses with existing credit facilities at banks, but less so for SMMEs. The one participant correctly stated, "You have to present a balance sheet, you don't have a balance sheet... it's not effective". Another participant said, "Banks are in the business of making money. ...they wouldn't touch the travel industry with a bargepole".

g) Health protocols

The first of the non-financial interventions introduced were health protocols for the tourism industry, which is generally regarded as an effective measure to keep the industry

going during the pandemic. Only two participants indicated that it was quite ineffective (2), with most indicating it was quite effective or very effective.

Some criticism lodged against health protocols by the participants includes the double standards introduced. For example, shopping malls had no restrictions on the number of people allowed inside them, while event spaces had restrictions on the numbers of attendees who could enter. Another participant noted that "You can travel full [to capacity] in a taxi, 200 kilometres, but you can't drive [to] full [capacity] on a bus". The fairness of the implementation and the protocols was thus questionable.

h) Insurance pay-outs

Although there were multiple problems with receiving insurance pay-outs resulting in court cases which attracted media attention, the fact that some companies received pay-outs led participants to rate these as moderately effective. One of the associations mentioned that "… [the] majority didn't actually pay out". Another association noted that "… everybody was trying to protect the cash and it's gotten very, very messy". However, as correctly indicated by one participant, "The small guy's not going to have that type of insurance", indicating that the pay-outs did not bring widespread relief in the industry.

i) Industry support schemes to support local businesses

While many participants were not aware of the various support schemes to support local businesses, those that were aware of these rated them all moderately effective or better. One participant noted, "It's brilliant… it's the creativity of… the people of South Africa". Many of these schemes were of a local nature, and included, among others, feeding schemes for tour guides that were quite effective. This localised nature may have contributed to the support mechanism being less well known. A participant mentioned that "…it kept the economy moving; in the absence of that, I think there would have been a lot of panic".

j) Repurposing

Most participants rated repurposing efforts lower than effective (4) and the general response indicated that these were viewed as short-term measures that some businesses used to survive. In the words of a participant, "…finding creative ways to sustain their business". One participant added that "…there were a few examples of people who were doing things differently, but not to the extent where I can say here is an example of something that was repurposed and now it is successful".

k) Vaccinations

Vaccinations were viewed as a "game-changer" for the tourism industry, with all participants viewing this measure as effective. The vaccination rollouts were viewed to be better executed by government than anticipated, although there was some resistance among the population which stalled the process. One participant stated, "This is a PR problem; …this is a fake news problem". Another participant referred to government's efforts to get the population vaccinated: "I think they tried; they tried their best in my view".

However, the fact that there was no clear statement on vaccination requirements and how the programme would be implemented within the industry, created uncertainty, "particularly for the events industry". A participant provided an example, "Will it be [a] mandatory requirement to [be] vaccinate[d] if you're gonna go and watch a big sporting event?"

6. TOWARD A MORE RESILIENT TOURISM INDUSTRY

The effect of the pandemic has had widespread consequences for the South African tourism industry in terms of income losses, business closures, job losses and permanent shifts of workers and businesses to other sectors of the economy. The prolonged restrictions on domestic and international tourism into 2021 have damaged the industry to such an extent that recovery is only expected from 2024 onwards. For the future of the industry, this is of great concern.

The ineffectiveness of the measures implemented during the pandemic to shelter tourism business from insolvency, and to protect tourism employment, were not only caused by insufficient funding, but also by a lack of co-ordination and communication, which calls for a more collaborative partnership going forward. Better preparedness is echoed by everyone. While the industry is often mentioned as an integral part of the growth strategy for South Africa in terms of job creation, support for the industry to recover is not prioritised currently – a view that is expressed by many participants. Prioritising tourism in both national and provincial government agendas and allocation of funds for tourism, is therefore imperative.
To ensure that the tourism industry recovers in a sustainable manner requires a co-ordinated effort from government, the private sector and communities. One participant stated that, "We have to work together… to find problems, to find solution[s] to our problems". Strategies to protect the supply and to grow the demand for South Africa as a destination are required. The Director-General noted that, "…into the totality we must grow the market. We must make sure that the businesses don't go down, at the same time the destination and staff must still remain, and we must operate safely" (Tharage, 2021).

To rekindle the demand, strategies to promote South Africa as a safe and tourist-friendly destination need to take centre stage. While the importance of domestic tourism has been highlighted by the pandemic, South Africa cannot build its industry solely on domestic tourism. Therefore, one participant remarked that, "rapid recovery is now entirely dependent on the international market". There were some criticisms that tourism promotion budgets were cut during the pandemic, which meant that the country did not remain visible in the minds of potential tourists. A well-co-ordinated communication strategy that rebuilds a positive image of the country and changes perceptions toward the country, should be prioritised. These can be achieved, among others, through marketing campaigns (traditional and social media), trade shows and missions that represent South Africa abroad. However, managing perceptions is more than simply marketing, and will require a co-ordinated effort with other departments as well. In addition, improving accessibility through policies such as an improved visa application process (e-visas) and reducing red tape remains important.

A growing demand must be matched by a quality tourism industry to ensure a memorable tourism experience. Initially, the vaccination policy, as well as health and safety protocols, were viewed as imperative to regain confidence in the South African tourism industry. This is not only the task of the private sector, but attractions are also supported by well-maintained and high-quality infrastructure and municipal services. Local municipalities should therefore get their affairs in order to ensure the attractiveness of South Africa's tourism product offering.

It is furthermore recognised that the private sector drives employment in tourism and there

is a call for better public-private partnerships in tourism, as a strategy to ensure a more rapid recovery of the tourism industry. To stimulate private sector activity, government bureaucracy needs to be diminished, while the focus should be on stimulating business activity and reducing red tape for informal businesses to become more formalised. The pandemic has also highlighted the need for additional training requirements for small businesses in aspects such as sound financial management and planning.

Strategies for future resilience

South Africa and the world have seen an increase in unpredictable events, such as pandemics, social unrest and climate disasters, which affect the tourism industry. To navigate this maze of disruptions successfully calls for rethinking of strategies that can be adopted to ensure the future resilience of the tourism industry. Based on the interviews conducted, the following key themes emerged.

a) Scenario planning

Since we live in unpredictable times, all role players in the industry should be better prepared for future events. This entails improved scenario planning at a central, but also at an industry and individual level. Imagining the future and devising different possible plans of action would ensure that the industry is not caught off guard again, and that there is a proactive plan in place. One participant observed that "It was like being on the deck of the Titanic". In this process, it is not only government that should do scenario planning, but it is important to also get input from industry – "listen to what the industry's got to say openly and make yourself available for discussions".

b) Risk/Crisis management strategy

Following on from scenario planning is both a national, and an industry, risk or crisis management strategy that provides clear guidelines as to what the industry should do and how it should respond to any form of adverse event. Such events may include pandemics, but also unrest, safety and security, hijackings, floods, which all have a profound impact on tourism and also the perception of the safety of South Africa as a destination.

c) Communication strategy

One of the weakest points in the response to the COVID-19 pandemic is the way in which information was communicated. One participant stated, "Everyone was scrambling, misinformation, science versus politicians and so forth and so on. We need to have a handle on our communications as a country". The lack of a co-ordinated communication strategy, especially during times of crisis, not only creates uncertainty within the country and industry, but also harms the image of the country, leading to a loss in confidence by international tourists. Restoring trust and the perception of the country as a safe destination, will require more than marketing, and this is where a clear communication strategy, not driven by political agendas, should be prioritised.

Together with communication goes access to information. Ensuring that there is a central repository to access verified information will assist the industry to follow the correct protocols regarding adverse events, and will also allow for seamless travel, not only within the country, but internationally as well. This "...would just make the entire world a lot easier to gain access to information and travellers could make informed decisions and travel management companies could also make informed decisions at a touch of a button".

d) Position tourism as an important economic sector

The effect of measures taken in response to a pandemic should take into account the economy, "...because when you destroy the

economy, you destroy the social part of the country". While the participants acknowledge that health is non-negotiable, the state of the health facilities in the country and the ill-preparedness of the health sector in dealing with pandemics has caused the destruction of other sectors within the economy. Political lobbying has also led to some industries receiving preferential treatment, and, while tourism is viewed as an important sector for economic growth and development, also in rural areas, it is neither prioritised in terms of government funding, nor in terms of the restrictions placed on tourism during the pandemic. More should thus be done to ensure that the tourism industry receives recognition from central government for its role in the South African economy.

e) Collaboration

An aspect that became apparent during the pandemic was that "everybody was working in silos", with a lack of collaboration and co-ordination within the industry. The pandemic changed this, and the tourism industry realised the importance of collaboration and their interdependence on one another. Going forward, a more resilient tourism industry is one where there is more collaboration between government, the private sector and communities.

f) Emergency funds

With the increasing frequency of disasters, it is clear that some form of emergency funding needs to be available to assist the industry and ensure business continuity. This implies not only better financial planning and management, but also proper funding structures for businesses within the industry, especially SMEs, to ensure their survival. Businesses should also realise that cash management is important, and having access to cash during adverse times improves business agility.

g) Diversified tourism strategy

The importance of the domestic tourism market for the resilience of the industry has become apparent. As one participant stated, "You can't just rely on rich Germans". Designing products (and prices) for the domestic market, and not only for the international market, as well as encouraging domestic tourism, should be promoted. This starts with understanding the domestic tourism market and diversifying the product offering to attract domestic tourists. From a policy perspective, strategies to ensure this include (i) lengthening the school holiday season by following a staggered approach for different provinces; (ii) educational programmes to highlight the importance of tourism at school level.

h) SME development and assistance

The industry is very reliant on SMEs as well as informal businesses that contribute towards the tourist experience. Many of these businesses closed doors during the pandemic and informal businesses had no access to relief measures implemented. To ensure a more resilient industry, training of SMEs in aspects such as financial management and planning is proposed. Furthermore, the treatment of informal businesses within the industry needs to be reconsidered to ensure their survival in future stress events.

7. CONCLUSION

This chapter focused on the unfolding of the coronavirus pandemic during 2021 in the tourism and hospitality industry. The first aim was to reflect on how the pandemic unfolded in its second year and impacted the South African tourism and hospitality industry. Using a combination of quantitative data and qualitative information gained through 21 interviews with different spheres of the tourism industry, the results showed that the negative effects of COVID-19 continued during 2021. Subsequent variants of the virus, coupled with both domestic and international travel restrictions, led to further losses and business closures in many sectors of the tourism industry. That influence has been such, that recovery of the industry will be prolonged, due to key tourism businesses closing down in, among others, the transport sector, as well as permanent losses of employees who are not planning to return to the tourism industry.

Although it is acknowledged that the recovery in domestic tourism assisted the industry, it is not sufficient to counter the losses experienced in international tourist arrivals. The industry trends also show a slow recovery in international tourists, which calls for a concerted effort in improving the reputation of South Africa and restoring confidence in the country. Closure of key businesses also caused structural problems that may take years to resolve and will prolong the recovery process. The loss of trained and experienced staff in the industry will also be felt in the years to come and strategies are needed to ensure that well-trained staff enter the industry.

The second aim of this chapter was to reflect on the measures that were implemented during 2020/1 to mitigate the negative impact of COVID-19. Of the array of measures implemented, only three were deemed effective, namely the Temporary Employer/Employee Relief Fund of the UIF, health protocols and vaccinations. This underscores the inefficiency of the measures implemented to support the industry, which was brought to its knees, during the pandemic. The third aim of this chapter was to draw lessons from the COVID-19 pandemic to make recommendations to normalise the country's situation and better prepare the country for similar future pandemics. The country and industry were clearly caught off-guard and better preparedness in the event of future crises is echoed by everyone in the industry, from policymakers to small businesses. The participants not only pointed toward insufficient funding of the industry, but also a lack of co-ordination and communication. This calls for a more collaborative partnership between public sector, private sector and communities within the tourism industry. The interdependence of different role-players in the industry and even outside the industry became apparent during this pandemic, and acknowledging this could lead to more co-ordinated policies and efforts in future.

To prepare the industry for future adverse events will require careful scenario planning, a clear risk/crisis management strategy, a clear communication strategy, prioritising tourism within the economy, to ensure that policies do not wipe out the industry, improved collaboration between all parties, access to emergency funding, a more diversified tourism strategy, and SME and informal business development.

The chapter also highlighted the different experiences by the various sectors of the tourism industry, and it is evident that a one-size-fits-all approach will not be optimal in any crisis situation. Capital-intensive sectors, such as transport, benefitted more from access to finance via the banking sector, while labour-intensive SMEs

were more reliant on grants from the Tourism Relief Fund. For all businesses, though, the red tape and bureaucratic regulatory measures need to be reduced to enable businesses in the tourism industry to keep their doors open. The industry is often hailed for its ability to absorb unemployment, but the insecurity and fragility of jobs in this industry resulted in the layoff of employees, making them redundant due to the pandemic. For this industry to be sustainable, protecting employees and businesses during future pandemics should be prioritised.

REFERENCES:

Adler, L. A., 2022, 15 March. Associate Manager of the Exhibitions and Events Association of Southern Africa interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

African Airlines' Association, 2021. 2021 Annual Report. Available from https://www.afraa.org/annual-reports/ (Accessed on 10 June 2022).

Aharon, D.Y., Jacobi, A., Cohen, E., Tzur, J. & Qadan, M., 2021. COVID-19, government measures and hospitality industry performance. PLoS ONE 16(8). https://doi.org/10.1371/journal.pone.0255819

Airlines' Association of Southern Africa, 2021. Annual report 2020/21. Available from https://www.aasa.za.net/events/aasa-aga-2021/AASA_2020-2021_Annual-Report.pdf (Accessed on 5 February 2023).

Awad-Núñez, S., Julio, R., Gomez, J., B. Moya-Gómez, B., & J.S. González, J.S., 2021. Post-COVID-19 travel behaviour patterns: impact on the willingness to pay of users of public transport and shared mobility services in Spain. European Transport Research Review, 13 (1), 1-18. https://doi.org/10.1186/s12544-021-00476-4

Baker, B. McA., 2015, Tourism and health effects of infectious diseases: Are there potential risks for tourists? International Journal of Safety and Security in tourism/Hospitality, pp. 1-16.

Barbieri, D.M., Lou, B., Passavanti, M., Hui, C., Hoff, I., Lessa, D.A., Sikka, G., Chang, K., Gupta, A., Fang, K. & Banerjee, A., 2021. Impact of COVID-19 pandemic on mobility in ten countries and associated perceived risk for all transport modes. PLoS ONE, 16(2), 0245886. https://doi.org/10.1371/journal.pone.0245886

Bartis, H., Hufkie, B. & Moraladi, M., 2021. The Economic Impact of the COVID-19 Pandemic on the Business Events Sub-sector in South Africa: Mitigation Strategies and Innovations. African Journal of Hospitality, Tourism and Leisure, pp.102-114.

Bielecki, M., Patel, D., Hinkelbein, J., Komorowski, M., Kester, J., Ebrahim, S., Rodriguez-Morales, A.J., Memish, Z.A. & Schlagenhauf, P., 2020. Air travel and COVID-19 prevention in the pandemic and peri-pandemic period: A narrative review. Travel Medicine and Infectious Disease, 38. DOI: https://doi.org/10.1016/j.tmaid.2020.101939.

Bird, S., 2022, 8 March. General Manager of Sandton Convention Centre interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Boto-García, D., Mariel, P., Pino, J. B., & Alvarez, A., 2020. Tourists' willingness to pay for holiday trip characteristics: A discrete choice

experiment. Tourism Economics. DOI: https://doi.org/10.1177/1354816620959901

Businesstech, 2021. Greyhound closes operations in South Africa after 37 years. Available at https://businesstech.co.za/news/business/465278/greyhound-closes-operations-in-south-africa-after-37-years/ (Accessed on 10 June 2022).

Chan, J., 2021. Domestic Tourism as a Pathway to Revive the Tourism Industry Pandemic and Business Post the COVID-19. ERIA Discussion Paper Series No. 392

Christidis, P., & Christodoulou, A., 2020. The predictive capacity of air travel patterns during the global spread of the COVID-19 pandemic: Risk, uncertainty and randomness. International Journal of Environmental Research and Public Health. 2020; 17(10), 3356. DOI: https://doi.org/10.3390/ijerph17103356

Cilliers, S., 2022, 23 March. Chief Financial Officer of the Afrikaans Taal en Kultuur Vereeniging interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Daon, Y., Thompson, R. N., Obolski, U., 2020. Estimating COVID-19 outbreak risk through air travel. Journal of Travel Medicine, 27(5). DOI: https://doi.org/10.1093/jtm/taaa093.

De Kock, G., 2022, 9 March. Chief Executive Officer of the Southern African Association for the Conference Industry interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

De Vries, O., 2022, 23 February. Chief Executive Officer of the Association of Southern African Travel Agents interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Department of Tourism, South Africa, 2020. The tourism sector recovery plan: COVID-19 response. Available at https://www.gov.za/sites/default/files/gcis_document/202008/tourismrecoveryplan.pdf (Accessed 5 October 2021).

Disimulacion, M.A.T., 2020. MICE tourism during COVID-19 and future directions for the new normal. Asia Pacific International Events Management Journal, 1(2), pp.11-17.

Du Toit, H., 2022, 23 February. Chief Operating Officer of the Southern Africa Tourism Services Association interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Dube, K., 2022. COVID-19 vaccine-induced recovery and the implications of vaccine apartheid on the global tourism industry. Physics and Chemistry of the Earth, 126, (103140), 1-11. https://doi.org/10.1016/j.pce.2022.103140

Dube, K., Nhamo, G. & Chikodzi, D., 2020. COVID-19 cripples global restaurant and hospitality industry. Current Issues in Tourism, 1-4. doi:10.1080/13683500.2020.1773416

Economic Commission for Africa, 2020. Policy research paper COVID-19 and African airlines: overcoming a liquidity crisis. Addis Ababa: United Nations Economic Commission for Africa.

Euro Company, 2022. Available at https://www.eurocompanyformations.com/blog/benefits-of-opening-a-branch-office/ (Accessed on 1 September 2022).

Figueroa, A., 2018. MICE: meetings, Incentive, Conferences and Exhibitions. Available at https://www.tripsavvy.com/what-is-mice-in-the-travel-industry-325249. (Accessed on 5 October 2021).

Garret, S., 2022, 10 June. General Manager: Marketing and Product of Flight Centre interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Garrido-Moreno, A., Garcia-Morales, V.J., & Martin-Rojas, R., 2021. Going beyond the curve: Strategic measures to recover hotel activity in times of COVID-19. International Journal of Hospitality Management, 96, 102928. https://doi.org/10.1016/j.ijhm.2021.102928

Glen, N & Mearns, K., 2018. The role of tourism associations in supporting sustainable tourism industries: a study of N3 Gateway Tourism Association. Conference: Besten 2018, Lucerne, Switzerland.

Gonzalez L., 2020. Full recovery of domestic air travel in China by September. Available at https://forwardkeys.com/full-recovery-of-domestic-air-travel-in-china-by-september/ (Accessed on 12 June 2022).

Gössling, S., Scott, D., & Hall, M., 2020a. Pandemics, tourism and global change: a rapid assessment of COVID-19. Journal of Sustainable Tourism, 1-16. https://doi.org/ 10.1080/ 09669582.2020.1758708.

Hilsenrath, J., 2020. Global viral outbreak like coronavirus, once rare, will become more common. Global Viral Outbreaks Like Coronavirus, Once Rare, Will Become More Common. WSJ. Available at https://www.wsj.com/articles/viral-outbreaks-once-rare-become-part-of-the-global-landscape-11583455309 (Accessed on 1 September 2022).

International Air Transport Association, 2020. Impact of COVID-19 on African aviation and economies is worsening. Press release, 13 August 2020. IATA, Geneva. Available at https://www.iata.org/en/pressroom/pr/2020-08-13-03/ (Accessed on 10 June 2022).

International Labour Organization (ILO, 2020. The impact of COVID-19 on the tourism sector. ILO Sectoral Brief. May 2020. Available at https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/briefingnote/wcms_741468.pdf (Accessed on 15 October 2021).

Juschten, M., & Hössinger, R., 2021. Out of the city – but how and where? A mode-destination choice model for urban–rural tourism trips in Austria. Current Issues in Tourism, 24(10), 1465-1481, DOI: 10.1080/13683500.2020.1783645

Kaewkitipong, L.; Chen, C.& Ractham, P., 2021. Examining Factors Influencing COVID-19 Vaccine Tourism for International Tourists. Sustainability, 13(22), 12867. https://doi.org/10.3390/su132212867

Kim, D., 2019. Meeting, Incentive, Convention and Exhibition (MICE) Tourism Development in Korea Case Studies from Seoul and Incheon city, Doctoral dissertation, Ritsumeikan Asia Pacific University.

Lam, W.K., Zhong, N.S. & Tan, W.C., 2003. Overview of SARS in Asia and the World.

Respirology, 8(suppl 1): S2-S5. doi: 10.1046/j.1440-1843.2003.00516x

Lau, C. & Bureau, E., 2016. Meetings, incentives, conventions and exhibitions (MICE). Hong Kong: Polytechnic Institute.

Le, A.H., McDonald, C.V. & Klieve, H., 2018. Hospitality higher education in Vietnam: Voices from stakeholders. Tourism Management Perspectives, 27, 68–82. Available at: https://dx.doi.org/10.1016/j.tmp.2018.05.002

Lenaerts, B., Allroggen, F., & Malina, R., 2021. The economic impact of aviation: A review on the role of market access. Journal of Air Transport Management, 91, 102000. DOI: https://doi.org/10.1016/j.jairtraman.2020.102000

Lewis, S., 2022, 23 February. Chief Operating Officer of Experience Northern Cape interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Luke, R., 2020. The impact of COVID-2019 on transport in South Africa. Journal of Transport and Supply Chain Management, 14(0), a545. https://doi.org/10.4102/ jtscm.v14i0.545.

Mokoena, T. P., 2022, 23 February. Managing Executive: Office of the CEO of Ezemvelo KZN Wildlife interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Murphy, N., Boland, M., Bambury, N., Fitzgerald, M., Comerford, L., Dever, N., O'Sullivan, M.B., Petty-Saphon, N., Kiernan, R., Jensen, M. & O'Connor, L., 2020. A large national outbreak of COVID-19 linked to air travel, Ireland, summer 2020. Euro Surveill, 25(42), 2001624. DOI: https://doi.org/10.2807/1560-7917.ES.2020.25.42.2001624

Nongiso, S., 2022, 16 March. Acting Manager: Tourism Development of Tourism KwaZulu-Natal interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Nongiso, S., 2022, 16 March. Acting Manager: Tourism Development of Tourism KwaZulu-Natal interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

OECD, 2020. Government support and the COVID-19 pandemic. Available at https://www.oecd.org/coronavirus/policy-responses/government-support-and-the-covid-19-pandemic-cb8ca170/ (Accessed on 1 September 2022).

OECD, 2002. Industry and Service Statistics. Available at https://stats.oecd.org/glossary/detail.asp?ID=2725. (Accessed on 5 October 2021).

OECD, 2020. Coronavirus (COVID-19): SME policy responses. Available at https://www.oecd.org/coronavirus/policy-responses/coronavirus-covid-19-sme-policy-responses-04440101/ (Access on 1 September 2022).

OECD, 2020. Coronavirus (COVID-19): SME Policy Responses. Available at https://read.oecd-ilibrary.org/view/?ref=119_119680-di6h3qgi4x&title=Covid-19_SME_Policy_Responses (Accessed on 1 September 2022).

OECD, 2020. COVID-19 and the aviation industry: Impact and policy responses. Available at https://www.oecd.org/coronavirus/policy-responses/covid-19-and-the-aviation-industry-impact-and-policy-responses-26d521c1/ (Accessed on 12 June 2022).

OECD, 2020. Rebuilding tourism for the future: COVID-19 policy responses and recovery. Available at https://read.oecd-ilibrary.org/view/?ref=137_137392-qsvjt75vnh&title=Rebuilding-tourism-for-the-future-COVID-19-policy-response-and-recovery (Accessed on 1 September 2022).

OECD, 2021. Tourism policy response to the corona virus. Available at https://read.oecd-ilibrary.org/view/?ref=124_124984-7uf8nm95se&title=Covid-19_Tourism_Policy_Responses (Accessed on 1 September 2022).

Papatheodorou, A., 2021. A review of research into air transport and tourism: Launching the Annals of Tourism Research Curated Collection on Air Transport and Tourism. Annals of Tourism Research, 87, 103151. DOI: https://doi.org/10.1016/j.annals.2021.103151.

Parbhu, S., 2022, 21 February. Managing Director of XL Nexus Travel interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Pather, P., 2022, 23 March. Spokesperson of the Association of African Exhibition Organisers interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Phiri, B., 2022, 10 March. Guesthouse, Hotel & Safari Accreditation interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Ritchie, H., Mathieu, E., Rodés-Guirao, L., Appel, C., Giattino, C., Ortiz-Ospina, E., Hasell, J., Macdonald, B., Beltekian, D. & Roser, M., 2020. Coronavirus Pandemic (COVID-19). Published online at OurWorldInData.org. Available at https://ourworldindata.org/coronavirus (Accessed on 24 January 2022).

Robina-Ramírez, R., Medina-Merodio, J., & Estriegana, R., 2021. What do urban and rural hotel managers say about the future of hotels after COVID-19? The new meaning of safety experiences. https://doi.org/10.1016/j.cities.2021.103492

Rogerson C.M., & Rogerson, M., 2021. African tourism in uncertain times: COVID-19 research progress. GeoJournal of Tourism and Geosites, 38(4), 1026–1032. Available at https://doi.org/10.30892/gtg.38406-740

Sello, H., 2022, 14 February. Managing Executive: Tourism Development & Marketing, South African National Parks interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Sharun, K., Tiwari, R., Natesan, S.K., Yatoo, M.I., Malik, Y. S., & Dhama, K., 2020. International travel during the COVID-19 pandemic: implications and risks associated with 'travel bubbles'. Journal of Travel Medicine, 27(8). DOI: https://doi.org/10.1093/jtm/taaa184

Shi, W. & Li, K.X., 2017. Impact of unexpected

events on inbound tourism demand modelling: Evidence of Middle East Respiratory Syndrome outbreak in South Korea. Asia Pacific Journal of Tourism Research, 22(3): 344-356.

Sibisi, N., 2022, 3 March. Owner of Mahlasi B&B interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Sibiya, N., 2022, 10 March. Ezweni Lodge interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Skift, 2019. The State of Business Travel. Available at https://skift.com/2019/10/24/new-report-the-state-of-business-travel-2020/ (Accessed on 1 September 2022).

Smeda, S., 2022, 28 February. Chief Commercial Officer InterCape interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

South Africa National Convention Bureau, 2020. Event details worksheet. Johannesburg: South African Tourism.

South African Government, 2022. Regulations and guidelines- Coronavirus COVID-2019. Available at https://www.gov.za/covid-19/resources/regulations-and-guidelines-coronavirus-covid-19?gclid=CjwKCAjwsMGYBhAEEiwAGUXJaUpm9tRDQSO90whBX_yRV-iX_p1rv4bVH6eOilVatpZIYe4qvPIFHRoCcZoQAvD_BwE

South African Government, 2020. Support to business. Available at https://www.gov.za/covid-19/companies-and-employees/support-business (Accessed on 1 September 2022).

South African National Parks (SANParks), 2020. Table Mountain National Park. Available at: https://www.sanparks.org/about/news/?id=58077 (Accessed on 29 August 2022).

South African Reserve Bank, 2022. Historic macroeconomic information. Available at https://www.resbank.co.za/en/home/what-we-do/statistics/releases/online-statistical-query (Accessed on 1 September 2022).

South African Tourism, 2017. Meetings Africa: Advancing Africa together. [Slides]. Johannesburg: South African Tourism.

Spasojevic, B., Lohmann, G., & Scott, N., 2018. Air transport and tourism – a systematic literature review (2000–2014). Current Issues in Tourism, 21(9), 975-997, DOI: https://doi.org/10.1080/13683500.2017.1334762

Statistics South Africa, 2019. Five facts about poverty in South Africa. Available at https://www.statssa.gov.za/?p=12075 (Accessed on 1 September 2022).

Statistics South Africa, 2020. Tourist Accommodation, May 2020. Available at http://www.statssa.gov.za/?page_id=1856&PPN=P6410&SCH=7776 (Accessed on 1 September 2022).

Statistics South Africa, 2010-2021. Statistical release: P0351. Tourism and Migration. StatsSA, Pretoria.

Statistics South Africa, 2021. Tourist Accommodation July 2021. Available at http://www.statssa.gov.za/publications/P6410/P6410July2021.pdf (Accessed on 1 September 2022).

Statistics South Africa, 2021. SA tourism industry struggles amidst COVID-19 pandemic. Available at https://www.statssa.gov.za/?p=14281 (Accessed on 1 September 2022).

Stoltz, J., 2022, 14 March. Director: Tourism of Western Cape Economic Development and Tourism interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Sucheran, R., 2021. Preliminary Economic Impacts of the COVID-19 Pandemic on the Hotel Sector in South Africa. African Journal of Hospitality, Tourism and Leisure, 10(1). https://doi.org/10.46222/ajhtl.19770720

Sucheran, R., 2022. The COVID-19 pandemic and guesthouses in South Africa: Economic impacts and recovery measures, Development Southern Africa, 39:1, 35-50. https://doi.org/10.1080/0376835X.2021.2003758

Tam, S., Sood. S. & Johnston, C., 2021. Impact of COVID-19 on the tourism sector, second quarter of 2021. Statistics Canada. Catalogue no. 45-28-0001. Available at https://www.statcan.gc.ca/ (Accessed on 5 June 2022).

Tharage, N. V., 2021, 6 December. Director General of the Department of Tourism interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Tourism government, 2022. Tourism associations. Available at https://tkp.tourism.gov.za/vc/ta/Pages/default.aspx (Accessed on 1 September 2022).

Trisic, I. and Bojovic, V.A., 2018. The role of MICE industry in tourism development. International Scientific Conference, Vrnjacka Banja, Serbia. ReserachGate. JEL classification M, 31, p.L83.

Tshivhengwa, T., 2022, 21 February. Chief Executive Officer of Tourism Business Council of South Africa interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

United Nations Economic Commission for Africa., 2020. Policy research paper COVID-19 and African airlines: Overcoming a liquidity crisis. Addis Ababa: UNECA. Available at https://hdl.handle.net/10855/43917 (Accessed on 12 June 2022).

United Nations World Tourism Organization (UNWTO), 2020. UNWTO Briefing Note – Tourism and COVID-19, Understanding Domestic Tourism and Seizing its Opportunities. UNWTO. Spain. https://www.eunwto.org/doi/pdf/10.18111/9789284422111

United Nations World Tourism Organisation, 2021. 2020: A year in review. Available at https://www.unwto.org/covid-19-and-tourism-2020 (Accessed on 1 September 2022).

United Nations World Tourism Organization (UNWTO), 2021. International Tourism Highlights, 2020 Edition, UNWTO, Madrid, DOI: https://doi.org/10.18111/9789284422456 (Accessed on 25 March 2022).

Uribe, J.P., Basu, P., & Lindelow, M., 2021. Preparing for the next pandemic: what will it take. Available at https://blogs.worldbank.org/voices/preparing-next-pandemic-what-will-it-take (Accessed on 1 September 2022).

Vermeulen, A., 2022, 18 March. Chief Operations Officer of FlySafair interview [Interview for the second South Africa COVID-19 Country Report]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation).

Welthagen, L.C., 2019. A conceptual framework towards conference tourism competitiveness. Doctoral dissertation, North-West University, South Africa, Potchefstroom Campus.

Welz, A., 2021. The Pandemic Has Undone National Parks in South Africa - The Atlantic. Available at https://www.theatlantic.com/science/archive/2021/06/covid-19-tourism-conservation-south-africa/619091/ (Accessed on 29 August 2022).

World Health Organisation (WHO), 2022a. Coronavirus disease (COVID-19) pandemic. Available at https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/novel-coronavirus-2019-ncov (Accessed on 2 February 2022).

World Health Organisation (WHO), 2022b. Past Pandemics. Available at https://www.euro.who.int/en/health-topics/communicable-diseases/influenza/pandemic-influenza/past-pandemics (Accessed on 2 February 2022).

World Health Organisation, 2022. Looking after our mental health. Available at https://www.who.int/campaigns/connecting-the-world-to-combat-coronavirus/healthyathome/healthyathome---mental-health?gclid=CjwKCAjwsMGYBhAEEiwAGUXJaYNknqWuMuZPCoR0PlqAPaljEnukk4m2NMGKE8zaWYyCnw-QAqaZYBoCtmEQAvD_BwE (Accessed on 1 September 2022).

World Travel and Tourism Council (WTTC), 2020. Travel and Tourism Economic Impact: South Africa. London United Kingdom.: Available at https://wttc.org/Portals/0/Documents/Reports/2020/Global%20Economic%20Impact%20Trends%202020.pdf?ver=2021-02-25-183118-360 (Accessed on 2 February 2022).

Yusof, A., 2020. 'Malaysian States to Consider Pivot Towards Domestic Tourism Amid COVID 19 Outbreak', Channel News Asia. Available at https://www.channelnewsasia.com/news (Accessed on 8 June 2022).

CHAPTER 7
INTERNATIONAL COOPERATION AND TRADE

ABSTRACT

In following on from the previous edition, this Chapter seeks to ascertain the status of South Africa's international cooperation efforts and trade statistics, since March 2021, in response to the continued presence of the worldwide Covid-19 pandemic. It does so by posing the following two research questions: Firstly, to what extent has South Africa contributed to the continued global response to the pandemic? What factors have hindered this contribution, if any? Secondly, has South Africa been able to learn from the initial year of the pandemic and, as such, been able to leverage its international cooperative efforts and responses more effectively? In addressing these two questions, this chapter uses a desktop review of literature and data obtained from primary and secondary sources. It also includes relevant information obtained through interviews conducted by authors in other chapters of this edition, and in which this chapter's authors received access to the transcriptions. This chapter finds that South Africa has continued to make effective use of its international relations in dealing with the pandemic in the second year: President Ramaphosa has done well to champion South Africa and Africa in global platforms in relation to vaccine diplomacy and play a leadership role in Africa and the global south. In drawing from lessons learnt in the first year of the pandemic, the South African government continued to recognise the necessity for a coordinated response in tackling the disease. Nevertheless, this chapter concludes that corruption and mismanagement and rapidly increasing socioeconomic inequalities at home limits the country's ability to respond to the socioeconomic and political challenges associated with Covid-19 in the second year of the pandemic.

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LIST OF ABBREVIATIONS AND ACRONYMS

ACT	Access to Covid-19 Tools
AMSP	African Medical Suppliers Platform
ARF	African Renaissance Fund
AU	African Union
AVAT	African Vaccination Acquisition Trust
AVATT	African Vaccination Acquisition Task Team
BBC	British Broadcasting Corporation
BRICS	Brazil-Russia-India-China and South Africa
CDC	Centres for Disease Control and Prevention
CEPI	Coalition for Epidemic Preparedness Innovations
CPF	Country Partnership Framework
DIRCO	Department of International Relations and Cooperation
DPL	Development Policy Loan
EU	European Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
IMF	International Monetary Fund
JHUCSSE	Johns Hopkins University Center for Systems Science and Engineering
NICD	National Institute for Communicable Diseases
PES	Presidential Employment Stimulus
R&D	Research and Development
SACU	South African Customs Union
SADC	Southern African Development Community
SAIC	South African Investment Conference
SARB	South African Reserve Bank
SARS	South African Revenue Services
SRHR	Protecting Sexual and Reproductive Health and Rights
Stats SA	Statistics South Africa
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UK	United Kingdom
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNICEF	Nations International Children's Emergency Fund
US	United States
WHO	World Health Organisation
WTO	World Trade Organisation

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INTRODUCTION

This Chapter seeks to ascertain the status of South Africa's[1] international cooperation efforts and trade statistics, since March 2021, in response to the continued presence of the worldwide Covid-19 pandemic. As outlined by the previous edition of this chapter, the impact of the Covid-19 pandemic on global trade and international relations was unprecedented. Despite this, South Africa's response to the virus was lauded by some global observers as "a standout in the region", emphasising President Cyril Ramaphosa's frank and effective communication with his public and his government's move to close borders and restrict movement early on in the outbreak (Devermont and Mukulu, 2020). Moreover, as AU Chair in 2020, President Ramaphosa used the platform to lobby international financial institutions for economic relief and concrete support for the continent and, aside from establishing a solidarity fund, used diplomatic outreach to assist in coordinating an African response. In the first year of the pandemic, other initiatives, spearheaded by the South African Government and its partners, were successful in bringing global attention, and solidarity, to certain pandemic-related issues. For example, Ms. Lindiwe Zulu, Minister of Social Development of South Africa in 2020, and Mr. Peter Eriksson, Minister for International Development Cooperation of Sweden in 2020, led a joint global press release, in the context of the UN (Commission on Population & Development), signed by close to 80 other countries, on 'Protecting Sexual and Reproductive Health and Rights (SRHR) and Promoting Gender responsiveness in the Covid-19 crisis. This was an important and different type of effort to bring crucial social issues back into focus during the pandemic response. It also found much better traction in Africa than is usually the case with SRHR. Following this, the Minister of Social Development led a number of bi- and multi-lateral engagements on the same theme with her counterparts from several African countries (Diplomatic Statement, 2020).

After the initial year of coming to terms with what this outbreak might mean for South African citizens, trade, businesses, and communities, as well as anticipating long-term impacts, scientists, policymakers, governments, international organisations and non-state actors around the world were able to identify the necessary steps to overcome related challenges where possible and mitigate others with short-term responses and immediate solutions. Bearing in mind that, at the time of writing, virologists warn of future waves of Covid-19, this chapter acknowledges that the pandemic remains with us and so the discussion remains ongoing.

Methodologically, this chapter uses a desktop review of literature and data obtained from primary and secondary sources. It also includes relevant information obtained through interviews conducted by authors in other chapters of this edition, and in which this chapter's authors received access to the transcriptions.

The key questions this chapter seeks to answer are:

1. To what extent has South Africa contributed to the continued global response to the pandemic? What factors, if any, have hindered this contribution?

[1] For clarification purposes, this chapter will refer to the term 'South Africa' and the 'South African Government' or 'Government of South Africa' as interchangeable terms.

2. Has South Africa been able to learn from the initial year of the pandemic and, as such, been able to leverage its international cooperative efforts and responses more effectively?

This chapter will cover four areas. It will explain why international cooperation is important for states. Thereafter, it will review a case of the discovery of the Omicron variant in November 2021 and the impact of this on South Africa's international relations. The chapter will also consider the circumstances around the procurement of vaccines, and South Africa's advocacy role in global platforms to overcome what President Ramaphosa called 'Health Apartheid'. South Africa's updated global economic engagements related to trade and foreign direct investment will be examined thereafter.

The Importance of International Cooperation for States

International cooperation is crucial for states for several reasons, including being able to address global challenges; to promote economic growth; to build diplomatic relations; to respond to humanitarian crises, and to ensure effective international law and governance. International cooperation allows states to pool resources, expertise, and knowledge to tackle these challenges effectively. It can also bring economic benefits to states by enabling them to participate in global trade and investment, share technological advancements, and access new markets. By cooperating with other states, countries can also learn from each other's economic policies and best practices. Cooperation between states helps to build diplomatic relations, which can also assist in facilitating dialogue, and in conflict resolution. It can also help to build trust and understanding between states which can reduce the risk of conflict and increase cooperation in other areas. International cooperation can help states respond to humanitarian crises such as natural disasters, refugee crises, and conflicts. It allows countries to share resources, expertise, and knowledge to provide aid to affected populations. It is essential for creating and enforcing international law and governance frameworks. These frameworks are important for regulating global trade, addressing environmental challenges, protecting human rights, and preventing conflicts. International cooperation is therefore necessary to ensure that these frameworks are effective and respected by all states (Derviş, 2020).

One way for states to cooperate internationally is through multilateral platforms and through global bodies. Derviş and Strauss (2021) argue that "a world facing inherently global challenges - as evidenced by the Covid-19 pandemic - requires globally concerted actions and responses". However, as Patrick (2023) contends, "In practice, global problems do not coincide with ideological boundaries". Despite all of the benefits of states cooperating with each other, it is not always easy. States responding to global challenges might be hindered from cooperating with others by their own domestic or national legislation, national interests or ideological inclinations. Nevertheless, for the Global South countries, especially, which include states like South Africa, the consequences of weak multilateralism - on climate change, trade, conflict prevention, and countless other issues such as global health risks, are dire (Derviş and Strauss, 2021).

Omicron and the 'politics' of Covid variants

On 25 November 2021, the National Institute for Communicable Diseases (NICD) announced that southern African[2] scientists had discovered a new Covid-9 variant, B.1.1.529, or Omicron (different from the dominant Delta variant) (Schreiber, 2022). South Africa reported this discovery to the World Health Organisation (WHO) on the 24 November. Following genome sequencing between the NICD and private labs, 22 positive cases in South Africa had been confirmed at that point. Despite thanking South Africa for its transparency, in an apparent knee-jerk reaction, the United Kingdom (UK) enforced heavy travel restrictions on South Africa, Botswana, Lesotho, Eswatini, Zimbabwe, and Namibia, from midday on the 26 November (BBC News, 2021). The European Union (EU) and the United States (US) followed suit, amongst other countries worldwide.

South Africa's President, Cyril Ramaphosa, spoke with the then UK Prime Minister, Boris Johnson, on the 27 November, with the Prime Minister promising to work with President Ramaphosa on ways to reopen international travel. In response to the travel restrictions, Naledi Pandor, South Africa's Minister of International Relations and Cooperation (DIRCO), declared that the international community's reaction to this variant's discovery was a form of punishment for South and Southern Africa, arguing that:

Whilst we respect the right of all countries to take the necessary precautionary measures to protect their citizens, we need to remember that this pandemic requires collaboration and sharing of expertise. Our immediate concern is the damage that these restrictions are causing to families, the travel and tourism industries and business (McCain, 2021).

The British Broadcasting Corporation (BBC) reported DIRCO's response as 'complaining', but DIRCO announced that these scientists should have been applauded for their scientific transparency, not vilified for it. The WHO and United Nations Secretary-General, António Guterres, also condemned the travel restrictions. South Africa's tourism industry was heavily affected once again, as December flights to South Africa dropped by 85 per cent compared to November 2021, and within two days of the UK's placing South Africa back on its red list of 'no-go' countries, the Republic's hospitality sector had lost R1 billion in cancelled bookings (Daniel, 2022). The Botswana-based virologist, Dr Sikhulile Moyo, contended that the response by some countries to this discovery was disproportionate, "like taking an AK-47 to kill an ant before you understand it" (quoted in Flood, 2021). Moreover, the travel restrictions had further implications in that the much-needed reagents required to sequence genomes, which were usually transported via normal airlines, were now negatively affected, thus making the surveillance of new variants more difficult. South Africa's travel and tourism industry suffered a severe setback due to these restrictions as bookings dropped by 85 per cent in December 2021 (Kanyane, 2022).

Botswana's President, Mokgweetsi Masisi, called the travel restrictions on Southern African countries "irresponsible" and, although wary of geo-politicising the virus, did allude to some of the four diplomats who were first tested positive for the variant as having come from Europe, thereby throwing blame back on the 'punishers' (Reuters, 2021). After South Africa had announced the existence of Omicron, other countries also announced its detection among their populations, including Israel, the Czech Republic, Belgium, Germany, and Italy.

This case of ping-pong politics may seem

[2] Botswana-based medical virologist, Dr Sikhulile Moyo and his team discovered the variant on 19th November 2021, and South African and Hong Kong scientists were also working on sequencing the new variant around the same time (Schreiber, 2022).

cursory, but it has more serious consequences for the longstanding debate around global inequalities and the respect due to all countries and their citizens, in a global community, in relation to scientific discoveries and advances, as well as the transparency around these discoveries. President Cyril Ramaphosa made reference to this while on his December 2021 state visit with President Alassane Ouattara in Abidjan in Cote d'Ivoire. President Ramaphosa stated:

Whilst we respect the right of every country to take measures to protect their people, the sustained global co-operation we need to overcome the pandemic necessitates that we are led by science. As South Africa, we stand firmly against any form of health apartheid in the fight against this pandemic (Hunter, 2021).

President Ramaphosa's comments related to the ongoing, global, discussion around the status of vaccine availability in Global South countries.

Vaccine Diplomacy and South Africa's Advocacy Role

Fifteen years ago, South Africa was one of seven countries that officially linked foreign policy and global health through the Oslo Ministerial Declaration. Emerging from this, came the term 'vaccine diplomacy' which "refers to almost any aspect of global health diplomacy that relies on the use or delivery of vaccines" (Hotez, 2014: 2). Vaccine diplomacy refers to the use of vaccines and vaccination efforts as a tool of foreign policy to build and to strengthen relationships between countries. It typically involves a country providing vaccines, or vaccine-related aid, to other countries in order to improve its global standing, demonstrate leadership, and gain geopolitical influence. While vaccine diplomacy can be seen as a positive step toward global cooperation and humanitarian efforts, it has also been criticised for being politically motivated and potentially exacerbating existing geopolitical tensions. Additionally, some have argued that vaccine diplomacy efforts may come at the expense of domestic vaccination efforts in the providing countries. Vaccine diplomacy has been brought back to foreign policy debates following the outbreak of Covid-19. This is unsurprising, given that Covid-19 vaccines are a crucially important resource. One example of vaccine diplomacy is the Covid-19 Vaccines Global Access (COVAX) programme, which is a global initiative aimed at ensuring equitable access to Covid-19 vaccines.

It seems logical that the way this resource is shared (or withheld) by states has great implications for international relations. In the time of Covid-19, vaccine diplomacy concerns the supply and distribution of Covid-19 vaccinations, and has been used by various global powers (notably China, the US, India and Russia) as a diplomatic tool within their respective foreign policy arsenal kits (Itugbu, 2021). For this reason, the outbreak of Covid-19 has had a tremendous effect on the nature of international diplomacy, as states are increasingly looking toward vaccine diplomacy as a strategic form of soft power from which to wield influence, form and solidify regional and global partnerships, expand their power, and boost their global image and status (Itugbu, 2021).

On the one hand, then, vaccine diplomacy has great potential to advance the global public good in a highly unequal world: In such a scenario, states having a surplus of Covid-19 vaccines may, in fairness, share their surpluses with states who are in need. However, on the other hand, states acting in their self-interest, may strategically choose with whom, and whether to share their additional vaccines. For this reason, vaccine diplomacy is often regarded as controversial, and is carefully scrutinised on the basis of ethics; particularly because affordable and non-discriminatory access to vaccines is a human

right (Sparke and Levy, 2022).

As will be discussed within this section, South Africa has also engaged in its fair share of vaccine diplomacy. Yet, unlike some major powers (such as the ones mentioned above), South Africa's exercise of vaccine diplomacy, under the leadership of Ramaphosa, has not been in pursuit of self-interest, but rather to safeguard the lives and livelihoods of the most vulnerable in South Africa and on the African continent.

According to the interactive 2019 Novel Coronavirus Visual Dashboard operated by the Johns Hopkins University Center for Systems Science and Engineering (JHU CSSE), on 6 September 2022, South Africa remained the epicentre of the Covid-19 pandemic in Africa, with a total number of deaths linked to the disease recorded at 102,108, and the cumulative number of overall cases since the outbreak reached its shores sitting at 4,012,920 (Dong, Du and Gardner, 2020). The number of administered coronavirus vaccine doses per 100 people in South Africa, as of August 14, 2022, was 62.83 (Saleh, 2022), which translates to about 37% of the population (33% with full vaccination status and around 5% with partial status) as of 5 September 2022 (Mathieu, Ritchie, Ortiz-Ospina, et al., 2021).

In June 2022, in response to the South African government's request for vaccine assistance, the World Bank approved a ZAR 7.6 billion loan for South Africa's Covid-19 Emergency Response Project[3]. South Africa welcomed this support which is intended to assist the government with the procurement of more vaccines and increase the vaccination of its target population to 70 per cent. The World Bank's Country Director for South Africa, Marie Françoise Marie Nelly, has indicated that this support is intended to assist the South African government with its vaccination efforts, and ties in with investment and job creation initiatives as laid out in the new World Bank Group Country Partnership Framework (CPF) 2022 – 2026, developed in partnership with South Africa in July 2021. The World Bank is not the only international financial institution that South Africa has requested assistance from. The International Monetary Fund, the African Development Bank, and the New Development Bank all offer financial support to South Africa (World Bank, 2022a).

Turning closer to home now, and within the southern African region, as of April 2021, member states of the Southern African Development Community (SADC) have lagged in fully vaccinating their populations. Table 7.1, below, underscores the great disparity between the number of doses secured and those which have been received within the region as of 15 April 2021.

Table 7.1: Covid-19 Vaccine Roll-Out in SADC, as of 15 April 2021

[3] This comes off the back of a January 2022 loan approval by the World Bank Group Board of Executive Directors in the form of a $750 million development policy loan (DPL). This loan is aimed at supporting the most vulnerable in South African society, who continue to suffer from "the adverse socio-economic impacts of the pandemic [as well as] ... supporting a resilient and sustainable economic recovery" (National Treasury, 2022a).

Source: Ndlalamba and Biniza (2021)

COUNTRY	DOSES SECURED	DOSES RECEIVED	TYPE OF VACCINE
Angola	2,172,000	624,000	SII-AstraZeneca (COVISHIELD)
Botswana	100,800	30,000	SII-AstraZeneca (COVISHIELD)
	100,000	24,000	Astra-Zeneca South Korea
Democratic Republic of Congo (DRC)	5,928,000	1,700,000	SII-AstraZeneca (COVISHIELD)
Comoros	108,000	12,000	SII-AstraZeneca (COVISHIELD)
	-	-	Covaxine Vaccines
Lesotho	132,000	36,000	SII-AstraZeneca (COVISHIELD)
Madagascar	-	-	-
Mozambique	2,064,000	484,000	SII-AstraZeneca (COVISHIELD)
	-	200,000	Sinopharm Vaccine
Mauritius	100,800	-	SII-AstraZeneca (COVISHIELD)
	-	300,000	Covaxine Vaccines
Malawi	1,260,000	360,000	SII-AstraZeneca (COVISHIELD)
Namibia	127,700	-	AstraZeneca
	30,000	-	Covaxine Vaccines
	100,000	-	Sinopharm Vaccines
Eswatini	108,000	32,000	SII-AstraZeneca (COVISHIELD)
Seychelles	-	90,000	SII-AstraZeneca (COVISHIELD)
	-	50,000	Sinopharm Vaccines
Tanzania			
South Africa	40,000,000	1,000,000	SII-AstraZeneca (COVISHIELD)
		352,000	Johnson & Johnson Vaccine
		-	Pfizer/BioNTech Vaccine

COUNTRY	DOSES SECURED	DOSES RECEIVED	TYPE OF VACCINE
Zambia	1,212,000	228,000	SII-AstraZeneca (COVISHIELD)
Zimbabwe	984,000	-	SII-AstraZeneca (COVISHIELD)
	-	200,000	Sinopharm Vaccines
Total	**54,527,300**	**5,722,000**	

As can be seen in Table 1 above, while the majority of SADC member states have exploited bilateral and multilateral partnerships – notably (COVAX) – as key suppliers, insufficient funds and poor capacity have stood in the way of member states receiving the much-needed vaccines. In particular, these challenges have been, "waning demand, low capacity in warehousing/storage, weak infrastructure and cold chain capacity, lack of trained vaccinators, lack of data systems to support vaccination campaigns, and shortages in ancillary equipment, such as syringes and safety boxes" (World Bank, 2022).

In sum, the lack of access to vaccinations has exposed the deficiencies of SADC as a regional bloc – notably by bringing attention to its inadequate procurement and distribution strategy (Ndlalamba and Biniza, 2021). It is important to note that beyond its economic integration strategy, SADC is also imbued with a health protocol that mandates member states to, "coordinate regional efforts on epidemic preparedness, mapping, prevention, control and where possible the eradication of communicable and non-communicable diseases" (Southern African Development Community [SADC], 1999: 5). It is clear, then, overall, that SADC member states have failed to coordinate their efforts and assist one another in the production, procurement and distribution of Covid-19 vaccines.

For South Africa's part, as of May 2021, the country sold millions of its AstraZeneca vaccines to the African Union (AU), opting to use Johnson & Johnson and Pfizer vaccines, which it regarded as the safer choice and more effective against the Beta variant (Ndlalamba and Biniza, 2021). While South Africa displayed an altruistic form of vaccine diplomacy, unfortunately, many of the African countries were unable to administer the vaccines before they expired and ultimately had to return or destroy them: For example, Malawi destroyed close to 20 000 AstraZeneca vaccines and South Sudan discarded 59 000 and returned 72 000 (Mwai, 2021). The inability of African countries to use these vaccines before they expired arose partly from having insufficient capacity which affected the pace of the vaccination roll out (Mwai, 2021). Another factor was that of vaccine hesitancy; many of the public did not trust the AstraZeneca vaccines, given South Africa's initial concerns that they might cause blood clots (Mwai, 2021).

Similar to the situation within the SADC, so too did the BRICS (Brazil, Russia, India, China and South Africa) economies face difficulty in streamlining their approach to the Covid-19 pandemic and arriving at a well-coordinated and unified South-South response (Mohanty, 2022). Unfortunately, as a member of BRICS, South Africa was initially unable to leverage effectively the group's cooperative response on Covid-19 vaccines, at least at Ministerial level

(Mpungose, 2021). Nevertheless, lower-level international engagements took place. For example, in 2021, South Africa co-hosted with India, a BRICS virtual meeting for the members to share their experiences and responses of the demographic impacts of Covid-19 and response measures. However, by March 2022, the launch of the BRICS Vaccine R & D Centre initiative created the impression of a surer footing for this cooperative grouping. South Africa had suggested the creation of a Vaccination Centre during its BRICS' Chairship in 2018. The operationalisation of this idea is intended to "significantly bolster global capacities to prepare for and respond to pandemics; it is an example of best practice in international cooperation in science; and it will further deepen BRICS partnership, solidarity and friendship" (Nzimande, quoted in Department of Higher Education, Science and Innovation, 2022). The launch of this centre is an affirmation of the South African Government's consistent use of multilateral platforms and pursuit of inclusive political dialogue on global issues, in this case, the need to ensure vaccines are accessible and affordable to global populations.

Upon examining continental figures, as of April 2022, a mere 12 per cent of Africa's population had been fully vaccinated against Covid-19 (World Bank, 2022). Africa still has quite a way to go before reaching its target of 70 per cent immunisation coverage on the continent (World Bank, 2022). Key challenges which have impeded Africa's ability to reach its target include, "weak capacity and infrastructure, bottle necks in logistics, vaccine hesitancy, and indifference" (World Bank, 2022). Nevertheless, one of the biggest obstacles to the rolling out of Covid-19 vaccinations on the continent, particularly in 2021, has been the supply thereof (World Bank, 2022). Africa has been heavily dependent on sourcing vaccines from outside the continent – and even in instances where the volume of available vaccinations increased, African states were largely still in need of financial assistance to import them (World Bank, 2022).

For this reason, in May 2022, at the 2nd Global Summit on Covid-19, President Ramaphosa, representing South Africa as the AU champion for Covid-19 response, reiterated the need for more vaccinations globally. He emphasised the urgency for developing countries to be able to access vaccines to ensure more inclusive global health recovery. President Ramaphosa was the AU Chairperson in 2020 when the virus outbreak began. Prof. Rhoda Wanyenze, of the University of Makerere, suggests that, in hindsight, the AU did falter at first and African countries could have been better prepared, through stronger regional leadership, in their response to the virus. For example:

> ...utilising pharmaceutical interventions could have been discussed and perhaps some guidance provided early enough in terms of how they can be deployed, and also... a balance [created] between controlling the pandemic and the continuity of other essential services and livelihoods (Wanyenze, transcribed interview).

Two years later, South Africa has indicated its support for the creation of the Financial Intermediary Fund as an instrument to finance global health security. As part of a continental initiative, President Ramaphosa also alerted the global community to the implementation of the Africa Centres for Disease Control and Prevention (CDC's) Enhanced Surveillance Strategy for community-based testing, wastewater testing and sentinel surveillance. Additionally, Messenger RNA (mRNA) hubs investing in technology transfer opened in South Africa, Egypt, Senegal, Tunisia, Kenya and Nigeria (WHO, 2022). Importantly, the President pleaded with the international community to "ensure that solidarity and equity underpin this next phase in [our] management of the pandemic" (The Presidency, 2022). Granted, Ramaphosa's pleas

for global solidarity came in the aftermath of the discovery of the Omicron variant by South African scientists and the ensuing travel ban placed on SADC member states.

The travel ban imposed on SADC member states led to a "knee-jerk" reaction from Ramaphosa, where he publicly and harshly criticised the self-interested style of vaccine diplomacy adopted by Western countries (Khoza, 2021). He did so as a special guest at the 7th International Dakar Forum on Peace and Security which took place on 6 – 7 December 2021. Ramaphosa's address to Western countries may have arguably been one of his finest hours as an advocate for South Africa and Africa, within the context of the Covid-19 pandemic. He took Western countries to task by addressing their selfish behaviour, particularly around SADC's travel ban, noting that: "When SA scientists discovered Omicron, they immediately took on the responsibility of informing the world about it. And what is the result? The northern countries impose a ban to punish the excellence that comes from Africa" (Khoza, 2021). He further added that the Western countries, "...resort to their own selfish interests and ban travel from southern African countries, and we say the bans must be removed with immediate effect so that our people can travel around the world" (Khoza, 2021).

Ramaphosa also took the opportunity to address the West's greed over Covid-19 vaccinations. He stated that, "They ordered more vaccines than their populations required and when we wanted vaccines, they kept giving us the crumbs from their tables" (Khoza, 2021). Closely linked to this point is the fact that African states have generally paid more for Covid-19 vaccinations than their Western counterparts. Data from the United Nations International Children's Emergency Fund (UNICEF, 2022), shown in Table 7.2, below, provide a snapshot of this trend: With the exception of the Pfizer vaccine, South Africa paid more for the Johnson & Johnson and AstraZeneca vaccines than the European Union (EU) and the United States (US).

Table 7.2: Comparative examples of Covid-19 vaccines prices for South Africa, the EU and the US

COUNTRY/TERRITORIES	VACCINE NAME	PRICE RANGE (US$)
EU/US	AstraZeneca	2.19 – 3.15
South Africa	AstraZeneca	5.25
EU/US	J&J	8.50 – 10
South Africa	**J&J**	**10**
EU/US	**Pfizer**	**14.70 – 23.15**
South Africa	**Pfizer**	**10**

Source: United Nations International Children's Emergency Fund (UNICEF) (2022)

This self-serving behaviour on the part of the West highlights the unethical side of vaccine diplomacy and warrants Ramaphosa's criticism that, "...the greed they demonstrated is quite disappointing, particularly when they say they are our partners, because our lives in Africa are just as important as their lives in Europe, North America and all over" (Khoza, 2021).

For this reason, Ramaphosa addressed African leaders, emphasising that, "The task facing us, as African nations, is to drive the recovery, but a recovery that is sustainable, inclusive and leaves no-one and no country behind (Khoza, 2021). In particular, he highlighted the need for African-produced vaccines to be procured for Africa's people: "Manufacturing vaccines locally is not just the safest and fastest way to access life-saving medication, it is also a critical component for economic recovery" (Khoza, 2021). In this way, Ramaphosa linked his vaccine diplomacy approach to the goal of inclusive economic growth and development for Africa. In line with this, the AU intends to produce 60 per cent of its own vaccinations by the year 2040 (Africanews, 2022). Data from May 2022 show that Africa only produced a dismal one per cent of all vaccines administered on the continent (Africanews, 2022). In advocating for locally manufactured vaccines, South Africa was part of those endorsing a common agenda for manufacturing vaccines in Africa at the 35th AU Summit which took place in February 2022.

For this to occur, South Africa strongly advocated at the WHO for a trade-related aspects of intellectual property rights (TRIPS) waiver, to improve global access to vaccines, therapeutics, and diagnostics (The Presidency, 2002). A TRIPS waiver would be indispensable to local African vaccine manufacturers, as it would grant them access to a vaccine blueprint. Ramaphosa has shown remarkable leadership on this front. Together with India, South Africa presented a proposal to the TRIPS Council in October 2020, requesting a temporary TRIPS waiver as it related to the prevention, containment and treatment of Covid-19 (Khoza, 2021). Unfortunately, the World Trade Organisation (WTO) ultimately decided at its 12th ministerial conference, which took place between 12 – 17 June 2022, not to waive any intellectual property on Covid-19 medical tools (Sehoma and Twala, 2022).

Nevertheless, in Ramaphosa's pursuit of locally manufactured Covid-19 vaccines, South Africa opened up the continent's largest Covid-19 vaccine plant – Aspen Pharmacare – in Gqeberha in 2021. Aspen signed a deal with Johnson & Johnson who provided them with a drug substance to use in the manufacturing of their very own vaccine; Aspenovax (Adepoju, 2022). The opening of this plant was considered a "game-changer" for Africa, as it gives the continent control over the "availability, allocation, and distribution of doses" (Adepoju, 2022).

South Africa is determined to play its role in Africa, too, and, in December 2021, it signed an agreement with the African Vaccination Acquisition Trust (AVAT) through the African Renaissance Fund (ARF), pledging to donate 2 030 400 of its Johnson & Johnson vaccines (worth R288,6 million) to African countries (The Presidency, 2021). The Republic has already donated $10 million to the Global Fund and intends to contribute financially to the Access to Covid-19 Tools (ACT) - Accelerator. AVAT was formed in an effort to complement the the AU's Covid-19 African Vaccination Acquisition Task Team (AVATT). AVATT was established by Ramaphosa during his term as the Chairperson of the AU in November 2020, and was tasked with acquiring, "...the necessary vaccines and financing resources for achieving Africa's Covid-19 vaccination strategy" (The Presidency, 2021). The vaccines were to be produced by South Africa's Aspen Pharmacare vaccine plant

and made available to African countries through the African Medical Suppliers Platform (AMSP) (The Presidency, 2021). Ramaphosa commented that, "This donation embodies South Africa's solidarity with our brothers and sisters on the continent with whom we are united in fighting an unprecedented threat to public health and economic prosperity" (The Presidency, 2021).

Ramaphosa has also been a champion for South Africa and Africa through AVAT, and has exercised his altruistic brand of vaccine diplomacy to secure vaccines for the continent. In a joint statement made by representatives of the South African Government and AVAT, they noted that, "As AVAT, we have already received and distributed over 100 million doses of donated vaccines, most of which came as a result of President Ramaphosa's tireless efforts with the richest nations like the United States, EU, and France" (The Presidency, 2021). They further noted that, "AVAT has entered into direct purchase of over 500 million doses, mostly produced in South Africa" (The Presidency, 2021). However, on the whole, the South African Presidency noted that, "international agencies are not buying vaccines from Africa, even those destined for African countries" (The Presidency, 2022). This occurred despite calls made by Ramaphosa for African countries to buy local vaccines (Khoza, 2021). The waning demand for locally manufactured vaccines took place as a result of the surge of free Covid-19 vaccinations which flooded into Africa from high-income countries (Adepoju, 2022). Ramaphosa rightfully noted that the global network was to blame: "It has to do with the global network that buys vaccines... myself, together with a number of African presidents... are now forming a real alliance and a plan to make sure that vaccines that would be used on our continent are bought from companies that make vaccines here..." (Africanews, 2022). Yet, by April 2022, South Africa's Gqeberha's vaccine plant was on the verge of shutting down its production, having received no orders for vaccinations from African countries (Adepoju, 2022).

Fortunately, Aspen Pharmacare successfully managed to secure funding totalling US$30 million from the Gates Foundation and the Coalition for Epidemic Preparedness Innovations (CEPI) in December 2022 which saved them from closure (Dludla, 2022). According to Aspen Pharmacare, "The new funding from CEPI and the Gates Foundation will support a ten-year agreement between Aspen and Serum Institute that aims to expand the supply and sourcing of affordable vaccines manufactured in Africa" (Dludla, 2022). In line with its agreement with the Serum Institute, Aspen will expand its product line to include other vaccines routinely administered in Africa, such as, pneumococcal, rotavirus, polyvalent meningococcal and hexavalent vaccines (Dludla, 2022). This move will offset any current and anticipated loss of revenue experienced by Aspen due to the ebbs and flows of Covid-19 and the diminishing demands for its vaccine. Moreover, it provides South Africa with the opportunity to broaden the scope of its vaccine diplomacy in combating diseases on the continent by ensuring access to much needed vaccines for the world's poorest.

South Africa's Global Economic Engagements: International Trade and Financial Flows

In January 2022, SARS released trade statistics for South Africa for December 2021 and announced a preliminary trade balance surplus recording of R30.14 billion, including trade conducted between South Africa and its immediate neighbours, Botswana, Eswatini, Lesotho and Namibia. Trade statistics for the 2021 reporting year indicated an improvement

in the trade balance surplus from R271.57 billion in 2020, to R440.75 billion in 2021. Over this timeframe, imports increased by 34.2% and exports increased by 22.9% (SARS, 2022). In an updated 2022 Global Trade report published by the United Nations Conference on Trade and Development (UNCTAD, 2022), South Africa's trade growth was evident in the first quarter of 2022. Trade in goods for both imports (up by 19% relative to 2019) and exports (up by 46% relative to 2019) was well above the pre-pandemic levels of 2019. For this period, export growth remained strong for South Africa.

President Ramaphosa rationalised the initial 21-day lockdown in 2020 by stating that: "While this measure will have a considerable impact on people's livelihood, on the life of our society and on our economy, the human cost of delaying this action would be far, far greater" (The Presidency, 2020). Under the nationwide lockdown, freedom of movement of people was to be limited, shops closed, and international travel barred. The nationwide lockdown was not only a South African response; countries like Italy, China, Spain, France, India, the United Kingdom and others were already under a nationwide lockdown or imposing nationwide lockdowns around the same time (Kaplan, 2020).

Boosted by the multi-vaccine ecosystem from a multiplicity of manufacturers and states, international trade began to recover at the tail end of 2021. The easing of lockdown (see Table 7.3), and fewer quarantines allowed for global travel of people and goods. Whereas Country Profile 1 noted that exports declined "by 61% from March to August relative to the March 2019 figures", (Presidency of South Africa, 2021:584) South African Revenue Services' (SARS) figures for 2021 and 2022 recorded an improvement. Accordingly, SARS notes for February 2022 that exports by South Africa increased "by 7.3% year on year whilst imports increased by 31.4% over the same period" (SARS, 2022b).

7. Policy Implementation: response to Covid-19 progression

The policy flexibility used by the South African government between the Covid-19 pandemic's troughs and peaks from 2020 to 2022 is depicted in Table 7.3 below. The adaptability demonstrates two policy goals: preserving life and adapting to demands and changes in the economy. Level 5 is when saving lives is necessary, which causes domestic and global economic activity to shrink. Level 1 demonstrates the need to increase economic activity while reducing the strain on healthcare institutions.[4]

Table 7.3: South Africa's Lockdown Levels, 2020, 2021 and 2022 (January to June)

Months in pairs	2020 Lockdown levels	2021 Lockdown levels	2022 Lockdown level
January-February		3	1
March-April	5	1	1
May-June	4(3)	1(2)(4)(3)	0
July-August	**3(2)**	**4(3)**	**0**

[4] See, https://www.gov.za/covid-19/about/about-alert-system for a full explanation on different alert levels and their meanings.

Months in pairs	2020 Lockdown levels	2021 Lockdown levels	2022 Lockdown level
September-October	2(1)	3(2)(1)	
November-December	1(3)	1	

Source: data from various sources[5], Table prepared by the authors (2022)

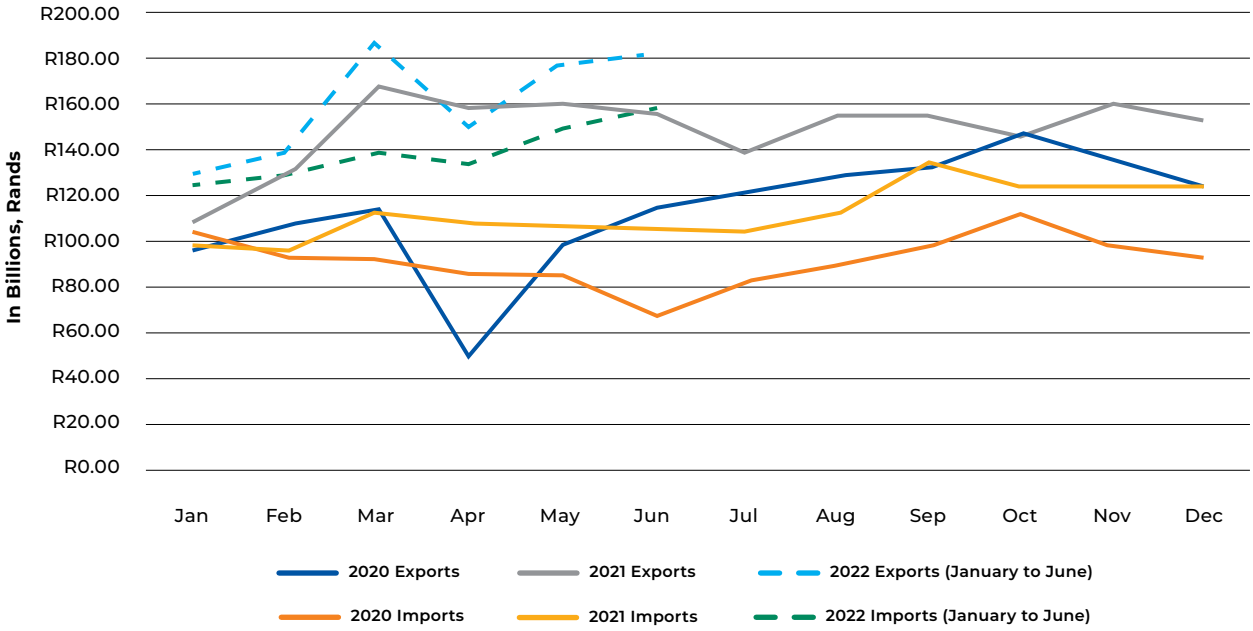
With strict lockdowns in place, global economic activity slowed down. According to the International Monetary Fund (IMF), the global economy was projected to contract by -3% in 2020 due to the Covid-19 implications on economies and economic activity (IMF, 2020). Similarly, the Congressional Research Service (2021:1) finds that the "Virus reduced global economic growth in 2020 to an annualised rate of around -3.2%". Overall, international trade also saw a reduction of 5.3% in 2020. Statistics South Africa (Stats SA) recorded a 6.4% economic growth contraction for South Africa in 2020 (Stats SA, 2022).

1. Policy Implementation: response to Covid-19 progression

Figure 7.1 depicts the export and import dynamics for South Africa. The period covered was from 2020 to June 2022. In line with Table 7.3 above, when the country was under level 5 lockdown, exports and imports fell in April 2020, as visualised in Figure 7.1 below. The fall from the previous month represented 55.42% (from R115.56 billion in April, to R51.52 billion in April 2020) in exports, and 6.69% in imports compared to March 2020. Vegetable exports fell by 41%, mineral exports by 30%, textile exports by 95%, automobiles and transport equipment by 20%, and original equipment components by 20%, all of which contributed to the dramatic decline in exports. Vegetable imports increased by 41%, textile imports by 95%, and imports of automobiles and transport equipment by 20%, offsetting decreases in imports of minerals by 30% and original equipment items by 36% (SARS Merchandise Statistics, 2020). Exports never experienced another drop to the level equal to or below the 2020 April level. However, imports saw the most significant reduction in June 2020, to the value of R64 billion (See Figure 7.1 below), when the country was under Lockdown Level(s) 3 and 4 (See Table 7.3) between May and June 2020. Overall, with a lesser restrictive economic environment, i.e., with lockdown level 1-3, the catalyst (See Table 7.3): exports from July 2020 (R111 billion); August (R131 billion); September (R135 billion); October (148 billion); November (R137 billion), and December (R127 billion) outperformed pre-lockdown January (R100 billion) and February (R108 billion). According to Table 7.3 and Figure 7.1, October 2020, while lockdown levels 1 and 2 were in effect, was South Africa's busiest exporting month, with a value of R148 billion. Overall, South Africa exported over R1.394 trillion of merchandise in 2020, while imports were R1.123 trillion.

[5] See, https://www.gov.za/covid-19/about/coronavirus-covid-19-alert-level-1, https://www.gov.za/covid-19/about/coronavirus-covid-19-alert-level-4, and https://www.thepresidency.gov.za/speeches/statement-president-cyril-ramaphosa-termination-national-state-disaster-response-covid-19-pandemic

Figure 7.1: South Africa's Merchandize Exports and Imports, 2020 January to June 2022 (January to June)



Source: Data from SARS, graph prepared by authors (2022)

2. Covid-19 alert levels and implications for international trade: A South African perspective, 2021.

The year 2021 opened with South Africa under alert level 3, imposed from 29 December 2020 to 28 February 2021. Alert level 3 was open for international trade, with the significant exclusion being "Passenger ships for international purpose" (South African Government, 2021b). Exports in 2021 maintained the R100 billion threshold throughout the entire 12 months of the year (See Figure 7.1). The highest month, nominally, was March 2021, with R169 billion, compared to R115 billion in March 2020, representing a 46.47% increase. January 2021 was the lowest nominal export value for South Africa, with exports reaching R110 billion. However, the sum was still greater than the pre-Covid January 2020 sum of R100 billion, representing a 9.91% increase. Overall, a decline is noticeable in both exports and imports in the month of July 2021. The slide is explained by the lockdown level 4, as visualised in Table 7.3 for the "28 June 2021 to 25 July 2021" alert level 4 imposed by the South African Government in response to the increasing delta variant presence in Gauteng (South African Government, 2021a; National Institute for Communicable Diseases, 2021). The alert level 4 limited movements interprovincially, especially to and from the 'epicentre' of the pandemic, Gauteng. International trade was still permitted under the 28 June 2021 to 25 July 2021 alert level 4. The extreme of the alert lockdown 4 is further detectable in the curfew imposed under such conditions (from 21h00 to 04h00), with previous curfews running from 22h00 to 04h00 (South African Government, 2021a). Exports fell from R158 billion in June 2021 to R142 billion in July 2021, representing a 9.84% month-over-month decline in exports. Similarly, imports fell from R108 billion in June 2020 to R107 billion in July under alert level 4. The fall represented a 0.82% decline.

3. Covid-19 alert levels and implications for international trade: A South African perspective, 2022.

The year 2022, regarded as the recovery year, was not disappointing. According to the South African Reserve Bank (SARB): "The level of real GDP surpassed the average of 2019 level before the onset of the Covid-19 pandemic for the first time in the first quarter of 2022" (SARB Quarterly Bulletin, 2022).

The year 2022 opened with the country under alert level 1, as visualised in Table 7.3. The National State of Disaster was lifted on 5 April 2022, abolishing all restrictions, and returning the country to pre-Covid conditions (Presidency, 2022). As seen in Figure 7.1 (above), the biggest monthly export in nominal terms was March 2022, with the country exporting R187.59 billion of goods[6]. Imports reached their zenith in March 2022 with a nominal value of R140 billion. However, exports for April 2022 decreased by 19.10% from R187.59 billion in March 2022 to R151.79 billion in April 2022. The same reduction is detectable on imports which decreased by 2.92% from R140.40 billion in March 2022 to R136.30 billion in April 2022. The decrease in both exports and imports could be attributable to the tension in the Ukraine, which is involved in a war with Russia. However, while the April figures remain low compared to March, SARS noted that:

Exports for the year-to-date (01 January to 30 April 2022) increased by 7.5% to R613.24 billion from R570.35 billion over the same period during 2021. Imports for the year-to-date of R533.81 billion were 26.4% more than the R422.31 billion imports recorded during the same period in 2021. The cumulative trade balance surplus for 2022 is R79.43 billion (SARS, 2022c).

Exports recovered in May 2022 with an increase of between 17 to 18% from R151.79 billion in April 2022, to R179.46 billion in May 2022. Imports also increased from R136.3 billion in April 2022, to R 151.11 billion in May 2022. Trade balance for South Africa was a surplus for May 2022 at R28.34 billion, an increase from April's R16.00 billion. Accordingly, SARS reports that the cumulative figure for January to May 2022's trade balance was R105.87 billion, a decrease from a trade balance (surplus) of R200.34 billion in the same period in 2021 (SARS, 2022d). While exports increased by 8.2% (from R731.53 billion to R791.78 billion) in the same period of January to May (2021 and 2022 comparison), imports increased three times the size of the export increase by 29.1% (from R531.19 billion to R685.91 billion).

In June 2022, the economy was still recovering from the battering of 2020 Covid restrictions. Exports increased by 2.87% from R179.46 billion in May 2022, to R184.61 billion in June 2022. Vegetables had a 24% increase, followed by a 35% increase in mineral goods, a 21% increase in chemical products, a 4% increase in precious metals, and a 28% increase in base metals (SARS, 2022d). From R151.11 billion in May 2022 to R160.38 billion in June 2022, imports rose by 6.13%. Mineral imports rose by 11%, chemical imports by 7%, equipment and electronics by 9%, vehicles and transportation by 34%, and original equipment items by 19%. (SARS, 2022d).

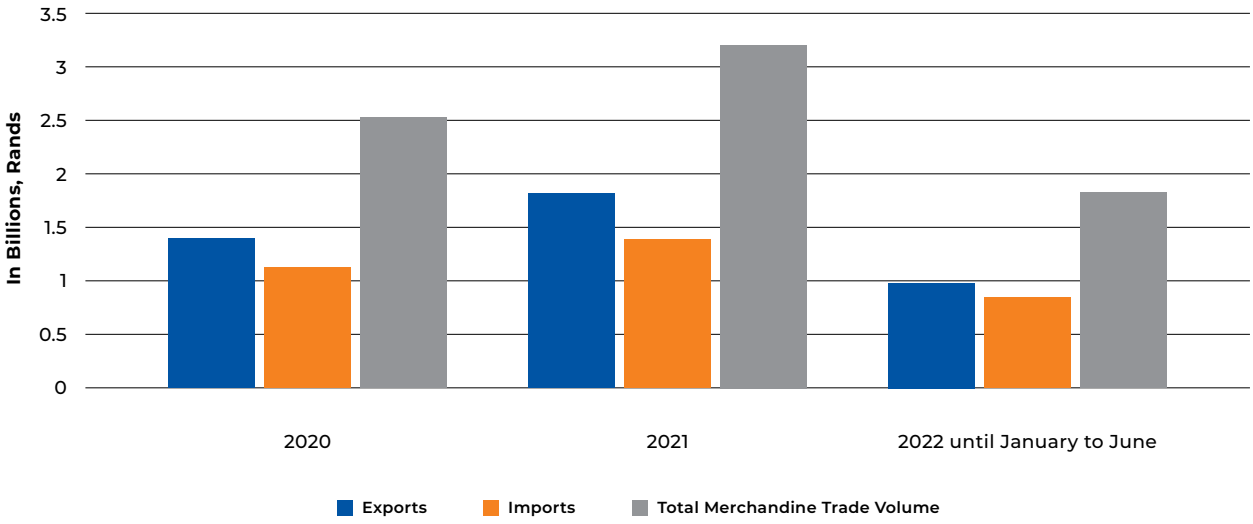
Exports totalled R1.813 trillion in 2021, versus imports at R1.380 trillion. Figure7. 2 below reflects South Africa's international trade performance between 2020 and 2021. Exports in 2021 increased to R1.813 trillion compared to R1.394 trillion in 2020, accounting for a 30.06% increase yearly (SARS, 2022a: e-mail communication). A 22.89% increase in imports is also noted, from R1.123 trillion in 2020 to R1.380 trillion in 2021. Total trade (exports and

[6] The biggest in terms of the period under review, i.e., January 2020 to March 2022

imports added together) increased by 26.86% in 2021, nominally reaching R3.193 trillion in 2021 compared to R2.517 trillion in 2020.

Figure 7.2: South Africa's Exports and Imports Comparsison, 2020, 2021 and January to June 2022

Source: Data from SARS, graph by authors (2022)



Overall, exports in 2022 in the six-month period have reached R977.57 billion, while imports are at R845.29 billion, a total trade value of R1.822 trillion so far.

4. Covid-19 Implications on SACU Trade dynamics[7]: A South African Perspective, 2019 to 2021

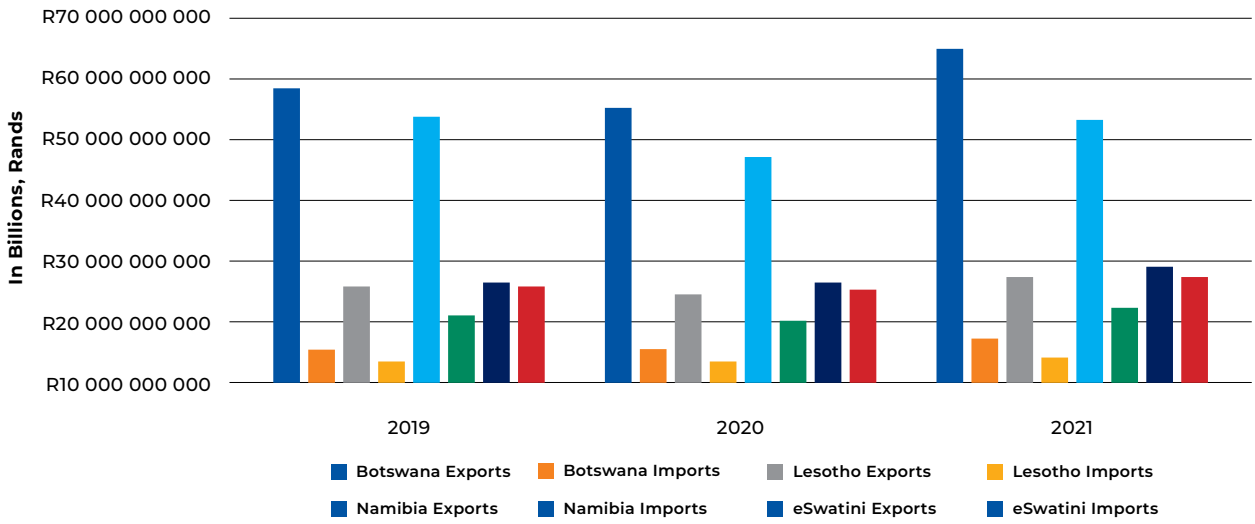
By 1910, the Southern African Customs Union (SACU) had established a unified external tariff union that supported the free flow of manufactured products within the bloc and a revenue-sharing programme (SACU, 2022). Figure 7.3 notes the three-year cycle between 2020, 2021, and the first six months of 2022, with South Africa as the independent variable. As noted in Country Report, First Edition, Chapter 7, (Bradlow et al., 2021) apart from being the oldest customs' union in the world[8], it is a critical regional integration model for all its members, however, as visualised in Figure 7.4, South Africa remains a hegemon in SACU, with its exports sometimes three times the value of imports. Figure 7.3 below visualises the trade implications and experiences for the SACU members in Botswana, Eswatini, Lesotho and Namibia, with the emphasis on 2020 and 2021. Overall, exports from South Africa to other SACU members fell to R132 billion in 2020 from R146 billion, representing a 9.15% decline. Namibia represented the most significant loss for South Africa, with a value of R7.56 billion, accounting for the difference between R51

[7] The bloc commonly trades in live animals, vegetables, machinery, prepared foodstuffs, mineral products, chemicals, plastic and rubber, wood products, textiles, footwear, stone and glass, precious metals, vehicles aircraft and vessels, iron and steel, photographic and medical equipment, toys and sport apparel, amongst others. See, https://www.sars.gov.za/customs-and-excise/trade-statistics/reports/

[8] This is because SACU started in 1889 between the "British Colony of Good Hope and the Orange Free State Boer Republic". See, South African Customs Union 2022. https://www.sacu.int/show.php?id=394

billion in 2020 and R43 billion in 2020 (SARS, 2022: e-mail communication). As visualised in Table 7.3, South Africa had a less restrictive environment for economic activity in 2021, except for alert level 4 from 28 June 2021 to 25 July 2021 (South African Government, 2021a). This open environment allowed the exports to SACU to improve, reaching R158 billion in 2021, surpassing the pre-Covid-19 levels of 2019.

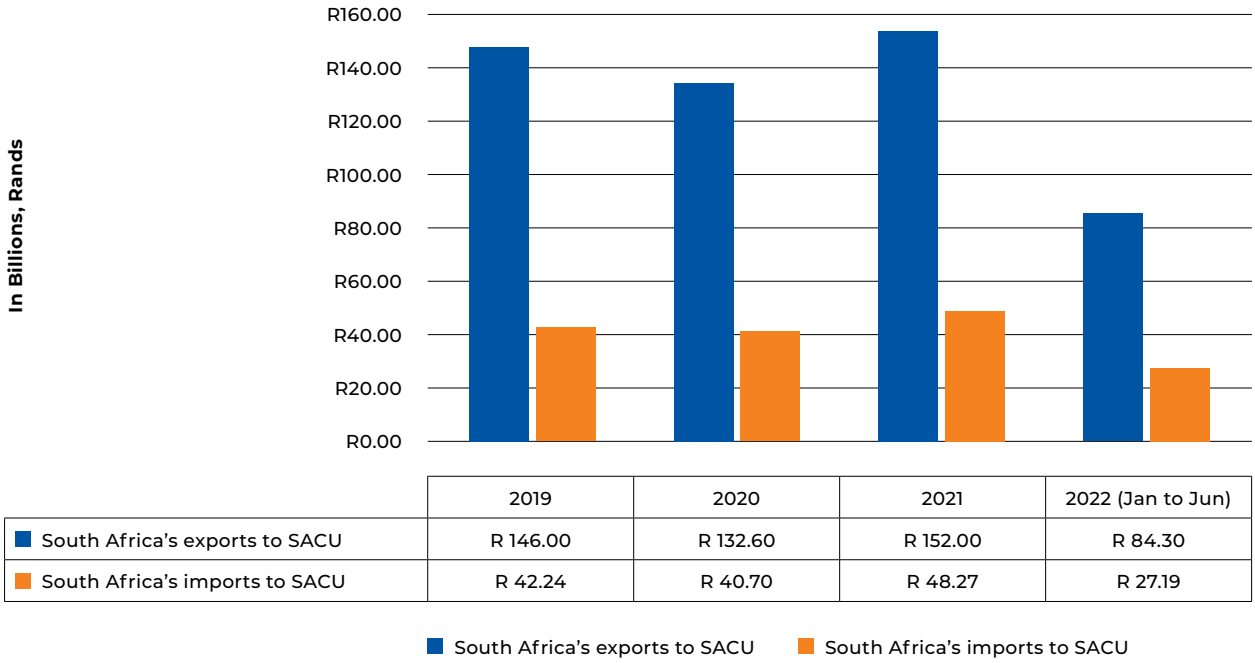
Figure 7.3: South Africa's Trade with the BLNE (South Africa-intra SACU trade), 2019 to 2021



Source: Data from SARS, graph by authors (2022)

Imports from SACU members decreased in 2020, falling to R40.7 billion from R42.2 billion in 2019, representing a 3.65% decrease. Namibia saw the most significant loss of R969 million, with its exports to South Africa dropping to R12.68 billion in 2020, from R13.03 billion in 2019 (SARS, 2022a: e-mail communication). Also, in 2021, imports from SACU increased to R48.27 billion from R40.70 billion in 2020, surpassing the pre-Covid-19 amount of R42.24 billion (SARS, 2022a: e-mail communication). Namibia saw the most significant improvement in its exports to South Africa. South Africa's imports from Namibia increased from R12 billion in 2020 to R14.6 billion in 2021, a nominal increase of R2.54 billion.

Figure 7.4: Intra-SACU Trade: South African perspective, 2019 to 2022 June



	2019	2020	2021	2022 (Jan to Jun)
South Africa's exports to SACU	R 146.00	R 132.60	R 152.00	R 84.30
South Africa's imports to SACU	R 42.24	R 40.70	R 48.27	R 27.19

Source: Data from SARS, graph by authors (2022).[9]

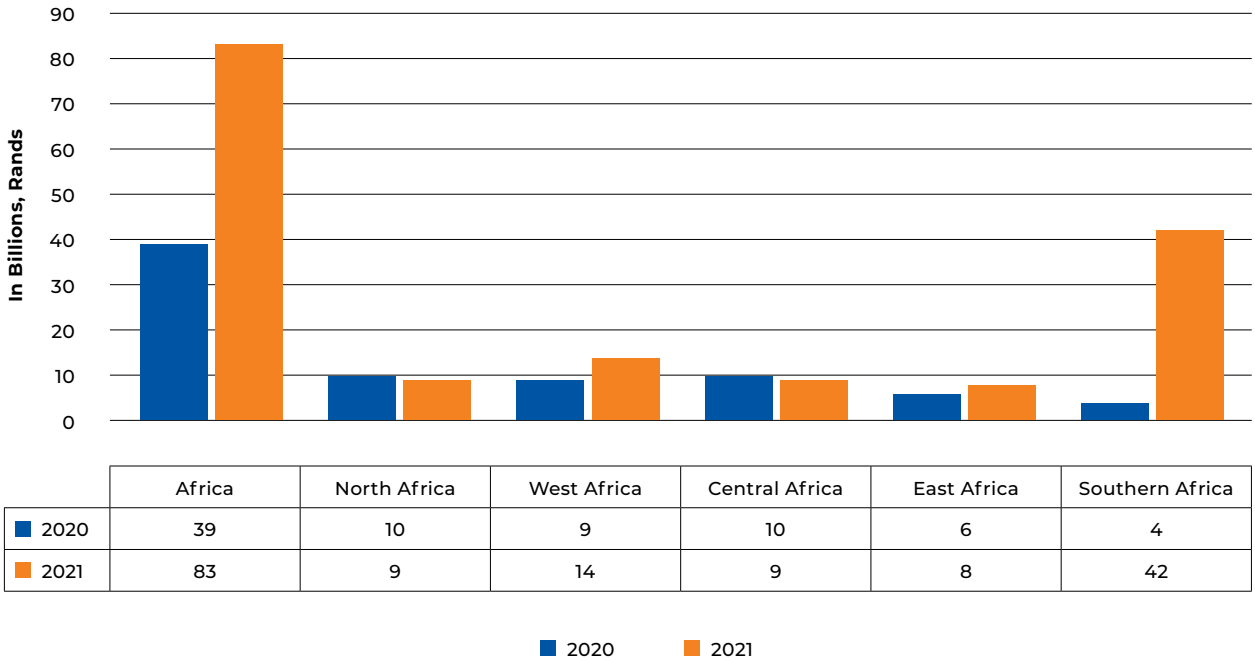
South Africa's foreign trade outlook for 2022 is anticipated to improve, with 2022 exports and imports looking significantly better, month for month, than in 2020 and 2021 (See Figure 7.4). From January to June 2022, exports increased by 14.7% compared to the same period in 2021. This was a nominal increase from R73.5 billion in January to June 2021, to R84.3 billion for the same period in 2022 (See Figure 7.4). Imports also improved by 12.5% from R24.17 billion in 2021, January to June, to R27.19 billion in 2022, for the same period.

5. Foreign Direct Investment flows: A 2020, 2021 and 2022 perspective

On the international financial side, the foreign direct investment in South Africa also demonstrated improvement in 2021. The foreign direct investment (FDI) flows to Africa for 2020 were forecast to "fall by 25% and 40%" (Bradlow et al., 2021:585). The year 2021 saw a rebound in FDI flows to Africa to the value of $83 billion (United Nations Conference on Trade and Development (UNCTAD), 2022). According to the UNCTAD, the 2021 FDI value was "more than double the amount reported in 2020, when the Covid-19 pandemic weighed heavily on investment flows to the continent". Figure 7.5 displays the 2020-2021 FDI investment into Africa and its sub-regions.

[9] See, https://www.sars.gov.za/customs-and-excise/trade-statistics/reports/

Figure 7.5: Foreign Direct Investment to Africa, 2020-2021

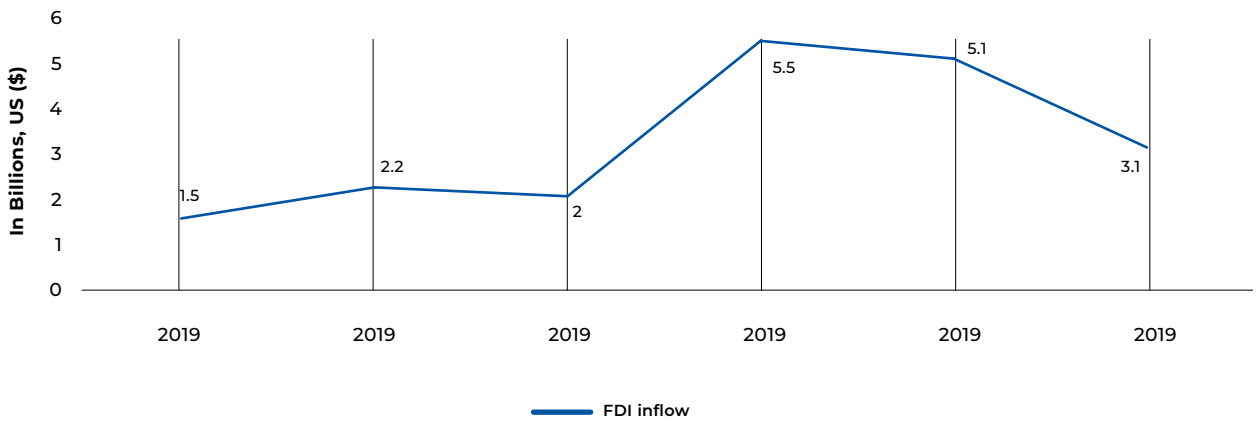


	Africa	North Africa	West Africa	Central Africa	East Africa	Southern Africa
2020	39	10	9	10	6	4
2021	83	9	14	9	8	42

Source: Data from UNCTAD, graph prepared by authors (2022)

South Africa struggled to replicate its highest FDI inflow of 2008 when it received over $9.8 billion (World Bank). Figure 7.6 below depicts the FDI struggle for South Africa, indicating that 2020 (height of Covid-19) was not the worst year on record for FDI in South Africa. Within the 2015-2020 period, $1.5 billion in 2015 was the lowest. While at $3.1 billion for 2021, the performance was still better than 2016 (at $2.2 billion) and 2017's $2.0 billion. The lack of increased FDI suggests that economic prospects for South Africa are hampered, especially among South Africa's biggest recipients of FDI "mining, manufacturing and service" sectors (Bradlow et al., 2021:585).

Figure 7.6: FDI inflow (Balance of Payments, Current prices, 2015-2020



Source: Data from World Bank (2022b), graph prepared by authors (2022)

SARB records that, in 2021, South Africa's FDI inflow was R604.3 billion, a big jump from approximately R50.4 billion in 2020 during the height of Covid-19 (SARB, 2021; Kumwenda-Mtambo, 2022). Overall, the 2021 Africa FDI recovery (Seen in Figure 7.5 above), buoyed by South Africa's firms involved in intra-financial transactions, upped the 2021 FDI by 45% (UNCTAD, 2022; South African Reserve Bank, 2022). The "intra financial transaction" involved a share swap deal of "Naspers's Tencent stake to Amsterdam from Johannesburg" within Prosus N.V., a Dutch multinational technology investing company (Mukherjee, 2021). The transaction bore no relation to the improvement of socioeconomic prospects for South Africa, as the intra-transaction was not an investment in the real economy resulting in employment, but the increase of portfolio investment for shareholders. Equally, South Africa's FDI outflow in 2021 at R415.8 billion was much more significant than R159.3 billion in 2020 (SARB, 2022; Kumwenda-Mtambo, 2022). The prospects for FDI inflow into South Africa remain opaque. The R74.6 billion disposal of domestic debt securities by non-residents in 2020 illustrates that foreign investors are weary of South Africa's prospects (Toyana, 2021). The caution is caused by the rising government debt, which, in 2020, was 81.8% of the gross domestic product (GDP), a significant increase from 63.5% in 2019 (Toyana, 2021). To thwart this, government is expected to introduce policy measures antithetical to borrowing. For 2022, South Africa's FDI inflow amounted to R27.2 billion in the first quarter, a 19.82% increase from R22.7 billion in the fourth quarter of 2021 (SARB, 2022). The rise was mostly caused by an increase in equity investments and loans made by foreign firms to local businesses. (SARB, 2022). The GDP increased by 1.9% in the first quarter of 2022, indicating that the economy was probably recovering from the severe lockdowns of 2020 (SARB Quarterly Bulletin, 2022).

6. International Financial Institutions: Funding for South Africa's recovery efforts, 2021 and 2022

According to the National Treasury (2022b, e-mail communication), the International Bank for Reconstruction and Development (IBRD) approved the sum of $480 million to South Africa in June 2022, in the form of a loan, toward "retroactively financing vaccine procurement

contracts". This is in addition to January 2021's $750 million "for budget support to assist with Covid-19 response measures to the Government of South Africa" (National Treasury, 2022: e-mail communication). To help South Africa with the domestic production of the Johnson and Johnson vaccine, National Treasury (2022b, e-mail communication) reports that, in June 2021, the International Finance Corporation "provided financing package of 600 million Euros to Aspen Pharmacare Holdings Limited of South Africa". The financing was to assist Aspen in setting up the production facility, and to acquire or merge with companies essential to its vaccine production work. South Africa received a $1 billion loan, payable in 30 years, from the New Development Bank in April 2021, to help "South Africa's economic recovery from Covid-19" (National Treasury, 2022b: e-mail communication). The loan is primarily intended to assist the South African government with the "creation of employment opportunities in South Africa, in particular the first phase of the Presidential Employment Stimulus (PES) aimed at creating and supporting 700, 000 job opportunities in the public sector..." (National Treasury, 2022b: e-mail communication).

6.1 South Africa's Investment Conference Pledges

President Cyril Ramaphosa launched his ambitious R1.2 trillion investment push at the South African Investment Conference in 2018 after assuming office (South African Investment Conference[10] Website, 2022). The conference received R332 billion pledges on March 24, 2022, marking the conference's fourth year in a row (Stoddard, 2022). According to the SAIC, this totals R1.14 trillion in investments, or 95% of the initial investment mobilisation drive target of R1.2 trillion that was intended to be achieved within a five-year period. In terms of quality, the conference's continued existence and success shows how confident both local and foreign investors are in South Africa. International leaders in healthcare, and pharmaceuticals like Biovac, which committed R2.5 billion, and Pfizer, which committed R255 million, among others, for Covid-19 vaccine-related programmes, are the source of this trust (SAIC, 2022).

Further lessons to be learned and recommendations

South Africa continued to make effective use of its international relations in dealing with the pandemic in the second year. A shift toward a greater emphasis on vaccine diplomacy emerged. President Ramaphosa did well to champion South Africa and Africa in global platforms in relation to vaccine diplomacy. International politics is all about perception, thus South Africa should continue to play a leadership role in Africa and the global south, despite the pandemic-related challenges. The President was commended in August 2022 at the 42nd Ordinary Summit of the Heads of State and Government of the Southern African Development Community (SADC): outgoing chairperson of the Organ on Politics, Defence and Security Cooperation, for his efforts to champion the region. South Africa cannot assume the Covid-19 pandemic is over, or indeed that other health risks are under control, and must persist in its advocacy for greater inclusivity in bilateral and multilateral platforms around vaccine access and production. South Africa must play its role in helping global initiatives to overcome health apartheid; the Republic could enhance its soft power internationally by doing so, thereby elevating its status as a good international citizen.

[10] Henceforth, SAIC

The North-South disparities and unequal power structures in global health, especially, remain a challenge, and this raises the question about how to confront this unequal system going forward in the face of future pandemics and other global health challenges. It highlights for the South African government the changing nature of the so-called international rules of the game, where states are balancing interests and needs, often in competition with global solidarity and unified responses to shared challenges.

The President clearly communicated to global audiences South Africa's status and position on the pandemic and vaccine access in the second year. Transparency and effective communication assist in mitigating risk and both are important domestic and diplomatic tools. In addition to this, consistency in government approach and position is all important. Consistency in international cooperation is important for several reasons: countries can build stronger relationships and increase trust; they can more effectively address shared challenges; they can achieve more than they could working alone; they can share resources and expertise, avoid duplication of efforts, and improve coordination; and strengthen international institutions. When countries consistently support and participate in international institutions such as the WHO, they can help to ensure that these institutions are effective in addressing global challenges.

In the second year of the pandemic, the South African government continued to recognise the necessity for a coordinated response in tackling the disease. The government worked with national and international health officials, scientists, and other stakeholders to develop a comprehensive response plan, which included testing, contact tracing, and treatment. The pandemic further demonstrated the importance of international cooperation in responding to a global crisis. South Africa continued to work closely with other countries and international organisations to share information, resources, and best practices. South Africa was transparent about its scientific findings related to Omicron and alerted the necessary world bodies timeously (actively engaging, through data sharing, with international media, public health institutions in countries, and the WHO, and assisting other countries with their own responses to this variant). This contributed to the rules-based system that South Africa espouses to uphold in its foreign policy and the recommendation would be to continue in this fashion. South Africa continued to work with global formal and informal bodies to dispel vaccine myths. It must be said that a greater emphasis on dismissing vaccine myths/vaccine hesitancy, reflecting on global communication messaging, and communicating correct health messages, for example, regarding vaccine uptake (to avoid information avalanches) is still needed.

As the pandemic moved into year two, it exacerbated existing social and economic inequalities in South Africa, and this had further implications on South Africa's international stature as a tourism mecca. Tourism is a soft power tool for South Africa. As Chapter 6 of this edition describes, the tourism industry in South Africa continued to struggle, especially after the discovery of the Omicron variant, with R1 billion in cancelled bookings in November/December 2021.

The Covid-19 pandemic has had a significant impact on South Africa's trade and investment. It caused disruptions to global supply chains, which impacted South Africa's exports and imports. The country's manufacturing sector was affected, with factories closed, or operating at reduced capacity due to lockdowns and restrictions. The pandemic also led to decreased demand for many of South Africa's exports, including commodities such as gold, platinum, and coal, and a reduction in foreign direct

investment (FDI) in South Africa, as investors became more risk-averse and focused on protecting their existing investments. The country's mining and energy sectors have been particularly affected by reduced investment. The pandemic has caused a global economic recession which has had a significant impact on South Africa's economy. In response, the South African government implemented a range of measures to mitigate the impact of the pandemic on the economy, including stimulus packages, loan guarantees, and tax relief.

The effectiveness of these measures has, however, been limited by high levels of corruption and mismanagement. Positive news is also embodied in examples such as the drive by President Ramaphosa in SAIC receiving overall approval from multiple investors and South Africa's trade growth which was evident in the first quarter of 2022.

South Africa should remain active in its advocacy roles, and, in shaping the global agenda through its partnerships (formal and informal), but this can be expanded upon further in more public-private partnership initiatives. It should also harness the voices of the African youth, in the Republic, and across the continent, in the diffusion of correct public health information and messaging among their social networks, for example, the Youth Development Division at the AU.

Although South Africa's credibility in international relations is borne out by action from the international community to respond to the Republic's needs during the pandemic, for example, funding from Japan and the Republic of Ireland, there is nevertheless a need to offer more public opportunities to showcase global benchmarking, including establishing where South Africa stands and what contributions it has to make, in Africa, the Global South, and globally, in relation to responses to public health crises and other societal issues.

The Covid-19 pandemic revealed that states' solidarity and support for each other is extremely important and South Africa should continue to monitor its foreign policy, principles in action, especially in regional and continental bodies, in upholding multilateralism; and promoting integration on pandemic responses.

Reference List

Adepoju, P., 2022. Lack of orders could halt Covid-19 vaccine production in South Africa. Available from: https://www.devex.com/news/lack-of-orders-could-halt-covid-19-vaccine-production-in-south-africa-103052 [Accessed 19 February 2023].

Africanews, 2021. Ramaphosa urges vaccine purchasers from S. African maker. Available from: https://www.africanews.com/2022/05/13/ramaphosa-urges-vaccine-purchases-from-s-african-maker// [Accessed 18 February 2023].

Africanews, 2022. Ramaphosa and counterparts to save Africa's first Covid-19 vaccine plant from closure. Available from: https://www.africanews.com/2022/05/05/ramaphosa-and-counterparts-to-save-africa-s-first-covid-19-vaccine-plant-from-closure// [Accessed 19 February 2023].

BBC News, 2021. Covid: South Africa 'punished' for detecting new Omicron variant. Available from: https://www.bbc.com/news/world-59442129. [Accessed 10 February 2023].

Bradlow, D., Kapueja, L., Qobo, M. & Sidiropoulos, E., 2021. Chapter 9. International cooperation, trade, and security. South Africa Covid-19 Country Report [First edition]. DPME (Department of Planning, Monitoring and Evaluation), GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria: June.

Congressional Research Service, 2021. Global Economic Effects of Covid-19. Available from: https://apps.dtic.mil/sti/pdfs/AD1152929.pdf [Accessed 16 May 2022].

Daniel, L., 2022. Omicron saw flight bookings to SA drop 85% in December – but travel is slowly recovering, 11 January 2022. Available from: https://www.businessinsider.co.za/flights-booked-to-south-africa-drop-because-of-omicron-travel-bans-2022-1 [Accessed 16 May 2022].

Department of Higher Education, Science and Innovation, 2022. Minister Blade Nzimande: Launch of BRICS Vaccine R&D Centre initiative, 22 March, https://www.gov.za/speeches/minister-blade-nzimande-launch-brics-vaccine-rd-centre-initiative-22-mar-2022-0000 [Accessed 16 May 2022].

Devermont, J. and Mukulu, T., 2020. South Africa's Bold Response to the Covid-19 Pandemic. Center for Strategic and International Studies, https://www.csis.org/analysis/south-africas-bold-response-Covid-19-pandemic. [Accessed 20 March 2023].

Derviş, K., 2020. Multilateralism: What policy options to strengthen international cooperation? https://www.brookings.edu/research/multilateralism-what-policy-options-to-strengthen-international-cooperation/ [Accessed 20 March 2023].

Derviş, K. and Strauss, S., 2021. Global governance after Covid-19: Survey report. https://www.brookings.edu/research/global-governance-after-covid-19/ [Accessed 10 February 2023].

Diplomatic Statement, 2020. Protecting Sexual and Reproductive Health and Rights and Promoting Gender-responsiveness in the Covid-19 crisis. https://www.government.nl/documents/diplomatic-statements/2020/05/06/protecting-sexual-and-reproductive-health-and-rights-and-promoting-gender-responsiveness-in-the-covid-19-crisis [Accessed 20 January 2023].

Dludla, N., 2002. South Africa's Aspen gets $30 mln grant to make vaccines. Available from: https://www.reuters.com/business/healthcare-pharmaceuticals/south-africas-aspen-receives-30-mln-grant-vaccine-manufacturing-2022-12-12/ [Accessed 19 February 2023].

Dong, E., Du, H. and Gardner, L., 2020. An interactive web-based dashboard to track Covid-19 in real time. The Lancet. Vol 20(5).

pp:533-534. https://doi.org/10.1016/S1473-3099(20)30120-1.

Flood, Z., 2021. Inside the Botswana lab that discovered Omicron, 14 December, https://www.aljazeera.com/features/2021/12/14/inside-the-botswana-lab-that-discovered-omicron [Accessed 20 March 2023].

Heiberg, T. & Winning, A., 2020. South Africa to Impose 21-day Lockdown as Coronavirus cases jump. Available from: https://www.reuters.com/article/us-health-coronavirus-safrica-idUSKBN21A1SZ [Accessed 14 May 2022].

Hotez, P.J., 2014. ''Vaccine Diplomacy'': Historical Perspectives and Future Directions. PLoS Negl Trop Dis 8(6): e2808. doi:10.1371/journal.pntd.0002808

Hunter, Q., 2021. Ramaphosa: Omicron travel ban a 'slap in the face of African excellence', 2 December, News 24, https://www.news24.com/news24/SouthAfrica/News/watch-ramaphosa-omicron-travel-ban-a-slap-in-the-face-of-african-excellence-20211202. [Accessed 20 March 2023].

International Monetary Fund, 2020. World Economic Outlook. Available from: https://www.imf.org/en/Publications/WEO#:~:text=Description%3A%20Global%20growth%20is%20projected%20at%20–4.9%20percent%20in%202020,Economic%20Outlook%20(WEO)%20forecast. [Accessed 16 May 2022].

Itugbu, S., 2021. The Politics of China's Vaccine Diplomacy in Africa. Available from: https://www.internationalaffairs.org.au/australianoutlook/the-politics-of-chinas-vaccine-diplomacy-in-africa/ [Accessed 09 February 2023].

Kanyane, M., 2022. Omicron experience in South Africa: Is Covid-19 under control? 17 January, https://www.orfonline.org/expert-speak/omicron-experience-in-south-africa/. [Accessed 20 March 2023].

Kaplan, J., 2020. At least 20% of the global population is on Coronavirus lockdown-here are their rules. Available from: https://www.businessinsider.co.za/countries-on-lockdown-coronavirus-italy-2020-3?r=US&IR=T [Accessed 16 May 2022].

Khoza, A., 2021. Greed the West has shown over Covid-19 vaccines is damning, says Cyril Ramaphosa, 06 December. Available from: https://www.businesslive.co.za/bd/national/2021-12-06-greed-the-west-has-shown-over-covid-19-vaccines-is-damning-cyril-ramaphosa-says/ [Accessed 18 February 2023].

Kumwenda-Mtambo, O., 2022. South Africa FDI inflows jump in 2021, Securities outflows soar. Available from: https://www.reuters.com/world/africa/south-africa-fdi-inflows-jump-2021-securities-outflows-soar-2022-03-29/ (Accessed 16 June 2022).

Mathieu, E., Ritchie, H., Ortiz-Ospina, E. et al., 2021. A global database of Covid-19 vaccinations. Nat Hum Behav https://ourworldindata.org/covid-vaccinations?country=OWID_WRL. [Accessed 20 March 2023].

McCain, N., 2021. Omicron variant: South Africa being 'punished' by international community, says Dirco, News 24, 27 November. https://www.news24.com/news24/southafrica/news/omicron-variant-south-africa-being-punished-by-international-community-says-dirco-20211127. [Accessed 20 March 2023].

Mohanty, A., 2020. Covid-19 exposes deficiencies of BRICS, The Economic Time, 7 April. Available from: https://economictimes.indiatimes.com/blogs/et-commentary/covid-19-exposes-deficiencies-of-brics/ [Accessed 09 February 2023].

Mpungose, L., 2021. The BRICS' Lagging Vaccine Diplomacy, https://saiia.org.za/research/the-brics-lagging-vaccine-diplomacy/. [Accessed 20 March 2023].

Mukherjee, R., 2021. Prosus faces investor criticism over $144 million fee for Naspers

share swap. Available from: https://www.reuters.com/technology/prosus-faces-investor-criticism-over-144-million-fee-naspers-share-swap-2021-07-27/ [Accessed 12 June 2022]

Mwai, P., 2021. Covid-19 vaccines: Why some African states can't use their vaccines. Available from: https://www.bbc.com/news/56940657 [Accessed 19 February 2023].

National Institute for Communicable Diseases, 2021. Covid-10 update: Delta Variant in South Africa. Available from: https://www.nicd.ac.za/covid-19-update-delta-variant-in-south-africa/ [Accessed 20 May 2022].

National Treasury, 2022a. South Africa's Covid-19 Response Gets a $750 Million Boost. http://www.treasury.gov.za/comm_media/press/2022/2022012101%20MEDIA%20STATEMENT%20-%20WORLD%20BANK%20LOAN%20TO%20SOUTH%20AFRICA.pdf.

National Treasury, 2022b. "Research Work, Country Profile 2, NRF and DPME co-sponsored research work [International Financial Flows]", email received on 25 August 2022, from Media@treasury.gov.za

Ndlalamba, K. K. and Biniza, S., 2021. Access to Covid-19 Vaccinations in SADC. Available from: https://politicaleconomy.org.za/2021/04/access-to-the-covid-19-vaccines-in-sadc/#_ftn2 [Accessed 18 February 2023].

Patrick, S., 2023. Four Contending U.S. Approaches to Multilateralism. https://carnegieendowment.org/2023/01/23/four-contending-u.s.-approaches-to-multilateralism-pub-88852.

Reuters, 2021. Botswana says some diplomats found to have Omicron variant came from Europe, 3 December, https://www.reuters.com/world/africa/botswana-says-some-diplomats-found-have-omnicron-variant-came-europe-2021-12-03/. [Accessed 20 March 2023].

Saleh, M., 2022. Covid-19 vaccination rate in Africa 2022, by country. https://www-statista-com.eu1.proxy.openathens.net/statistics/1221298/covid-19-vaccination-rate-in-african-countries/. [Accessed 20 March 2023].

SARS, 2022. SARS Media Release. https://www.sars.gov.za/wp-content/uploads/Docs/TradeStats/2021/Dec0708/Media-Release-December-2021.pdf

Schreiber, K., 2022. Whatever happened to the Botswana scientist who identified omicron - then caught it? https://www.npr.org/sections/goatsandsoda/2022/09/02/1120326145/whatever-happened-to-the-botswana-scientist-who-identified-omicron-he-caught-it [Accessed on 20 February 2023].

South African Government, 2021a. Disaster Management Act: regulations: Alert level 4 during Coronavirus Covid-19 lockdown. Available from: https://www.gov.za/covid-19/about/coronavirus-covid-19-alert-level-4 [Accessed 20 May 2022]

South African Government, 2021b. Disaster Management Act: Regulations: Alert level 3 during Coronavirus Covid-19 lockdown

South African Government, 2022c. About Alert Levels. Available from: https://www.gov.za/covid-19/about/about-alert-system [Accessed 14 May 2022].

South African Government, 2022b. Coronavirus Covid-19 Alert level 1. Available from: https://www.gov.za/covid-19/about/coronavirus-covid-19-alert-level-1 [Accessed on 20 May 2022]

South African Customs Union., 2022. History of SACU. Available from: https://www.sacu.int/show.php?id=394 [Accessed 14 May 2022].

South African Investment Conference, 2022. https://www.sainvestmentconference.co.za/pledges/ [Accessed 20 March 2023].

South African Reserve Bank Quarterly

Bulletin, 2022. Full Quarterly Bulletin-No 304-June 2022. Available from: https://www.resbank.co.za/en/home/publications/publication-detail-pages/quarterly-bulletins/quarterly-bulletin-publications/2022/FullQuarterlyBulletinNo304June2022 [Accessed 29 June 2022]

South African Reserve Bank, 2021. Full Quarterly Bulletin-No 300-June 2021. Available from: https://www.resbank.co.za/en/home/publications/publication-detail-pages/quarterly-bulletins/quarterly-bulletin-publications/2021/full-quarterly-bulletin---no-300---june-2021 [Accessed 12 June 2022].

South African Revenue Services, 2022a. "Request for an interview regarding the impact of Covid-19 on South Africa's International Trade dynamics", e-mail communications received on 26 May 2022, from SARS and on 16 August 2022 from tradestatistics@sars.gov.za

South African Revenue Services, 2022b. Reports. Available from: https://www.sars.gov.za/customs-and-excise/trade-statistics/reports/ [Accessed 14 May 2022]

South African Revenue Services, 2022c. SARS release the preliminary trade statistics for April 2022. Available from: https://www.sars.gov.za/wp-content/uploads/Docs/TradeStats/2022/Apr3341/Media-Release-April-2022.pdf [Accessed 16 May 2022]

South African Revenue Services, 2022d. SA Preliminary Trade Statistics for May 2022 (Including BELN). Available from: https://www.sars.gov.za/wp-content/uploads/Docs/TradeStats/2022/May4439/Trade-Statistics-May-2022.pdf [Accessed 1 July 2022]

Sparke, M. and Levy, O., 2022. Competing Responses to Global Inequalities in Access to Covid Vaccines: Vaccine Diplomacy and Vaccine Charity Versus Vaccine Liberty. https://pubmed.ncbi.nlm.nih.gov/35535787/.

Statistics South Africa, 2022. The South African economy records a positive fourth quarter. Available from: https://www.statssa.gov.za/?p=15214#:~:text=After%20a%20dismal%202020%2C%20which,positive%20contributors%20to%20overall%20growth. [Accessed 16 May 2022]

Stoddard, E., 2022. Ramaphosa claims five-year investment target of R1.2 trillion is on track-but the devil, as always, is in the detail. Available from: https://www.dailymaverick.co.za/article/2022-03-24-ramaphosa-claims-five-year-investment-target-of-r1-2-trillion-is-on-track-but-the-devil-as-always-is-in-the-detail/ [Accessed 12 June 2022]

South African Receive Service, 2020. South African trade statistics. Available from: https://www.sars.gov.za/wp-content/uploads/Docs/TradeStats/2020/Apr/Merchandise-Trade-Statistics-April-2020.pdf [Accessed 16 May 2022].

Toyana, M., 2021. South Africa records FDI inflows in 2020; sales of bonds and equities. Available from: https://www.reuters.com/article/uk-safrica-economy-investment-idUSKBN2BM13Z [Accessed 14 June 2022]

The Presidency, 2020. Statement by President Cyril Ramaphosa on an escalation of measures to combat the Covid-19 epidemic, Union Buildings, Tshwane. Available from: https://www.thepresidency.gov.za/speeches/statement-president-cyril-ramaphosa-escalation-measures-combat-covid-19-epidemic%2C-union [Accessed 16 May 2022]

The Presidency, 2021. Joint Statement by the South African Government and the African Acquisition Trust, 17 December. Available from: https://www.thepresidency.gov.za/press-statements/joint-statement-south-african-government-and-african-vaccination-acquisition-trust [Accessed 19 February 2023].

The Presidency, 2022. Message from President Cyril Ramaphosa of South Africa and the AU champion for Covid-19 response at the 2nd Global Summit on Covid-19, 12 May, www.gov.za/speeches/president-cyril-ramaphosa-2nd-global-summit-covid-19-12-may-2022-0000.

The Presidency, 2022. Statement by President Cyril Ramaphosa on the termination of the National State of Disaster in response to the Covid-19 pandemic. Available from: https://www.thepresidency.gov.za/speeches/statement-president-cyril-ramaphosa-termination-national-state-disaster-response-covid-19-pandemic [Accessed 21 May 2022]

UNCTAD, 2022. Global Trade Update. https://unctad.org/system/files/official-document/ditcinf2022d2_en.pdf.

United Nations Conference on Trade and Development, 2022. Investment to Africa reached a record $83 Billion in 2021. Available from: https://unctad.org/news/investment-flows-africa-reached-record-83-billion-2021 [Accessed 15 June 2022]

United Nations International Children's Fund [UNICEF], 2022. UNICEF Covid-19 Vaccine Market Dashboard. Available from: https://www.unicef.org/supply/covid-19-market-dashboard [Accessed 30 March 2022].

Wanyenze, R. 2022. Transcribed Interview with Prof. Rhoda Wanyenze, a physician, public health consultant, academic and medical administrator, who serves as the Dean of Makerere University School of Public Health, a component school of Makerere University College of Health Sciences, which is part of Makerere University, Uganda's oldest and largest public university, on her view of the pandemic and South Africa's response to it. Interview held on Friday, 22 July 2022.

World Bank, 2022a. New Financing Agreement to Boost South Africa's Covid-19 Vaccination Program and Health System. https://www.worldbank.org/en/news/press-release/2022/06/13/new-financing-agreement-to-boost-south-africa-s-covid-19-vaccination-program-and-health-system. [Accessed 30 March 2022].

World Bank, 2022b. Foreign direct investment, net flows (BoP, current US$)-Sub-Saharan Africa. Available from: https://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD?locations=ZG [Accessed 15 June 2015].

World Bank, 2022c. Eastern and Southern Africa's Covid-19 Vaccination Journey: Unlocking Supply, Building Capacity, and Overcoming Hesitancy. Available from: https://www.worldbank.org/en/news/immersive-story/2022/06/30/unlocking-supply-and-overcoming-hesitancy-eastern-and-southern-africa-s-covid-19-vaccination-journey [Accessed 09 February 2023].

WHO, 2022. WHO announces first technology recipients of mRNA vaccine hub with strong support from African and European partners. 18 February. https://www.who.int/news/item/18-02-2022-who-announces-first-technology-recipients-of-mrna-vaccine-hub-with-strong-support-from-african-and-european-partners. [Accessed 30 March 2022].

CHAPTER 8

THE ROLE OF RESEARCH IN UNDERSTANDING AND DEVELOPING RESPONSES TO THE COVID-19 PANDEMIC AND THE PANDEMIC'S IMPACT ON RESEARCH INSTITUTIONS IN SOUTH AFRICA

Abstract

This report presents analyses and finding from studies carried out in South Africa, as part of the Country Report on the responses to the Covid-19 pandemic as developed by the government. In its response to the pandemic, the government established a scientific advisory committee. The scientific and research communities made major contributions in addressing some of the numerous and multifaceted challenges posed by the virus. This included the contributions from epidemiologists, vaccinologist, health and medical experts, economists and pharmaceutical, humanities and social scientists to provide scientific-based answers and solutions. Specifically, this report explores the role research has played in the responses developed by the South African government and the impact of the pandemic on research. A qualitative approach which comprised four sets of qualitative, semi-structured interviews, each with its own set of objectives and open-ended questions was the method adopted. The report contributes to understanding the role of research and non-state actors in the responses that were developed toward stemming the spread of the virus. The findings indicated that research provides critical insight into the management and restoration of political, economic and social welfare. The study found that it is of crucial importance to improve continuous effective engagement with the public and to empower the public with a better understanding of the role of South African regulation of medicines. The study also highlighted the struggle of academics, students and staff to continue their normal research as the focus had changed and funding had become a crippling issue for many.

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ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ASSAf	The Academy of Science of South Africa
CETAP	Centre for Educational Testing for Access and Placement
Covid-19	Corona Virus Disease of 2019
CSIR	Council of Scientific and Industrial Research
CSO	Civil Society Organisation
CUT	Central University of Technology
DBE	Department of Basic Education
DUT	Durban University of Technology
DVC	Deputy Vice Chancellor
EELC	Equal Education Law Centre
GCIS	Government Communication Information System
HBUs	Historically Black Universities
HEIs	Higher Education Institutions
HSHS	Humanities, Social and Human Sciences
HSRC	Human Sciences Research Council
HWUs	Historically White Universities
ICU	Intensive Care Unit
IEJ	Institute for Economic Justice
KRISP	KwaZulu Natal Research Innovation and Sequencing Platform
LMIC	Lower- and Middle-Income Countries
MAC	Ministerial Advisory Committee
merSETA	Manufacturing and Engineering and Related Services Sector Education Training Authority
MUT	Mangosuthu University of Technology
NASCEE	National Association of Social Change Entities in Education
NECT	National Education Collaboration Trust
NGS-SA	Network for Genomic Surveillance in South Africa
NHLS	National Health Laboratory Service
NICD	National Institute for Communicable Diseases
NIDS-CRAM	National Income Dynamics Study-Coronavirus Rapid Mobile Survey
NIHSS	National Institute for the Humanities and Social Sciences
OECD	Organisation for Economic Co-operation and Development
PLAAS	Institute for Poverty, Land and Agrarian Studies
PPE	Personal Protective Equipment
RO	Research Objectives
SADSAWU	South African Domestic Service and Allied Workers Union
SAHE	South African Higher Education
SAHPRA	South African Health Products Regulatory Authority
SAMA	South African Medical Association
SAMRC	South African Medical Research Council
STEM	Science, Technology, Engineering and Mathematics
SU	Stellenbosch University
TUT	Tshwane University of Technology
UCT	University of Cape Town
UFS	University of Free State
UJ	University of Johannesburg
UKZN	University of KwaZulu Natal
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNISA	University of South Africa

UP	University of Pretoria	**WHO**	World Health Organisation
USAf	Universities South Africa	**WITS**	University of Witwatersrand

DEFINITION OF KEY TERMS

Lockdown: The restriction of the freedom of movement of people during the period of validity a regulation (Department of Co-Operative Governance and Traditional Affairs , 2020).

Quarantine: is a protective technique that involves separating a person or restricting their activities in order to reduce Covid-19 transmission by both symptomatic and asymptomatic carriers (Anisur et al., 2020).

Institution of higher learning: according to the South African Higher Education Act of 1997, this term refers to a higher education institution that includes universities (Department of Co-Operative Governance and Traditional Affairs, 2020).

Outbreak: the occurrence of more cases of a disease than that which is normally expected, within a specific place or group of people, over a given period of time (Department of Health, 2017).

Pandemic: is an epidemic occurring worldwide or over a very wide area, crossing international boundaries and usually affecting a large number of people (Taylor and Moji, 2021).

Historically Black Universities (HBUs): South African universities established by the apartheid government to serve black students banned from attending segregated white-only universities (Netshakhuma, 2022).

Historically White Universities (HWUs): South African universities established for white people only (Hlatshwayo, 2020).

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Introduction

The novel coronavirus disease of 2019 (Covid-19, or severe acute respiratory syndrome coronavirus 2, SARS-CoV-2) pandemic evoked a global crisis that saw the daily lives of millions of people around the world upended, affecting all facets of health, socio-economic and political life, with a significant number of institutions and workplaces having to shut down and millions losing their jobs or having to receive pay cuts. Meanwhile, amongst other role players in society, the scientific community also made contributions to address the numerous and multifaceted challenges posed. This included the contributions from epidemiologists, vaccinologist health and medical experts, economists and pharmaceutical scientists to provide scientific-based answers and solutions. The tangible, often visible impact of the crisis has led to a focus shift of disciplinary, interdisciplinary and transdisciplinary research on specific pandemic-related themes relevant to the economy, general and mental health, social behaviour, education, tourism and travel, communication, politics, law, ethics, engineering, etc., and even occupational health, having had an impact on practical (ground-level) response measures such as social distancing (Schwarz and Stensaker, 2020). What transpired from these investigations is that the impact of the pandemic has reached far beyond the immediate, and that it has long-term, often significant, and unanticipated residual effects. At the same time, this has opened new avenues to explore the psychosocial, neurological and mental effects of the virus, and our response, even to the level of its impact on our daily lives, as well as to assess our preparedness to respond to major disasters.

Several studies have begun to highlight the importance of pro-active research and science engagement in pandemic preparedness and to develop more comprehensive and effective responses to such crises (Marston, Paules and Fauci, 2017; Capano et al., 2020; Holmes et al., 2020; Cao et al., 2020; Vallejo and Ong, 2020; Arrais, Corcioli and Medina, 2021). This is evinced by the Covid-19 research undertaken by governmental bodies such as the Human Sciences Research Council (HSRC), Council on Higher Education (CHE) and the Education and Training Authorities (Department of Higher Education and Training, 2020; Sobane, Gastrow and Oosthuizen, 2021; Council on Higher Education, 2022). These studies have demonstrated that an important component of pandemic preparedness depends on real engagement with research from all disciplines, including, but not limited to, the health, biological, psychosocial, theoretical, agricultural, economic, management, communication and natural sciences, as well as humanities, law and engineering. Inadvertently it also played out in multi- inter- and transdisciplinary research contexts. The success of such studiesl requires collaborations at institutional, local, regional, national and international levels. These investigations revealed that if a resilient and sustainable future is to be secured and major crises such as the pandemic are to be handled effectively, the master plan needs to include scientific-based research support and sustained funding of research offered by the higher education sector and other public research institutions (Mounier-Jack and Coker, 2006; OECD, 2020). The world is indeed interdependent and integrated at multiple levels, yet unique in different contexts.

Research, knowledge, real-time data, and information from experienced scientists, professionals and policy-makers, have been key to every aspect of the responses developed to the Covid-19 pandemic, including providing insight into the medical, health, psycho-social, socio-economic and political challenges and solutions. Research plays a major role in, on the one hand,

understanding key and practical/clinical medical and health aspects [e.g., the virus, diagnosis, care and modelling of the spread of the disease and the management of Personal Protective Equipment (PPE)], and on the other hand, understanding the social and human aspects by revealing the levels of inequality, the strain on the economy, education, the dysfunctional health care system, people's feelings, states of wellbeing, attitudes to policy and government responses, and other social problems such as gender-based violence. In fact, research often helps to unravel and understand exposed and highlighted pre-existing weaknesses in society. Scientific engagement with data, research, academics, and universities proved itself to be an important dimension indeed for dealing with and developing successful responses to the pandemic.

Immediately following the outbreak of the pandemic, the knowledge base required to design collaborative and integrated crisis interventions was severely lacking (Kannampallil et al., 2020), specifically spurring initial panic-driven, fragmented and even opportunistic research in dealing with the disease. Soon, however, the centrality of research and academic expertise in responding to the pandemic was revealed in the establishment of science advisory systems to assist the government in its multinational response to the pandemic. The United Kingdom was one of the first to do so, followed by other countries such as New Zealand, Malaysia, Canada, and the Philippines (Vallejo and Ong, 2020). South Africa also established what it called the Ministerial Advisory Committees (MACs). Whereas the composition of these systems and committees differed (in terms of their engagement with experts from health and natural science, psychological and social science, humanities disciplines, community leaders and faith-based organisations), depending on the nature and focus of the committees, this engagement signalled the recognition of expertise and advice from the above-mentioned scientific communities in developing responses to the pandemic.

This report presents findings from studies carried out in South Africa, as part of the Country Report on the responses to the Covid-19 pandemic as developed by the South African government. Specifically, this report explores the role research has played in the responses developed by the South African government and the impact of the pandemic on research. Whereas there was substantial, wide consultation with the broader scientific community, there was an overwhelming representation from the health and natural sciences. The study thus also focuses on a gap in engagement with research, namely, the missing voice of the social sciences, notwithstanding a few social sciences' studies, for example, a study by Higher Health (2020) that examined the impact of Covid-19 on post-schooling education.

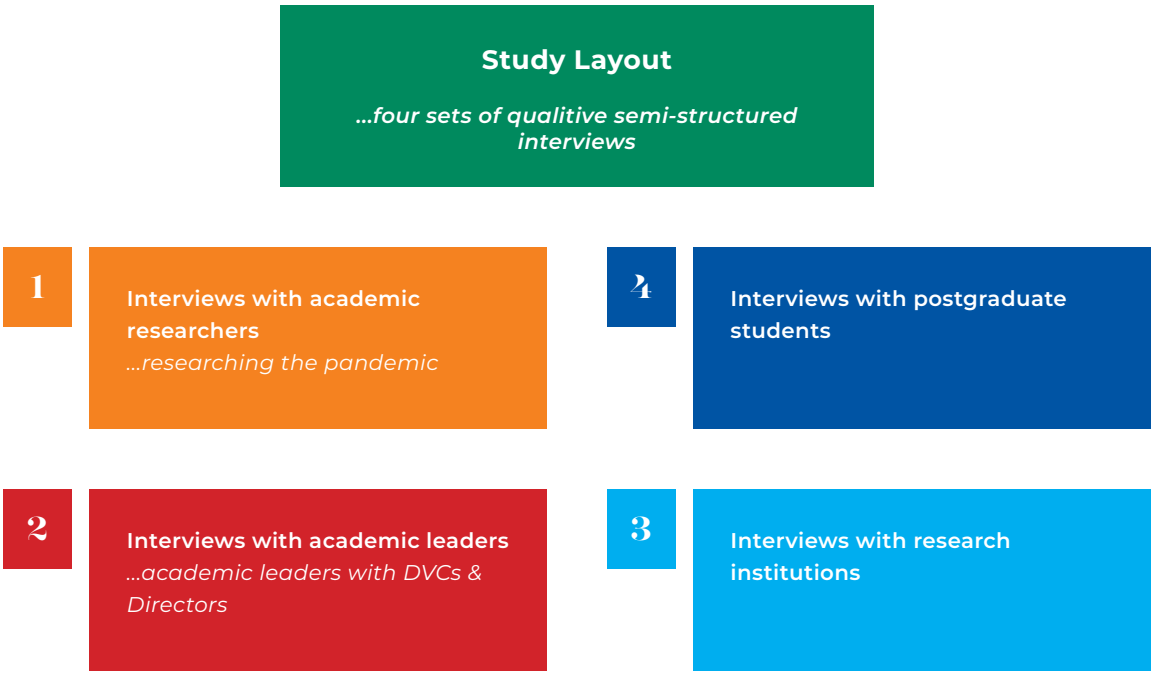
In the next section, we discuss the methodology employed in investigating the role that research played in understanding and responding to the pandemic. This is followed by two sections that present an overview of the ongoing Covid-19 research at higher education institutions (HEIs), the shift in focus over the five waves of the pandemic, and the types of research undertaken across different universities and other research institutions. We then discuss how these research projects contributed to understanding and responding to the pandemic, highlighting the enablement and limitations experienced by various stakeholders, including researchers, academics, leaders, and universities, as they struggled to meet the demands of academic life during a period of crisis. Finally, we note some emerging lessons and recommendations for pandemic and crisis preparedness.

Methodology

Employing a qualitative approach, this report contributes to understanding the role of research and non-state actors in the responses that were developed toward stemming the spread of the virus.

The study consists of four sets of qualitative, semi-structured interviews, each with its own objectives and open-ended questions. The broad study layout is depicted in Figure 8.1 below:

Figure 8.1: Schema of the broad study layout.



The project aims to investigate and provide evidence concerning the ongoing research on Covid-19 in South African institutions, how the research was used by both government agencies and civil society organisations, and the impact of research on the responses developed. In addition, it aims to understand the gaps, as well as to develop recommendations based on the findings. The objectives are as follows:

RESEARCH OBJECTIVES (RO)

- RO1: To understand the ongoing research on Covid-19 in South African Higher Education Institution's (HEIs).
- RO2: To understand the role and impact of research on government decisions and policy-making.
- R03: To understand the enablements and limitations that impact researching Covid-19 in SA HEIs.

- RO4: To understand the impact of the pandemic on HEIs, research activities in general, researchers and postgraduate students, and the broader academic community.
- RO5: To provide recommendations based on the findings.

KEY RESEARCH QUESTIONS

1. What Covid-19-related research is being undertaken in South African HEIs?
2. How does HEI's research impact decision/ policy-making processes?
3. How does the research contribute to developing our understanding of the social and medical dimensions/impact of Covid-19?
4. What are the enablements and obstacles that impact the research process and what lessons can be learned?

   The report drew on published research, reports from HEI's research offices and interviews with institutional representatives, as well as project leads and researchers researching Covid-19 in South Africa.

DATA COLLECTION: PARTICIPANT GATHERING AND SAMPLING TECHNIQUE

The first phase of the data collection for the report occurred between April and August 2021 and consisted of three data collection phases: (1) published literature and tertiary literature on Covid-19; (2) organisational reports, media releases, technical reports, working papers, etc. on Covid-19 (Search and citation tools such as Google Scholar, Google Search and Mendeley were also used to gather reports on Covid-19. Reports and publications from The Human Sciences Research Council and Universities South Africa (HSRC/USAf) were also used to get a glimpse of some of the ongoing Covid-19 projects conducted by academics at the different HEIs); (3) online (Zoom and MS Teams) and telephonic interviews with key informants who were researching the pandemic at the time. The second phase, which occurred in 2022, involved interviews with experts who have participated in one or more governmental ministerial advisory committees and stakeholders who have been involved in developing responses to the pandemic on behalf of the government. The data also included interviews with the deputy vice-chancellors and researchers at the various public universities in South Africa, to understand the ongoing research in their institutions, as well as the challenges experienced. Postgraduate students from one comprehensive university were also interviewed.

A purposive sampling method was employed to ensure the inclusion of researchers who were researching COVID-19 and stakeholders who had engaged with the government. Through published reports on Covid-19 projects, published literature and key informants, these stakeholders were identified and invited to participate in the project. Participants were also identified from the 2020 nominees of the Human Science Research Council and Universities South Africa (USAf) 'Established Researcher Awards' (HSRC, 2021).

In addition to purposive sampling, a snowball sampling method was also employed where key informants interviewed were asked to identify other individuals or organisations that might be relevant to the study. Because the purpose was to understand how research has influenced decision-making during the pandemic, the focus was on those who had engaged in research at the level of government and civil society, and the successes, challenges and limitations of that involvement.

A total of n-21 emails were sent out to academics who were actively researching the pandemic, of which n-12 responded and were interviewed. Of the n-19 emails sent to DVCs, n-1 declined, and n-3 responded and were interviewed. Eleven

postgraduate students were interviewed from different faculties.

The research strategy involved triangulating different data sets to understand the role of HEIs and research institutions in developing responses to the pandemic. Data collection for the report comprised three data collection phases: (1) published literature and tertiary literature on Covid-19; (2) organisational reports, media releases, technical reports, and working papers on Covid-19; (3) telephonic structured interviews with key informants who were involved in various capacities to research matters related to the pandemic and its impact on society. The latter includes academic and research experts who have participated in one or more governmental ministerial advisory committee, and stakeholders, or role-players who are or have been involved in developing responses to the pandemic were also interviewed. This includes a selection of interviews conducted with individuals from both HBUs and HWUs, well-established and smaller universities in South Africa, serving in top management (deputy vice-chancellors for research and innovation) and as directors of research units.

INTERVIEWS

The selection of participants for the semi-structured interviews was based on their involvement with conducting research related to Covid-19. Recruitment was via email requests circulated to participants.

Formal interviews, lasting around 50 minutes, took place online via Zoom, Microsoft Teams or telephonically and were audio-recorded and transcribed via a professional transcribing service. The interviews followed a semi-structured format, largely focused on the extent to which policymaking for the current pandemic was influenced by research and engagement with civil society. Identifying details were removed, and participants were invited to check transcripts for accuracy. Data were then stored on a password-protected computer.

ANALYSIS

The data were coded in line with the research objectives using NVivo to understand the ongoing research on Covid-19 in South African Higher Education Institutions (HEIs); the enablements and limitations of researching Covid-19 in SA HEIs and the impact of the pandemic on HEIs, researchers and academics, with the aim of highlighting the gaps (research and resource) in the current research on Covid-19 in South African HEIs and providing recommendations based on these findings. A content analysis approach, broadly defined as the analysis of text or communication, was employed in the data analysis (See Krippendorff, 1980; 2004). Content analysis assumes that texts (interviews transcripts, newspaper articles, written recollections, etc.) express social reality (Bos and Tarnai, 1999; Smith, 2000), hence this is useful in understanding the contributions of research to respond to the pandemic and the impact of the pandemic on research.

RELIABILITY, VALIDITY AND LIMITATIONS

Reliability and validity were achieved through triangulation where the researcher collects data from multiple participants on a single topic or with a focus on the phenomenon being studied, the process of collecting, analysing and constant computation of data, codes, categories, memos allows for reliability and validity (Marsh and White, 2006).

To ensure the credibility and validity of study findings, a member-checking method was also used. This involved providing a summary of the information received by the respondent as well as a summary of the findings, to ensure that the

information, experiences and views provided by the participant had been adequately captured. This process was implemented by sending a copy of the quotes to be utilised in the report and publication, as well as the draft version of the report, to the respondent. The former was done for participants who requested the information during the interview.

Regarding the limitations, the nature and focus of part of the study presented several challenges, particularly with regard to participant gathering at the leadership levels and the timing of the data collection. For example, while invitations were sent to all DVC researchers in public universities, only a few responded. Additionally, a significant portion of the data was collected during the pandemic. This may have affected the response rate given that the different stakeholders within HEIs were dealing with the emerging crisis.

ETHICAL CONSIDERATIONS

Ethical approval was provided by the Human Sciences Research Council's Health Research Ethics Committee (ethics approval no. REC 1/23/09/20), the North-West University's Health Research Ethics Council (ethics approval no. NWU-00001-22-S1), and the University of Johannesburg's Faculty of Humanities Research Ethics Committee (ethics approval no. REC-01-285-2022). The studies were conducted in compliance with the South African National Department of Health's "Ethics in Health Research Principles, Processes and Structures", 2015, in line with national legislation and regulations. As per the terms of the clearance, participants were duly informed of the study, their free and prior consent was also sought by sending a consent form and also discussing it at the start of the interview.

Covid-19 Research in HEIs and Research Institutions

As outlined in South Africa's National Research and Development Strategy (Anon, 2002), research and related innovations at institutions of higher education and other national research institutions form the basis of sustainable societal development by building human capital. These also contribute to addressing national needs, current questions, and our preparedness for the future. South Africa has challenges regarding inequalities in society. Whereas it has a rich cultural diversity, it is burdened by huge economic discrepancies, associated with significant differences in the vulnerability between and within societal sectors (Gore & Botha, 2022). This is not limited to individuals, but transfers also to societal institutions, including tertiary and other research institutions (Soudien, 2020).

The recent Covid-19 pandemic evoked a national crisis beyond what could have been foreseen or prepared for. This affected all domains, with a particularly critical impact on the vulnerable. In this regard, universities across the country differ with regard to capacity, expertise, resources, networking and innovation capability, as well as regarding the vulnerability of their staff and students. In addition, the range of research domains differ with regard to methodologies, approaches, public engagement, need for free movement, risk of exposure to harm, etc. This implies that the complex research environment has a differential vulnerability for the impact of a national crisis, and hence requires unique management.

The university environment is also known to be innovative and resilient, having a rich complement of intellectual and human

resources to solve multifaceted problems in an innovative manner. In fact, one international survey of 101 universities within 21 countries (including on the African continent) revealed how the Covid-19 pandemic-induced crisis revealed embedded institutional character, and how well, in general, universities were able to adapt, interact and truly engage with their external environments to build partnerships (albeit this survey focused mostly on university partnerships with primary and secondary schools) and find solutions (Reimers, 2021). This innovative solution-finding, and building of global partnerships, was observed across the African continent (Oduola et al., 2021).

Since the outbreak of the pandemic in March 2020, considerable and large Covid-19 studies have been conducted in South Africa. Researchers from both natural and social sciences worked in complement to better understand the pandemic. For example, whereas research from the natural sciences focused on the health and medical aspects, including striving to understand the nature of the virus and vaccine trials, the research from the psychosocial sciences was also vital in understanding the social aspects of the pandemic, such as revealing everyday experiences and examining perceptions and behaviours within the context of the pandemic. Overall, the overarching themes of studies included, among others, understanding the virus, coping with the virus, the economic, health, psychological, cultural and social impact of the virus, the shift in education, fake news, as well as vaccine trials, hesitancy and roll-out (Alexander et al.,2021; Matzopoulos et al., 2020; Nyabadza et al., 2020; Kollamparambil, Oyenubi and Nwosu, 2021; Padayachee and Bangalee, 2021; Sucheran, 2021).

A shift in focus of the multitude of scientific studies from the first, second, third, fourth and fifth wave of the pandemic has been noted. The first wave studies focused mainly on understanding the virus, its impacts, and measures to combat/mitigate its spread. The second wave studies focused on the economic recovery after easing of the lockdown, vaccine trials and continued impact of the virus. Thereafter, the third wave studies focused on vaccine roll-out, hesitancy, and myths about vaccines (Dzinamarira et al., 2021; Mellet, and Pepper, 2021; Moodley et al., 2021). While the fourth and fifth wave studies continued to examine aspects like the economic impact, vaccine hesitancy, and so forth, a shift aligned with the ongoing realities was noted, as topics like herd immunity, comparison between waves, hospitalisations, effectiveness of vaccines against new variants, uplifting of Covid-19 health restrictions and adapting to the new Covid-19 life gained traction (Cloete, Kruger, Masha et al., 2022; Del Rio and Malani, 2022; Maslo, Friedland, Toubkin et al., 2022; Gray, Collie, Goga et al., 2022; Madhi, Kwatra, Myers, 2022; Yang and Shaman, 2022). The table below shows a periodisation of Covid-19 studies by universities/academics across all five waves in South Africa.

Table 1: Periodisation of Covid-19 Studies in

Universities in South Africa across the 5 waves[1]

First Wave (March to November 2020)	Second Wave (December 2020 to April 2021)	Third Wave (May 2021 to October 2021)	Fourth (December 2021 to April 2022) and Fifth Wave (May 2022 to present)
Understanding the virus	Vaccines- trials, efficacy, challenges faced.	Vaccine rollout, outcomes of vaccination.	Population immunity
Coping mechanisms	Emergence of new variants and their impact on vaccine development	Misinterpretations about the vaccines. Strategies to address hesitancy.	Compared different waves and emerging variants.
Vulnerable groups during the pandemic, for example, the informal economy, women (gender-based-violence, skewed employment loss).	The impact of continued lockdown on the economy - alcohol ban debates.	Evaluating impacts of working from home.	Paediatric hospitalisations as new variants emerged.
Impacts: hunger, loss of employment.	Economy recovery: skewed profile.	Comparing the impacts across the waves, for example, mortality rate.	Effectiveness of vaccines against new variants.
How different sectors are coping, for example, education, economy.	Continued suffering of the vulnerable despite economy recovery.	Gender dynamics in vaccine acceptance.	Uplifting of health restrictions and adapting to a life with Covid-19.
How culture undermines efforts to curb the virus and vice versa.	Vaccine hesitancy	New variants and vaccine efficacy.	
Impacts of lockdown: economically, psychologically, socially, educationally.		Monitoring of new and existing variants.	
Assessments of the government's response to the pandemic.			
Inequality perpetuated by the virus.			
Dealing with fake news.			

[1] This was drawn from a synthesis of published research on the pandemic across the five waves.

Besides the involvement in research, most public HEIs were also involved in community engagement projects that were aimed at easing the impact of Covid-19. Among others, the University of Cape Town was involved in ventilator design and PPE manufacturing and distribution (University of Cape Town, 2020). Likewise, Stellenbosch University (SUN) also manufactured and distributed sanitisers and developed robots to monitor patients (African Research Universities Alliance, 2020). Universities of Technology, like the Durban University of Technology (DUT) and Mangosuthu University of Technology (MUT), were mostly engaged in science and innovation projects such as mathematical modelling, whereas the University of Johannesburg (UJ) engaged in projects on ventilators, the development of a self-screening tool/questionnaire, the development of advanced modelling for the epidemic data of Covid-19, the identification and filling of gaps in mathematical modelling knowledge on the burden of Covid-19 and remote monitoring of Covid-19 patients. They also developed the happiness index that measured the emotional well-being of people during Covid-19 and tracked the country's happiness sentiment (Beesham, 2020; Kweinor et al., 2020; University of Johannesburg, 2021). It should be noted that several South African universities made research contributions, and that the above represent only a select few illustrative examples. It is certainly not comprehensive and is not intended to mention all institutions and studies that have made contributions.

Overview of Published Research

This section summarises the Covid-19 research projects and initiatives by universities and civil society organisations, bringing to the fore the types of research they engaged in, and the different focus areas they covered. Overall, research projects by both the universities and civil society focused on aspects that range from understanding the virus, coping mechanisms, minimising the spread, leadership, and governance, tackling fake news, and vaccines. The information presented here was gathered from HEIs' and civil society organisations' websites, published research from HEI, their published annual research reports and from journals' websites. Search and citation tools like Google Scholar, Google Search and Mendeley were also used to gather reports on Covid-19. Reports and publications from the Human Sciences Research Council (HSRC) and Universities South Africa (USAf) were also used to get a glimpse of some of the ongoing Covid-19 projects conducted by academics at the different HEIs.

First, an overview of ongoing research in universities will be provided, followed by an overview of the ongoing research in civil society organisations. A total of n-686 academic publications and media reports that were published by universities in the period between March 2020 and end of July 2021 were compiled, with n-444 academic and n-242 media. It is worth noting that the publications' list compiled is not exhaustive but provides a picture of the research projects that universities are currently working on.

A descriptive analysis of the collected data revealed that the majority of the publications were from the Historically White Universities (HWUs), with an overwhelming representation from the University of Witwatersrand (WITS), SUN and the University of Cape Town (UCT), specifically.

Table 2: Number of Publications across

Universities in South Africa as of July 2021

Name of South African Tertiary Institution	Publications in Academic Journals	Publications in Online Academic Platforms (e.g., Conversation / Times Higher Education	Publications in Media (e.g., Daily Maverick, etc.)
University of Witwatersrand (WITS)	86	22	4
Stellenbosch University (SUN)	95	10	
University of Cape Town (UCT)	98	8	
University of Johannesburg (UJ)	34	5	31
University of Western Cape (UWC)	20	2	
University of Pretoria (UP)	34	5	
Rhodes University (RU)	4		
University of Free State (UFS)	11		
Durban University of Technology (DUT)	4		
Mangosuthu University of Technology (MUT)	4		
University of Limpopo (UL)	4		
University of Venda (UNIVEN)	2		
University of KwaZulu Natal (UKZN)	30	1	1
Walter Sisulu University (WSU)	9	1	16
Sefako Makgatho University (SMU)	3		
University of Mpumalanga (UM)	1		
Vaal University of Technology (VUT)	1		
University of Fort Hare (UFH)	8		
North-West University (NWU)	5	1	
University of South Africa (UNISA)	11	2	
Sol Plaatjie University (SPU)	1	1	
Total	**465**	**58**	**52**

The table above provides a picture of publications from public universities in South Africa, though the list is not exhaustive.

In line with international trends, several of the ongoing research projects were born of collaborations between HEIs and, in some cases, between HEIs, civil society organisations and other organisations. For example, the UJ Centre for Social Change partnered with the HSRC to examine attitudes, perceptions, and behaviour of South Africans during the pandemic, and the HSRC was also involved in some of the National Income Dynamics Study – Coronavirus Rapid Mobile Survey (NIDS-CRAM) projects. SUN partnered with the Department of Basic Education (DBE) in their NIDS-CRAM education-related projects. NIDS-CRAM also partnered with international universities like the University of California, Oxford University, Harvard University, and the University of Massachusetts. In terms of the primary authors: n-95 publications were reports written by academics who analysed the NIDS-CRAM survey data. The publications emerging from this survey ranged from education, socio-economic interventions, health, gender, and understanding poverty, among other things. Also, journals such as the WITS Journal of Clinical Medicine, Gender and Behaviour, the Lancet, South African Journal of Bioethics Law and the South African Medical Journal had several publications. The WITS Journal of Clinical Medicine, the Lancet, and the South African Medical Journal focused mostly on health issues and, out of the n-444 indicated above, they had n-10, n-18 and n-53 publications, respectively. With n-53 publications, the South African Medical Journal focused on ethical aspects with regards to tracing, testing and protection of the vulnerable groups. The Gender and Behaviour Journal had n-5 publications with UNISA, UL, UNIVEN and UWC, which focused on gender aspects and education. Besides, a notable number of publications also came from the National Institute for Humanities and Social Sciences (NIHSS) and the HSRC, each having n-28 and n-44 respectively out of a total of n-444 academic publications. The HSRC and NIHSS focused on human and social aspects like inequality, social and psychological well-being, the impact of lockdown, and the impact of the pandemic on culture and social welfare.

In terms of the focus area of these research projects, there was an overwhelming representation of projects related to health, understanding the nature of the virus, how to combat its spread and vaccines. As with the publications, these projects were conducted in the HWUs, specifically WITS, SUN and UCT, though HBU institutions like UKZN were also involved with WITS, UCT and SUN in vaccine trials. Among other things, UCT was also involved in the development of technology, such as ventilator design, and in PPE manufacturing and distribution (University of Cape Town, 2020). Likewise, SUN also manufactured and distributed sanitisers and developed robots to monitor patients. Some of these developments contributed internationally. Technology institutions like the DUT and MUT were mostly engaged in science and innovation projects like mathematical modelling, while Universities like the UL, UNIVEN and UNISA had projects more focused on understanding the impact of the pandemic on education, understanding the pandemic, regulations, and protocols.

Regarding the institutional research reports, research reports from only three HEIs were available at the time of data collection, whereas the reports from other HEIs were either unavailable or did not reflect the 2019/2020 publication/research year. The UJ research report revealed n-57 ongoing Covid-19 projects on various aspects which include, among others, projects on ventilators, development of a self-screening tool/ a questionnaire, development of advanced modelling for the pandemic data of Covid-19, identifying and filling gaps in

mathematical modelling knowledge on the burden of Covid-19, remote monitoring of Covid patients, as part of the coping mechanisms. In terms of the different disciplines undertaking the n-57 ongoing projects highlighted in the UJ research report, as of the 23rdof June 2021, the leading faculty was Health Sciences, with n-19 projects, followed by the Faculty of Humanities with n-14 projects, the Faculty of Engineering and Built in Environment with n-9 ongoing projects, the Institute for Intelligence Systems with n-5 and the remaining 10 came from other faculties like the College of Business and Economics, Library and Information Centre, School of Tourism and Hospitality, and the Faculty of Education, with their projects focusing on face shield manufacturing, the psychological impact of the pandemic, and issues of social justice (University of Johannesburg, 2021).

Additionally, the data collected from the HSRC/USAf 2020/21 nominations focused on the work of academic teams and individuals in the social sciences and humanities that contributed to developing responses to the pandemic. Nominees for Covid-19 projects were from UCT, UJ, SUN, DUT and WSU. The nominees comprised psychologists, sociologists, and economists, with their projects focusing on mental health, socio-economic aspects, and coping mechanisms for vulnerable groups.

Finally, an overview of the publications, nominations, and university research reports revealed that there has been a proactive research engagement from HEIs in South Africa since in the beginning of the pandemic. Research from both natural and social sciences worked in complement to better understand the pandemic. For example, research from the natural sciences focused on the health and medical aspects including understanding the nature of the virus and vaccine trials, whereas the research from the social sciences was also vital in understanding the social aspects of the pandemic, like revealing everyday experiences and examining perceptions and behaviours within the pandemic context. Despite this importance, uptake by the government of the latter was less. This is evidenced in the critiques levelled by academics (Makou, 2020; Soudien, 2021) and by the composition of the MAC, as one of the government advisory bodies during the pandemic - both the Covid-19 MAC and the MAC for social and behavioural change side-lined social sciences and humanities. The Covid MAC was overwhelmingly consisted of epidemiologists, virologists, and microbiologists, yet in the social and behavioural MAC, the majority of the people were from faith-based organisations and civil society organisations (Makou, 2020; Sehloho, 2020).

Research Contributions to Understanding the Pandemic

Research conducted at academic institutions has contributed to finding solutions at various levels during the pandemic. These include root cause analyses of obstacles to service delivery in overburdened health care systems and subsequent advice on improving health facilities during times of increased Covid-19 cases. For example, researchers from the WITS, UCT and SUN highlighted on how remdesivir[2] can be used to increase Intensive Care Unit (ICU) capacity during times of increasing hospital admissions (Nichols et al., 2021). As IBR noted, research also contributed to identifying some of the variants which was vital in developing medical and social-political responses to the pandemic.

Research on vaccines also discussed vaccine hesitancy, reasons behind hesitancy and mitigation of the spread of fake news about

[2] Remdesivir antiviral medication has been used to shorten the time of recovery from an infection.

vaccines. A study by NIDS-CRAM revealed that hesitancy was based on fear of side-effects, doubt of effectiveness and distrust of vaccines in general (Burger et al., 2021). This raised the need for clearer information about the efficacy of vaccines. Likewise, the study conducted by the UKZN academics on the misinterpretation of vaccines that scare women, raised awareness that the rumours about vaccines are false and encouraged individuals to accept vaccination for their safety and the safety of loved ones (Moodley, Khaliq, and Mkhize, 2021). Thus, the study contributed by mitigating the false information spread via social media, for example, it dismissed myths that vaccines cause infertility and miscarriages among women. As one participant noted, through these studies, policy became much stronger in the third and fourth waves of the pandemic, thus highlighting the central role played by research in Covid-19 policymaking.

Additionally, research on vaccines also pinpointed the loopholes in the roll-out programme (Moosa, Mpako, and Felton, 2021; Madhi, 2021). The WITS' vaccinologist, Shabir Madhi (2021), argued that the stricter lockdown measures that were put in place in June 2021 in response to the rising cases during the third wave were evidence of the failure of the vaccine roll-out programme. Madhi highlighted that the pace at which vaccines were administered was a concern, as evidenced by a harsh lockdown after three months of vaccine administering in the country. Reflecting on the government, Moosa, Mpako and Felton of the UCT indicated a lack of trust in the government as one major factor leading to vaccine hesitancy. In August 2020, a study by UJ/HSRC also revealed diminishing confidence and trust in the president's responses to Covid-19 (Roberts et al., 2020). Thus, research by Moosa, Mpako and Felton (2021) exposed the persisting relations marked by mistrust between government and citizens.

Finally, studies on education reflected on the sector after a year of experiencing a shift in teaching and learning. These built on earlier studies on the impact of Covid-19 on education, highlighting negative impacts like drop-outs and lagging behind (Shepherd and Moholwane, 2021). In another study, Shepherd et al (2021) present credible information to be considered in the ongoing debate about the risks faced by teachers when going to school. This served as a call for interventions that minimise the risk of vulnerable workers' exposure to Covid-19 in the workplace.

Within the liquor sector, on 2 July 2021, researchers from the South African Medical Research Council (SAMRC) and UCT published the effects of the alcohol ban and curfew on unnatural deaths, and indicated that the number of unnatural deaths is statistically significant if restriction on the sale of alcohol is complete rather than partial (Moultrie et al., 2021). The study added to the body of evidence that enables South African policymakers to adopt evidence-based strategies known to reduce alcohol harm.

Impact of Covid-19 on Research and Researchers: Findings from Interviews with Researchers who were conducting Covid-19-related Research.

The pandemic highlights the importance of research in terms of understanding the crisis, mitigation and crisis resolutions that are dependent on high quality research and data that are reliable and trustworthy (Weiner et al., 2020). Whereas the importance of health and medical sciences is self-evident during a global health crisis, research from other science disciplines provides critical insight into the management and restoration of political, economic and social welfare.

The pandemic had a significant impact on

research, the ways of conducting research, the nature and type of research conducted, and both enabling and limiting conditions within the research environment being encountered by researchers. Challenges highlighted by participants included difficulties regarding funding, lack of capacity, personal health challenges, technological challenges, depersonalised research processes, and an apparent devaluation of the value and importance of research within the social sciences, arts, and humanities disciplines.

Challenges aside, researchers also noted some enablement that resulted from the pandemic, which was inevitably tied to individual access to resources. For instance, researchers who had access to the necessary technology, an office space, assistance with home responsibilities and funding, noted being able to engage in Covid-19-related projects and to find new ways of continuing their research programmes/projects. The pandemic also enabled an unprecedented scope and pace of research and interdisciplinary collaboration globally. Below, we discuss some of the opportunities and challenges highlighted by the participants.

Opportunities and Challenges

Findings from interviews with 26 academics who were involved in various pandemic-related projects at different higher education and research institutions in South Africa revealed various challenges and opportunities arising from the pandemic. These are discussed below.

Issues with research continuity: The lockdown and measures implemented to stem or slow the spread of the pandemic (coined 'flattening of the curve', to avoid disease outburst peaks and to more evenly spread infection rates, over time, to avoid the overburdening of health services) had a significant adverse impact on the research projects and careers of academics. This was the case particularly for those in contract and precarious positions who felt that their careers were threatened.

Additionally, as noted above, academics who did not have access to resources were not able to continue their research projects. An analysis of the data revealed that the individuals' ability to continue their research was dependent on a number of factors, including, but not limited to, their identity (race, gender, class), social and academic position and geographical location. These factors influenced access to funding, collaborators (nationally and internationally), assistance with childcare and other household responsibilities which increased as a result of the lockdown measures.

Also, researchers, whose work required face-to-face engagement with participants, were either unable to continue their work (due to the lockdown and other contextual challenges such as protests and public unrest) or had to deal with several health challenges associated with face-to-face contact once the lockdown measures eased. To counter these challenges, some researchers noted including a Covid clause in their consent forms.

Finally, the pandemic led to the reprioritisation of research priorities to focus on Covid-19-related research. This meant either slowing down non-pandemic-related research or putting such research on hold. However, the de-prioritisation of existing research had a significant impact on those who benefited from such research. For example, some researchers noted that their work on HIV/AIDS and Homelessness among other topics took a back seat to pandemic-related research which may have negatively affected those who benefited from the research funding and interventions.

Modification of research methodologies:

Lockdown measures also expedited a shift toward the digitalisation of research across the world, where researchers abruptly had to find innovative ways of collecting data while adhering to Covid protocols. While this venture was largely successful, the shift to digital teaching, learning, and researching exacerbated institutional and societal inequalities, particularly in Lower- and Middle-Income Countries (LMICs). The study found that the complex digital divide was deepened by unequal access to technology. Those with access found opportunities to continue, or even expand research, whereas those without lagged even further behind. Additionally, the shift to online modes of research and data collection led to a depersonalisation of the research process, causing one researcher to note that she was unable to connect with her participants on a personal level. This raises issues of the quality of the data collected and its influence on the research findings. Researchers further noted the effect of the depersonalisation on their collaboration and supervision relationships.

Funding, Infrastructure, Resources and Ethical Dilemmas: Also noted was the increased funding for pandemic-related research. The study, however, found that there was an overwhelming focus on research funding for biomedical research. Additionally, while participants noted the benefits of access to funding in terms of finding solutions and appropriate responses to issues raised by the pandemic, they also highlighted the ethical considerations associated with rapid funding (i.e., requests for emergency financial assistance) and conducting research in crisis which may include being subject to, but not limited to, factors such as vulnerabilities and shifts in power relations, issues with quality and excellence, for example, publishing without peer review, and trials not meeting clinical standards.

Linked to the ethical challenges, researchers highlighted problems with infrastructure and resources support, and, in particular, the importance of and difficulty experienced in providing well-trained research teams with the necessary skills to conduct research in emergencies, which was noted as a major challenge. Additionally, researchers highlighted the importance of providing access to funds for social science and humanities research, while some researchers noted that they have been doing the work on Covid-19 research pro bono. Researchers highlighted the importance of sustained funding and effective collaboration across government, industry, research, and civil society.

Technological Flexibility: Researchers also noted the enablement provided by research flexibility, creativity and greater technological involvement in the research process. Participants whose research was qualitative in nature and had a human component noted how technology and virtual platforms like WhatsApp, Zoom and Microsoft Teams enabled versatility and flexibility in their research. For quantitative research, participants noted that having access to secondary data from databases and research conducted by organisations from the HSRC, UJ and the NIDS-CRAM survey was central to ensuring research continuity.

That said, researchers noted the vulnerabilities associated with the technological shift. Researchers noted the issues with access to computers, network connectivity and other technologically related problems. Similar to the issues with research continuity noted above, access to technology was impacted by identity, academic position, and geographical factors where, for example, a student from a rural or marginalised community might experience difficulties accessing a computer, the internet, and with network connectivity and quality. Additionally, researchers noted the fatigue associated with long online meetings which

became normalised during and after the pandemic.

Interpersonal Issues and Work-life Balance: Researchers who were researching the pandemic highlighted the impact of negotiating the enabling and limiting conditions of the pandemic on their work-life balance, as well as their mental and emotional well-being. Participants noted the mental strain implicit in finding a balance between experiencing the pandemic and researching the pandemic and dealing with health and safety issues of team members in the field. While this was noted as a constraint, some participants noted having a sense of agency, as they felt that they were able to make a contribution to understanding the response to pandemic-related issues at a time when many individuals felt helpless.

Collaboration: The pandemic led to unprecedented research and collaboration globally, both nationally between universities and research organisations such as the HSRC, and internationally, between universities in South Africa and the global north and south. These collaborative research projects reveal the importance and impact of real-time or rapid response research in understanding crisis situations, while also highlighting the challenges of doing such work under conditions of crisis. While researchers noted the benefits of collaborations, some noted challenges where partnerships were unequal in terms of who controlled the funding and made decisions about the direction of the project. The latter was particularly challenging where collaborators had different disciplinary and personal interests. The study also revealed that complementary research between medical/health, natural and social sciences provided a better understanding of the virus, its impact on society, and optimal management. There is thus a need to ensure the representation of various disciplines in developing responses to pandemics, crises and emergencies, to capture all the nuances of the different disciplines. This implies a synergy between disciplines, requiring focused disciplinary research, interdisciplinary research, and transdisciplinary research. In fact, when not balanced, problems in other domains of society tend to arise. For example, studies on vaccines indicated a lack of communication by the government about vaccines, which led to the spread of false information and vaccine hesitancy. Media platforms like television, radio, and social media have been used to encourage people to take vaccines, and such platforms can also be used to provide more explicit information about the safety of vaccines to mitigate hesitancy.

Communication, Science/Policy Engagement and Research Uptake: While some researchers noted positive uptake of their research findings at government level, others noted issues with the implementation of findings and proposed solutions. Findings from the interviews revealed varying patterns of engagement between researchers and policymakers where researchers were either approached by the government, or researchers established relationships with policymakers to present evidence that should influence policymakers. Participants noted difficulties with uptake when the latter approach was employed.

Overall, the study revealed that research played a central role in the policy-making process related to measures taken to combat the spread of the virus. This reveals the important role research plays in policy response to emergencies and crises. For example, research highlighted how relations marked by distrust of the government impacted the efficacy of the vaccine programme and other government interventions. This implies that the government needs to find ways of building and improving trust with its citizens. It may also be necessary to communicate better, and to educate the general public on how to

interpret medicines' effectiveness, safety, and side-effects and promote awareness of, and active participation in, pharmacovigilance. The study found that it is of crucial importance to improve continuous effective engagement with the public and to empower the public with a better understanding of the role of South African regulation of medicines (e.g., South African Health Products Regulatory Authority - SAHPRA), reliable resources of information, and access to trustworthy and dependable professional care.

Finally, findings from the interviews revealed a perceived gap between research and research uptake at a policy level. There are several reasons for the gap in science policy engagement, including, but not limited to, the positivist conception of the nature of social science in policy-making, the notion of policymaking as a technical, and not a research problem, the belief that the social sciences and humanities play an instrumental, not an intrinsic role in providing value free advice (Jennings et al., 1983), and the role of interests. Participants suggested some ways to bridge this gap including:

- Promoting greater collaboration between public universities and government departments.
- Engagement in and attendance by researchers of events organised by the government and vice versa.
- Engagement in more public-facing research that ensures that research findings are more accessible to the public and policymakers.
- Institutionalisation of science advisory groups for crisis and emergencies (see Vallejo and Ong, 2020). This involves creating science/policy advisory structures that include stakeholders who act as scientific advisors to governmental departments.

Box 8.1: Recommendations: Impact of Covid-19 on Research and Researchers

Recommendations

- There should be sustained funding and effective collaboration between disciplines and non-academic organisations. Such funding must necessarily consider marginalised researchers who may not have the necessary access to research resources and ongoing research projects that may be impacted by crisis periods.
- Promote enhanced collaboration between autonomous research institutions and government departments.
- Improve science/policy engagement and communication for better uptake, including pro-active building of trust and more effective communication strategies during crises.
- The need for more forward-looking research, rather than retrospective research.
- Journals need to become more open/amenable to quick peer review.
- Institutionalise science advisory committees for government, including social and natural science.

Impact of Covid-19 on Research and HEIs: Findings from Interviews with Leaders

Qualitative structured interviews were held with three Deputy Vice-Chancellors for Research and Innovation and one director of a multi-institutional research unit, representing both previously disadvantaged and advantaged universities [i.e., historically black universities (HBUs) and historically white universities (HWUs)]. More interviews were indicated, but did not materialise, due to timing and logistical barriers, which places a limitation on the generalisability of the study. Nevertheless, it was possible to compare findings with other sources of information. Interviews with university management indicated that research projects, management, researchers and postgraduate students were affected significantly, particularly in the 1st year of the Covid-19 pandemic-related national state of disaster. The following are examples of what transpired from the interviews.

Obstacles to Research Progress

Fields of study that were most affected include those that were either community-based or laboratory-based. The former occurred because access to communities was mostly not possible, and the latter because access to laboratory facilities had been limited, and the availability of consumables and chemicals was hampered. In many of these instances, projects had to be stopped, and work or data was lost. Researchers in health sciences (for example, studies related to tuberculosis and Human Immunodeficiency Virus (HIV) clinical trials) could, in some instances, not consult or adequately follow up with patients. In addition, the personal circumstances of some students deteriorated, so that some had to cancel their studies. In general, postgraduate students (Doctor of Philosophy-PhD, Masters, and Honours) were the priority to return to campus once this was allowed again, and some institutions held calls with students, or even arranged for working in rotation in labs. To address community entry obstacles, some studies have been amended to introduce online interviews, which became standard practice in many instances, and at all universities where participants had such access, or where adaptations allowed participants to gain access and get acquainted with new technologies. Smaller universities focused on maintenance of activities. As such, effective measures to ensure project continuation and researcher activity included smaller institutions keeping record of supervision of students and any problems and mitigation strategies. One university reported a participation of 88% in such a programme. Supervisors assisted with the return of students as necessary. HWUs indicated innovative strategies to address problems with national emergencies, for example, the establishment of an Institutional Committee for Business Continuity, which was chaired by management, and which handled issues raised by teaching staff, research staff, students and other personnel. In fact, the findings resulting from another study indicated that South African higher education institutions had to radically adapt leadership approaches and ways of operation, in a process to make sense and find solutions (du Plessis, 2022). In addition, our interviews revealed that Vice-Chancellors for Research and Innovation at some institutions met weekly to discuss challenges and responses. Also, supervisors worked with postgraduate students via online platforms, e-mail and phone. Students were also provided with data packages or could access the internet online on campus and in hostels[3]. Even smaller, previously disadvantaged universities did not report problems with

[3] The data revealed that some universities negotiated zero rates for certain websites or online learning management systems (i.e., free access to some education websites) for undergraduate students. This, however, seems not to have been a key driver for continuation of the progress of research by postgraduate students, with the exception of one university that mentioned it converted all communication with postgraduate students to its online learning management system platform.

access to appropriate devices for postgraduate students, and, in some instances, devices were bought or provided on loan, while data bundles were also provided. Information Technology (IT) infrastructure also rendered support with larger bandwidth, sometimes following negotiations with providers. The respective libraries introduced special measures to ensure access to, for example, electronic articles and e-books. Later during the pandemic, students who had to travel for research purposes were able to obtain permits and permission letters. Logistical issues arose with handing in Masters dissertations and PhD theses in time for the Department of Higher Education and Training (DHET) as per the time schedule. Negotiations with DHET assisted in overcoming this challenge and deadlines were extended.

Ethical Issues

The need for Covid-related research placed a massive burden on research ethics' committees who were inundated with applications and sometimes placed undue pressure to expedite processes. It was important not to compromise on the quality of ethics processes, of which the primary objective is to protect vulnerable research participants; a serious conviction and understanding of responsibility was evident at large and smaller universities. In addition, amendments to change methodologies were regularly submitted. The ethics' system of institutional Research Ethics' Committees, mostly registered with the Health Research Ethics' Council of the National Department of Health was, however, able to protect against unethical practices. As can be expected, ethical dilemmas arose, notably the example of community projects that had to stop, leaving dependent communities without much needed support which they had been getting before, and in some instances, resulting in data from their previous participation being lost. This, was, of course, not unique to South Africa, and, as an example, one United States-based study also found that the urgent need for Covid-19 research created new ethical challenges, and that the overarching categories of barriers to Covid-19 research included policy and regulatory biases and misperceptions, institutional and inter-institutional conflicts, risks of harm, and pressure of the pandemic (Sisk et al, 2022). An interviewee from the current study noted that the next public health emergency could pose different challenges or could even be worse than Covid-19, and that we need to be prepared. Another study pointed out that in Covid-19-related health research, ethical challenges in its research context were linked to health inequity and inequality, health care rationing/triage, contact tracing technologies and data privacy, movement restriction and exit strategies, as well as ethical challenges specifically associated with clinical trials and vaccine studies (Isfeedvajani et al., 2020), as well as ethical dilemmas intrinsic to health research ethics, such as concerns about autonomy, beneficence, and justice when using biospecimens to inform clinical trial research for public benefit (Lapid et al., 2021).

Financial Impact

Many students experienced significant delays with research projects, beyond the time allowed by their bursary conditions. There were even cases where students lost funding from statutory bodies due to studies which had to continue beyond the allowed time. Therefore, universities needed to intervene, including negotiating with statutory funding bodies such as the National Research Foundation (NRF), and, in some instances, where bridging funding was needed, this was made available from contingency funds. In the case of additional funding challenges, HBUs assisted supervisors. Some research funding was used to provide basic support to students (also sometimes staff) to continue research. The financial impact and institutional responses were not unique

to South Africa, and even affluent countries, such as the United States of America, had to introduce mega-scale interventions to mitigate the financial impact on students (Smalley, 2021).

Mental Health Support

Of course, the experiences of the lockdown were diverse as experienced by individuals and even for the same individuals as time passed. Some researchers and postgraduate students initially found that not having to face the pressure of strict daily schedules, or of time-consuming, stressful activities such as enduring heavy traffic driving to and from work, were very relaxing. Many, but not all, rediscovered the often-forgotten important things in life, whereas others were faced with difficult challenges at home. Nevertheless, the mental health of staff was a significant challenge, in particular with depression and/or anxiety. In fact, several translational animal studies (transferrable to humans) have shown that unpredictable chronic mild stress (such as was experienced by many during the pandemic) may lead to depression and anxiety-related disorders, hypercortisolaemia, metabolic dysfunction, loss in neuroplasticity and even neurodegeneration (Teng et al., 2021; Willner, 2016).

Emotional support was initially not provided, although smaller universities later brought psychologists onboard to assist, in addition to umbrella support such as webinars and talks. Online group therapy for students, particularly cognitive behavioural therapy, was helpful to identify unhelpful thought patterns and pinpoint coping strategies. One university introduced a 10-week group therapy programme. Interestingly, the experience was that suicide rates remained unchanged. Larger universities again used this as an opportunity to perform studies on how to re-imagine belonging, notably also within the deaf community. Supervisors of students met regularly online, which reduced stress and insecurity. Studies also focused on compassion and guilt as part of structural reform, and on behavioural change and its effect on mental health. Some universities also reported that some staff who worked from home, particularly those looking after children during lockdown (both female and male), experienced particular difficulties and additional stress. Support staff was also a specific group with additional mental stress. Some research staff were also volunteer frontline workers, which added to their normal workload and stress. Some larger universities used such information to publish on these challenges (including Covid diaries). In this regard, a South African study found that, despite limited welfare support in low- and middle-income countries, and the impact of the Covid-19 pandemic on mental health, this did not result in increased rates of suicide and self-harm (Knipe et al., 2022).

One of the interviewees pointed out that individuals with particular psychological disorders are typically uniquely affected by challenges to their routine and security. For example, ongoing studies involving research participants with obsessive compulsive disorder (OCD) found that some of these patients who participated in research had excessive, debilitating fears of contamination, or could not sensibly answer questions about potential exposure to a Covid-19 case, due to an unrealistic fear that they might have been unaware of exposure. They could then not reasonably enter research facilities for follow-up treatment and participation. These unintended consequences of safety measures can adversely affect certain individuals in unforeseen ways.

Resilience, seeing Opportunities

On the other hand, research methodologies that were mostly desk-based, such as in human and social sciences, benefitted by having more time to prepare publications, so that output increased. However, in other instances, there were major

financial cuts from funders, which ultimately resulted in a reduction of research output. Larger universities were able to make sufficient funding available to ensure continuation of projects, and to support students. Larger universities were able to start up new initiatives and centres (e.g., for epidemiological innovation), including an institute which was started up for preparedness and response, in collaboration with the NRF and the Department of Science and Innovation. Larger universities with high international output converted challenges into opportunities and redirected research to investigate Covid-19 related questions and problems. These include:

- Isolation and culturing of the coronavirus in the lab, followed by genome sequencing of the virus variants (omicron), and prediction of infection severity.
- Analysis of water and waste-water treatment, and prediction of infection rates.
- Home delivery of medicines.
- Invention of robots to facilitate patient care and engineers who developed ventilators.
- Psycho-social sciences investigated compassion and guilt and assisted with rehabilitation and psychological support.

In fact, in the African context, pre-existing disparities and challenges were highlighted by the Covid-19 pandemic, leading to the realisation that enhanced capacity in clinical ethics is needed, and that structured continental networking and collaboration will be necessary (Moodley et al.,2021). In fact, during an interview with a South African leader involved in driving continental and international research collaboration, the importance of proactively building extensive networks for success in times of crises, was emphasised. It can be concluded that established networks, built on experience and trust, and reputation (existing evidence of collaboration and contribution) is what carries through, and usually not emergency, last-minute attempts to establish collaboration.

Box 8.2: Recommendations: Impact of Covid-19 on Research and HEIs

Recommendations

It was recommended (lessons learned) that universities should act more proactively and promptly. Disaster/contingency plans for research should be prepared in advance. The consequences of the pandemic were not easy on management, particularly when students were not doing well mentally, including the risk of suicide or even fatalities from severe disease. A government-supported collaborative initiative was established by certain larger universities, and one large university indicated the need for an Institute for Preparedness and Responsiveness. An interesting observation was that basic sciences also helped a lot to solve certain complex problems, so that different scientific fields should work together. Studies researching the Long COVID phenomenon have now also commenced to develop a diagnostic tool. It is clear that an excellent leadership team, sound communication and staff/student support are all extremely important in a crisis, including regular meetings between members of management or between leaders and staff/students. Broader support, such as psychosocial, financial and logistical support should also be considered.

New trends

The broader adoption and use of an online environment was fast-tracked. Although the sole virtual mode of work and meetings is not seen as the way forward, this new mode of operation may be used in conjunction with traditional ways (i.e. hybrid modes) to strengthen effectiveness and affordability.

The Impact on Postgraduate Research and Learning

The Covid-19 pandemic posed a watershed moment in the history of higher education in South Africa, post-1994. The pandemic and subsequent lockdowns dramatically changed the educational landscape of tertiary institutions, and activities that include research, teaching, and learning modes, funding, collaborations, and opportunities. It exposed pre-existing weaknesses and disrupted the daily operations of institutions, however, learning had to continue, forcing tertiary institutions to rethink the way they operated. Most institutions resorted to virtual modes to execute almost all the academic operations; hence, Covid-19 became a catalyst for the Fourth Industrial Revolution (4IR). The reimagination of the universities' operations meant that every student and staff member at a higher education institution was affected in some way and to varying degrees (Hedding et al., 2020). Despite the positive impact of ensuring continuity, the digitalisation of higher education academic activities sometimes widened inequalities, increased marginalisation, and intensified the inability of the most disadvantaged students to pursue their studies. As noted by Mukute et al. (2020), the historical and current everyday structural inequalities determine who successfully adopts the educational shift and who does not. That is, in trying to adapt to this paradigm shift, both opportunities and challenges were presented. From a practical perspective, many research projects were and will continue to be compromised by the Covid-19 pandemic. This section focuses on how the Covid-19-related changes in institutions of higher learning either facilitated or limited research for postgraduate students as early academics. The section discusses aspects relating to funding, the impact of the technological shift on broader research, work-life balance, and the measures put in place to enhance postgraduate students' resilience and to ensure social justice within the Covid-19 vulnerability context.

Out of necessity, universities have had to develop innovative and flexible ways to offer both theory and practical components to students and to find alternative forms of assessment amid Covid-19 health regulations of restricted contact (Hedding et al., 2020; Naidoo and Cartwright, 2020; Cranfield et al., 2021). For postgraduate students, supervision, research fieldwork, collaborations, and conferences had to continue under these new pioneering methods and technological shift. Dawood and Van Wyk (2020) noted that digital illiteracy is a concern for some people, and that in many instances no skills capacitation was provided for either students or supervisors to assist them to navigate this new normal. Besides, South Africa is a country marked by a divide in resources, which raises a question of whether every academic and participant in the research arena, has access to resources that allow virtual research efficacy during Covid-19 or any other disaster. In a country where a large percentage of students depend on financial assistance to make ends meet, where data costs are high and even a mobile connection may not be readily available to all, and where devices such

as laptop computers are seen as a luxury, it is not surprising that contact universities faced push-back from students who have argued that universities could not expect them to continue with online learning without providing the necessary resources. A few universities, mostly HWUs, were swift to engage their faculty and implement remote teaching, irrespective of the limitations that the Covid-19 lockdown placed on staff and students (Ojo and Onwuegbuzie, 2020; Mtshweni, 2022). HBUs struggled to adapt and to adjust[4], and this has negatively impacted their ability to engage in teaching and learning online, with postgraduate students not spared (Ojo and Onwuegbuzie, 2020; Mtshweni, 2022). Despite South Africa's declared interest in taking the lead in the continent in the implementation of the 4IR, unemployment and poverty is rife, posing a challenge to normalising the technological shift in research[5] (Jegede, 2021). As such, Covid-19 brought back memories of the past, namely, the legacy of segregation (Ojo and Onwuegbuzie, 2020).

To address the students' resource challenge, universities negotiated with several cellular networks to make data available at a cost to the university, thereby forcing universities to reshuffle their financial budgets and/or ask the public to donate to discretionary funds, while various universities provided devices to disadvantaged students (Hedding et al., 2020). Universities such as NWU, UCT, UJ, UP and WITS made deals with South Africa's mobile network operators to provide students with data, while SUN (likely others as well) loaned laptops, connectivity devices to students who needed them, interest-free and was to be paid back to them once the device was returned in good working order (Vermeulen, 2020; du Plessis, 2021). Notwithstanding all these remedial efforts,[6] students living in remote areas where electricity supply is inconsistent and network coverage is poor, lagged behind. Interrogating students' resilience in higher education, Ang et al. (2021) noted the importance of resources and institutional support in enhancing the ability to bounce back amid adversity. Nonetheless, postgraduate students in technologically marginalised communities had to deal with the reality of both limited access to resources and restricted institutional support. Scholars such as Mthalane, Agbenyegah and Dlamini (2021) and Okoye (2021) noted increased student drop-outs during the pandemic, linked to lack of access to resources, especially by students from deprived backgrounds. Though empirical data from students revealed student drop-outs, students, interviewees attributed this to non-Covid-19 impact as shall be discussed in the findings section.

Furthermore, research on the Covid-19 experiences of postgraduate students has indicated that some students preferred virtual learning and would have liked to continue, even in the post-pandemic era (Sokhulu, 2020). On the other hand, Hemdi (2021) argued that

[4] Whereas literature highlights this difference in shifting from face-to face to online mode of teaching, empirical findings revealed the opposite, where it was noted that institutions provided support for students without access to facilitate the new normal. However, what stood out is that the findings in literature were derived from students' interviews, whereas those of empirical data were based on leadership's perspectives. This shows in a way, a disjuncture between policy and the reality on the ground as it is experienced by students.

[5] With this being said, it is worth noting that some institutions like the UP, SUN, NWU, UJ, just to mention a few provided resources like laptops to facilitate online teaching, learning and research, especially for National Student Financial Aid Scheme (NSFAS) students. Of importance to note is that NSFAS fund undergraduate level, whilst bodies like NRF fund postgraduates. However, as noted in the "funding" section, the NRF cut down on, or redirected funding in 2020, and had to prioritise sciences and technology, thereby considerably sidelining social sciences and humanities. In addition, unemployment escalated as a result of the Covid-19 pandemic, thereby exposing a lot of people to dire poverty, with some students not being spared. That is, despite efforts by institutions to provide support in terms of resources, the economic realities on the ground made it difficult for some students to stay afloat.

[6] Even though the goal for almost all institutions was 'to leave no student behind' in responding to the Covid-19 impact on teaching, learning and research, the geographical contexts in which some students reside played a detrimental role. While almost all institutions did their best to mitigate the adverse impact by providing essential resources, it was nevertheless more challenging to deal with certain barriers like poor network connectivity and electrification.

distance learning cannot meet the learning needs as well as face-to-face does, and that this is more so for certain disciplines teaching complex information, or with an absolute need for practical work-based or laboratory exposure. Virtual execution of academic activities has also led to fewer interactions with peers and supervisors. In addition, independent learning ability also varies among individual students. When lockdown was eased in 2020, medical and science students were the only ones who could return to campus to continue with their clinical and laboratory studies; thus, other disciplines did not get the chance to return to their old normal methods of learning and conducting research (Oluka, Musaigwa and Nomlala, 2021).

Research, especially for humanities and social sciences, often relies on interviews, focus groups, and survey questionnaires. The associated risk of the exposure of students/researchers and the communities in which they work, to the Covid-19 virus, therefore prevented these students from essential learning opportunities (Hedding et al., 2020). Following the relaxation of Covid-19 health protocols, researchers could once again conduct face-to-face research; nonetheless, this meant lost time had to be regained, and the reality of remaining health concerns still meant that this depended on both the researcher and participants' preferences. Moreover, virtual data collection does not offer the full range that face-to-face does - for example, calls without video do not give the full spectrum of language, since one cannot see facial expressions or body language, resulting in miscommunication and negative feelings (Hofmeyr, Price and Myres, 2021). Poor communication also affects effective debate and participation, potentially leading to impaired productivity. Despite the challenges caused by the technological shift in research, Covid-19 has created an opportunistic environment for some researchers. Dodds and Hess (2021) noted that the benefits of virtual research include being comfortable, non-intrusive and safe; engaging and convenient; online communication can be facilitated with ease and by an easy set-up. Adaptation to the positives and negatives of the new normal had to ensue.

Funding and Opportunities

The Covid-19 pandemic has exacerbated the already challenging higher education funding landscape in South Africa, especially for those conducting research not related to Covid-19 and for postgraduate students. Indeed, a dire funding shortage for postgraduate studies in South Africa has been a reality, for example in 2020, the NRF had a huge funding cut of R763 million but still had to deliver (USAf, 2021b). This resulted in a significant decrease in the number of postgraduate students being funded. The budget cut led to government spending prioritising hard science and technology (USAf, 2021b), hence the marginalisation of disciplines like humanities and social sciences. Moreover, the strategy to raise private sector funding has been affected by the pandemic.

On the other hand, Covid-19 research has blossomed with impressive results, and refocused attention on Covid-19 research. This single focus was a setback for other non-Covid-19 research, with several institutions putting non-Covid-19 research on hold (Oluka, Musaigwa and Nomlala, 2021; USAf, 2021a). Postgraduate students, as early career researchers, might have been more affected because of the lack of resources, especially those researching non-Covid-19 aspects. Discussing austerity measures that cripple postgraduate funding at the 6th Research and Innovation Biennial Dialogue, Professor Sue Harrison of the UCT noted that there is a group of those who are truly empowered and hugely busy, doing amazing work in Covid-19-based research, and for them, money is rolling in, and then there are the rest of the researchers where money isn't rolling in, where research is in a different space (USAf, 2021a).

Typically, strict timeframes for completion are always imposed on postgraduate students, both by funding bodies like the NRF by limiting the number of years of student financial support, as well as by universities which require motivations from students unable to complete their degrees within the allocated time (Hedding et al., 2020). The authors have also argued that there is a possibility of the leaky pipeline, as students have faced other diverse challenges during Covid-19, all of which need to be considered to understand the potential delays in the completion of studies. Furthermore, many postgraduate students' evaluations and placements were affected by Covid-19, with some either cancelled, or delayed (Hofmeyr, Price and Myres, 2021). This affected the financial security of most postgraduate students, as some experienced salary cuts and some even lost employment (Hofmeyr, Price and Myres, 2021).

Despite all the challenges imposed by the new normal under Covid-19, Bogle (2020) reflected on how virtual communication has developed, arguing that the pandemic will also affect research and international collaboration in the future. He noted that the way researchers communicate has changed, including that online meetings, conferences and seminars have become a norm. Technology has improved and became more widely accepted, now facilitating national and international communication and debate by overcoming the barriers of distance and time zone differences.

Work-life Balance and the Psychological Impact during Covid-19

Research has indicated that a conducive environment is vital for successfully working from home during Covid-19 and beyond (Fathoni and Retnawati, 2021). Hedding et al. (2020) noted that academics with families struggled to juggle family and work responsibilities. Hedding et al. (2020) further argued that women's work productivity was often more likely to suffer than that of men during the pandemic. This is because, even in many higher earning households, women remain the primary caregivers and, as such, childcare and home-schooling fall predominantly on their shoulders. The pandemic has thus blurred the line between academic work and home life (Dawood and Van Wyk, 2020). The challenges faced by female (and sometimes male) academics, regarding the work-life balance, impacted negatively on the quality of work and slowed down knowledge production.

Earlier research on the pedagogical shift has shown that online, distance learning can lead to additional stress due to difficulties in time management, isolation from peers and insufficient support from supervisors (Fathoni and Retnawati, 2021). Necessary facilities and family support, which are all vital for managing off-campus research and learning, are not guaranteed. Van Breda (2018) argued that, to remain resilient, South African students in institutions of higher learning, should be able to draw on relational resources in their home communities during times of adversity. Nevertheless, students had to deal with isolation from both home communities and the university community during Covid-19. Zhang et al. (2022) suggested that the mental health of postgraduate students be monitored during a pandemic and that counselling be made available, since anxiety and depression symptoms manifest as worse than in pre-pandemic data. Furthermore, communication challenges escalated with blurred boundaries on work hours during Covid-19, as almost all academic activities in 2020 and partly 2021 and 2022 shifted to being virtual. This, in turn, impacted the well-being of academics as they had to deal with exhaustion from emails, supervision, and online meetings (Hofmeyr, Price and Myres, 2021).

Impact of Covid-19 on Research: Findings from Interviews with Students

Semi-structured interviews were conducted with eleven postgraduate students, that is, Masters and PhD students from the social sciences in one of the South African universities which was strategically selected, based on its historical and current background. As noted with leaders, interviews with students also indicated that postgraduates, as early career academics, were impacted by the Covid-19 pandemic, especially in 2020 and 2021. The interviews revealed aspects like research delays, isolation and independence, ethical issues, university support and inequalities, as shall be discussed further below.

Research Delays and Increased Costs

Postgraduate students had to deal with various lockdown related impacts, especially in 2020 and 2021, which either delayed the progress of their research projects or increased the cost. For example, one doctoral student indicated that she used to rely on a desktop computer at a university research centre since she had no laptop, and when hard lockdown was imposed, she had to stop working on her project for quite some time until lockdown was eased. While interviews with individuals in university top management indicated the negative effect of the digital divide to be less evident in the research and postgraduate environment than amongst undergraduate students, delays resulting from technological shifts were still noted from interviews with postgraduate students.

Access to analysis software such as Atlas TI in the laboratories was also highlighted as having impacted the progress of research projects for social science postgraduate students. Students who were at data analysis stages in their projects and relied on the library and laboratories for such software, either had to put their studies on hold, or resort to a methodological shift and utilise manual analysis. Increased research costs were also noted, especially for projects that required physical contact, immediately after hard lockdown. For example, some researchers without private cars had to hire cars since they did not want to risk their lives and those of participants by using public transport. Those who needed research teams had to make use of multiple cars to enable social distancing. This ensured ethical adherence toward prioritising the participants' safety, yet it meant increased costs for researchers.

Isolation and Independence

Restricted movement confined not only postgraduate students, but almost everyone except for essential workers to their home spaces during alert level 5 in early 2020. However, for postgraduates, the implication was physical isolation from supervisors and counterparts. The literature (Sokhulu, 2020) has indicated that, while working from home was viable for some people, others struggled. Some students interviewed shared that being isolated from colleagues and supervisors made them more anxious, curious, and even caused them to doubt the progress of their work. It became a lonely journey as they felt detached from the university support system which, in turn, impacted their progress.

For international postgraduates, isolation was exacerbated by being away from home. People were given a few days to travel before hard lockdown, however, for most international students, travel expenses made this impossible. Even when lockdown was eased, the borders remained closed, hence they remained isolated from their families for long periods. This denied them family support which they needed most

at a time marked with fear and uncertainty. Despite the negative impact of isolation, the silver lining in all this was that it cultivated independence as a form of resilience among postgraduate students.

Systematic Ethics versus Ethics in Practice

Ethical dilemmas arose for postgraduate students who had to conduct contact research after the easing of lockdown. Vaccine hesitancy came as a challenge when vaccine roll-out started (Alexander, Runciman, Roberts et al., 2021), nevertheless, some researchers were left with no option but to be vaccinated in order to be allowed to travel to research sites to meet with research teams and participants and to collect data. This created several ethical implications, including that those who were not ready had to compromise their own interests in order to be allowed access to research communities. Besides, this brought to the fore that ethics in research has prioritised social interest above personal interest/rights, dealing on the one hand with applications for essential ethical clearance and protection of participants, yet also engaging with the ethical challenges that they, as researchers, had to navigate.

Prioritising participants' safety, researchers who captured data within communities had to adhere to health protocols like maintaining social distance, wearing masks and following sound hand washing protocols. When interviewed, postgraduates often pointed out instances where their research participants would insist that they capture responses in-person. Respecting the participants' wishes implied additional health and safety risks to both the participants and the researchers. Even worse, some researched communities would refuse to wear masks. This was not surprising, though, given what has been highlighted in the literature about the lack of information and ignorance of some communities about the reality of the pandemic (Sanchez-Paramo, 2020).

University Support

To mitigate the impact of the Covid-19 pandemic, like many universities, the sampled university put in place measures to support students' needs, teaching and research, and these ranged from data provision, food provision, reading material on pandemic updates and health responses, especially for those who were in university residences during lockdown. Provision of data, for example, allowed students who were off campus to access library resources and continue working on other research tasks which required internet connection. Likewise, it was noted from the interviews that some students lost their part-time jobs, the income from which they had used to survive prior to Covid-19, nonetheless, the university provided food for some students who were struggling financially, though they did not cater for everyone in need.

The university health response team ensured that students who were at residences were attended to if the need arose. Moreover, some supervisors had to step in, in an individual capacity, to assist students who were struggling with registration fees, since a decline in bursaries and other forms of postgraduate funding was a reality during the pandemic.

Notwithstanding the efforts of the university, sometimes structural impacts like inequality, and load shedding affected the efficacy of the measures put in place. For example, some students were provided with data, yet they resided in areas with no network reception, or even struggled to find conducive environments for their studies since they shared accommodation with family. One interviewee indicated how navigating virtual platforms as the new normal of research was a challenge.

This contrasted with another participant, who indicated that the technological shift positively impacted his research work as it allowed for flexibility. In addition to reduced funding, competition arose, as advertising for funding opportunities declined and students had to rely on supervisors to find out about funding opportunities.

Box 8.3: Recommendations: The Impact on Postgraduate Research and Learning

Recommendations:

The government and institutions must put in place the means to reduce digital inequalities. This will guarantee equal and fair access, especially for postgraduate students from technologically marginalised communities, to ensure that they do not lag behind their counterparts.
- Research has indicated that the resilience of students amid adversity goes beyond individualistic traits, hence appropriate institutional support like counselling, support sessions, should be made easily accessible to assist students to cope with psychological challenges.

Conclusions

The Covid-19 pandemic's unanticipated and unprecedented impact on institutions of higher learning and other parts of society at large resulted in inevitable transformation. Academic research, teaching, and learning shifted to virtual platforms to ensure continuity. However, this had both positive and negative impact on academics and researchers as it impacted ways in which they conducted research, funding, supervision, work-life balance, and their psychological well-being. The Covid-19 pandemic's unanticipated and unprecedented impact on institutions of higher learning and other segments of society at large has inevitably resulted in a bigger drive for real transformation to address inequalities that were exacerbated by the pandemic. It became apparent that the national emergency had significant implications for research continuity, often associated with critical ethical implications, negative impact on the completion of student studies, detrimental mental impact, and deleterious impact on research funding and student bursaries.
Overall research revealed that complementary research between natural and social sciences provided a better understanding of the virus, its impact on society, and optimal management. There is thus a need to ensure the representation of diverse disciplines in developing responses to the pandemic to capture all possible nuances from the different disciplines. This implies a synergy between disciplines, requiring focused disciplinary research, interdisciplinary research, and transdisciplinary research. Studies on vaccines indicated a lack of communication by the government about vaccines, which led to the spread of false information and vaccine hesitancy. Media platforms like television, radio, and social media have been used to encourage people to take vaccines, and such platforms can also be used to provide more explicit information about the safety of vaccines to mitigate hesitancy.

Additionally, relations marked by distrust of the government have been highlighted as impacting the efficacy of the vaccine programme and other government interventions. The government needs to find ways of building and improving trust among its citizens. It may also be necessary to communicate better and educate the public on how to interpret medicines' effectiveness,

safety, and side-effects and promote awareness of and active participation in pharmacovigilance. In general, it is of crucial importance to improve continuous effective engagement with the public on this topic and to empower the public by developing a better understanding of the role of South African regulation of medicines (e.g., SAHPRA), reliable resources of information, and access to trustworthy and dependable professional care. Additionally, there needs to be sustained funding and effective collaboration across government, industry, research, and civil society, as was highlighted by the OECD.

From interviews with the Deputy Vice Chancellors for Research and Innovation of a previously disadvantaged, and a university with high international ranking, it transpired that the tertiary environment has, in general, been very resilient, and even innovative, during the national state of disaster. This was also seen at other universities across the African continent (Oduola et al, 2021). Interviewed institutions indicated that they have been able to address student needs for ongoing training, making use of online platforms to sustain communication and study leadership. At the same time, such challenges stimulate the development and adoption of new solutions and ways of operation. What was apparent is that there have been sound communication channels between universities and governmental governance structures. These channels facilitated support from the government, such as financial support for the vulnerable and affected individuals.
On the other hand, earlier studies on the experiences of postgraduate students indicated the different responses by universities as they supported students to navigate the new normal of online learning and research. Economic and geographical challenges that undermined the efficacy of the efforts were also emphasised. In fact, unpublished, recent, post-pandemic observations since returning to face-to-face education and training, suggest that students are now struggling to cope, and that the online learning and assessments during the lockdown often facilitated superficial learning without true achievement of learning outcomes. We are only now seeing the true impact and figuring out the optimal balance of implementing the best of online learning and the best of contact learning in education and research.

References

African Research Universities Alliance, 2021. Stellenbosch University produces PPE and Medical Robot. African Research Universities Alliance. Available https://www.Stellenbosch University produces PPE and medical robot - ARUA Accessed 30 September 2021.

Alexander, K., Runciman, C., Roberts, B.,Bekker, M & Bohler-Muller, N. 2021. Vaccine Acceptance and Hesitancy: Findings from the UJ/HSRC Covid-19 Democracy Survey. Human Sciences Research Council. Http://Www.Hsrc.Ac.Za/Uploads/Pagecontent/1045979/2021-08-18%20UJ-HSRC%20R4%20Report%201%20Vaccine%20acceptance.Pdf

Ang, W.H.D., Shorey, S., Hoo, M.X.Y., Chew, H.S.J., & Lau, Y., 2021. The Role of Resilience in Higher Education: A meta-ethnographic Analysis of Students' Experiences. Journal of Professional Nursing, 37 (6): 1092-1109.

Anisur, R.M., Shahidul, I.M., Abusayed, K.A., Bibhuti, S., & Ayesha, M. 2020. Understanding "Quarantine," "Social Distancing," and "Lockdown" during "COVID-19" Pandemic in Response to Global Health: A Conceptual Review. Open Journal of Social Sciences, 8 (10): 283-305.

Anon., 2002. South Africa's National Research

and Development Strategy. The Government of the Republic of South Africa, Available https://www.gov.za/sites/default/files/gcis_document/201409/rdstrat0.pdf Accessed 9 September 2022.

Arrais, C. A., Corcioli, G., & Medina, G. D. S., 2021. The Role Played by Public Universities in Mitigating the Coronavirus Catastrophe in Brazil: Solidarity, Research and Support to Local Governments Facing the Health Crisis. Frontiers in Sociology, 6, 610297.

Beesham, A., 2020. Mathematical Modelling of Covid-19 in South Africa. Asian Pacific Journal of Tropical Medicine, 13 (5): 235.

Bogle, D., 2020. How will Covid-19 Affect Research Collaboration?. University World News. Accessed 1 June 2022. https://www.universityworldnews.com/post.php?story=20200904133935 95

Bos, W., & Tarnai, C. (1999). Content analysis in Empirical Social Research. International Journal of Educational Research, 31(8), 659-671.

Burger, R., Buttenheim, A., English, R., Maughan-Brown, B., Köhler, T. and Tameris, M., 2021. Covid-19 Vaccine Hesitancy in South Africa: Results from NIDS-CRAM Wave 4.

Cao, B., Wang, Y., Wen, D., Liu, W., Wang, J., Fan, G., Ruan, L., Song, B., Cai, Y., Wei, M. and Li, X., 2020. A Trial of Lopinavir–Ritonavir in Adults Hospitalized with Severe Covid-19. New England journal of Medicine., 382(19):1787-1799.

Capano, G., Howlett, M., Jarvis, D. S., Ramesh, M., & Goyal, N., 2020. Mobilizing Policy (in) Capacity to Fight Covid-19: Understanding Variations in State Responses. Policy and Society, 39(3), 285-308.

Council on Higher Education. 2022. Higher Education Monitor No. 15: Perspectives on the Possible Future of Higher Education in South Africa in the Era of Covid-19. Pretoria: Council on Higher Education.

Cloete, J., Kruger, A., Masha, M., du Plessis, N. M., Mawela, D., Tshukudu, M. & Feucht, U., 2022. Paediatric Hospitalisations due to Covid-19 during the First SARS-CoV-2 Omicron (B. 1.1. 529) Variant Wave in South Africa: A Multicentre Observational Study. The Lancet Child & Adolescent Health, 6(5): 294-302.

Cranfield, D.J., Tick, A., Venter, I.M, Blignaut, R.J & Renaud, K., 2021. Higher Education Students' Perceptions of Online Learning during Covid-19 - A Comparative Study. Education Sciences, 11 (403).

Dawood, Q. & Van Wyk, B., 2020. Postgraduate Research during Covid-19 in a South African Higher Education Institution: Inequality, Ethics, and Requirements for a Reimagined Future. African Journal of Inter/Multidisciplinary Studies, 3 (2021a Special Issue): 1-12.

Del Rio, C. & Malani, P. N., 2022. Covid-19 in 2022—The Beginning of the End or the End of the Beginning? Journal of the American Medical Association, 327(24): 2389-2390.

Department of Co-Operative Governance and Traditional Affairs (South Africa). 2020. Disaster Management Act, 2002 (Act No. 57 of 2002). Government Gazette, 43096, 25 March.

Department of Health (South Africa). 2017. National Health Act, 2003 (Act No. 61 Of 2003). Government Gazette, 41330, 15 December.

Department of Higher Education and Training, 2020. Social Impact of the Covid-19 Pandemic on Youth in the Post School Education and Training (PSET) Sector in South Africa. Pretoria: Department of Higher Education and Training.

Dodds, S. & Hess, A.C., 2021. Adapting Research Methodology during Covid-19: Lessons for

Transformative Service Research. Journal of Service Management, 32 (2): 203-217.

Du Plessis, M., Jansen van Vuuren, C.D., Simons, A., Frantz J., Roman, N. & Andipatin, M., 2022. South African Higher Education Institutions at the Beginning of the Covid-19 Pandemic: Sense-Making and Lessons Learnt. Frontier in Education, 6(art. 740016):1-17. https://doi.org/10.3389/feduc.2021.740016.

Du Plessis, S., 2021. All Systems go for Academic Year 2021 at SU. Stellenbosch University.

Fathoni, A. & Retnawati, H., 2021. Challenges and Strategies of Postgraduate Students in Online Learning during the Covid-19 Pandemic. Jurnal Prima Edukasia, 9 (2): 233-247.

Gore, O. & Botha, J., 2022. Exploring Inequality in South African Higher Education Institutions (HEIs) through Vignettes. In Popov, N., Wolhuter, C., de Beer, L., Hilton, G., Ogunleye, J., Achinewhu (eds). Towards the Next Epoch of Education. Sofia: Bulgarian Comparative Education Society, pp. 237-244.

Gray, G., Collie, S., Goga, A., Garrett, N., Champion, J., Seocharan, I., & Bekker, L. G. (2022). Effectiveness of Ad26. COV2. S and BNT162b2 Vaccines against Omicron Variant in South Africa. New England Journal of Medicine, 386:2243-2245

Hedding, D.W., Greve M., Breetzke G.D., Nel W. & Van Vuuren B.J., 2020. Covid-19 and the Academe in South Africa: Not Business as Usual. South African Journal of Science. 2020;116(7/8).

Hemdi, A., 2021. Exploring the Experiences of Postgraduate Students in the Field of Special Education with Remote Online Teaching Amid Covid-19 Pandemic: A Mixed Methods Study. Journal of Educational and Social Research, 11 (5): 237-252.

Higher Health, 2020. Social Impact of the Covid-19 Pandemic on Youth in the Post School Education and Training (PSET) Sector in South Africa. Pretoria: Higher Health.

Hlatshwayo, M.N., 2020. Being Black in South African Higher Education: An Intersectional Insight. Acta Academica, 52 (2): 163-180.

Hofmeyr, K., Price, G. & Myres, K., 2021. The Impact of Covid-19 On Postgraduate Business Students. Pretoria: University of Pretoria: Gordon Institute of Business Science.

Holmes, E. A., O'Connor, R. C., Perry, V. H., Tracey, I., Wessely, S., Arseneault, L., ... & Bullmore, E., 2020). Multidisciplinary Research Priorities for the Covid-19 Pandemic: A Call for Action for Mental Health Science. The Lancet Psychiatry, 7(6): 547-560.

Human Sciences Research Council. 2021. HSRC and USAf Announce Nominees for the 2020 Medal in Social Sciences and Humanities. Pretoria: Human Sciences Research Council.

Isfeedvajani, M.S., Fares, F. & Moqaddam, Z.I.S., 2020. Ethical Issues in Covid-19 Pandemic. Hosp Pract Res. 5(4):126-133. DOI 10.34172/hpr.2020.25.
Jennings, B., & Callahan, D.,(1983) 'Social Science and the Policy-Making Process', The Hastings Center, 13 (1): 3–8.

Jegede, O., 2021. South Africa's Capacity to Deploy Fourth Industrial Revolution Technologies post-Covid-19. Pretoria: United Nations Industrial Development Organisation.

Kannampallil, T. G., Goss, C. W., Evanoff, B. A., Strickland, J. R., McAlister, R. P. & Duncan, J.,

2020. Exposure to Covid-19 Patients Increases Physician Trainee Stress and Burnout. PloS one, 15(8): e0237301.

Knipe, D., John, A., Padmanathan, P., Eyles, E., Dekel, D., Higgins, J.P.T...& Gunnell, D. 2022. Suicide and Self-harm in Low- and Middle- Income Countries during the Covid-19 Pandemic: A Systematic Review. PLOS Glob Public Health 2(6): e0000282. https://doi.org/10.1371/journal.pgph.0000282.

Kollamparambil, U., Oyenubi, A., & Nwosu, C., 2021. Covid19 Vaccine Intentions in South Africa: Health Communication Strategy to Address Vaccine Hesitancy. BioMed Central public health, 21(1): 1-12.

Krippendorff, K. 1980. Content Analysis: An Introduction to its Methodology. California: SAGE Publications.

Krippendorff. K. 2004. Content Analysis: An Introduction to its Methodology 2nd edition. California: SAGE Publications.

Kweinor T.E., Opoku, A.M., Armah, E.K. & Rathilal, S., 2020. Fate of Covid-19 Occurrences in Wastewater Systems: Emerging Detection and Treatment Technologies—A Review. Water, 12(10): 2680.

Lapid, M.I., Meagher, K.M., Giunta, H.C., Clarke, B.L., Ouellette, Y., Armbrust, T.L., Sharp, R.R., & Wright, R.S., 2021. Ethical Challenges in Covid-19 Biospecimen Research: Perspectives from Institutional Review Board Members and Bioethicists. Mayo Clinic Proceedings, 96(1): 165-173. https://doi.org/10.1016/j.mayocp.2020.10.021.

Madhi, S.A. 2021. South Africa's Latest Covid-19 Lockdown Puts Spotlight Back on Vaccination Failures. The Conversation, 29 June. https://theconversation.com/south-africas-latest-Covid-19-lockdown-puts-spotlight-back-on-vaccination-failures-163521. (Accessed 04 August 2023).

Madhi, S. A., Kwatra, G., Myers, J. E., Jassat, W., Dhar, N., Mukendi, C. K. & Mutevedzi, P. C., 2022. Population Immunity and Covid-19 Severity with Omicron Variant in South Africa. New England Journal of Medicine, 386(14): 1314-1326.

Makou, G., 2020. Who's new on SA's Covid-19 Ministerial Advisory Committee? Bhekisisa Centre for Health Journalism. https://bhekisisa.org/resources/general-resource/2020-05-22-what-south-africas-Covid-19-ministerial-advisory-committe-did-and-didnt-advise-on/ (Accessed 5 August 2021).

Marsh, E. E., & White, M. D. (2006). Content analysis: A Flexible Methodology. Library trends, 55(1): 22-45.

Marston, H. D., Paules, C. I. & Fauci, A. S., 2017. The Critical Role of Biomedical Research in Pandemic Preparedness. Journal of the American Medical Association, 318(18): 1757-1758.

Maslo, C., Friedland, R., Toubkin, M., Laubscher, A., Akaloo, T. & Kama, B., 2022. Characteristics and Outcomes of Hospitalised Patients in South Africa during the Covid-19 Omicron Wave Compared with Previous Waves. Journal of the American Medical Association, 327(6): 583-584.

Matzopoulos, R., Walls, H., Cook, S. & London, L., 2020. South Africa's Covid-19 Alcohol Sales Ban: The Potential for Better Policy-making. International Journal of Health Policy and Management, 9(11): 486.

Mellet, J., & Pepper, M. S., 2021. A Covid-19 Vaccine: Big Strides Come with Big Challenges. Vaccines, 9(1): 39.

Moodley, J., Khaliq O.P., & Mkhize P.Z. 2021. Misrepresentation about Vaccines that are Scaring Women. African Journal of Primary Health Care and Family Medicine, 13(1): e1-e2. doi: 10.4102/phcfm.v13i1.2953.

Moodley, K., Kabanda, S.M., Kleinsmidt, A. & Obasa, A.E., 2021. Covid-19 Underscores the Important Role of Clinical Ethics Committees in Africa. BioMed Central Medical Ethics, 22:131. https://doi.org/10.1186/s12910-021-00696-2.

Moosa, M., Mpako, A., & Felton, J. 2021. South Africans Support Government's Covid-19 Response but are Critical of Corruption and Skeptical of Vaccines. Afrobarometer: Afrobarometer Dispatch No. 467

Mounier-Jack, S. & Coker, R. J., 2006. How Prepared is Europe for Pandemic Influenza? Analysis of National Plans. The Lancet, 367(9520), 1405-1411.

Mthalane, P.P., Agbenyegah, A.T. & Dlamini, B.I., 2021. Reflection on Student Drop-out against the Backdrop of Covid-19 in the South African Educational Context amongst Marginalised Groups of Students. African Sociological Review, 25 (1): 194-217.

Mtshweni, B. V. 2022. Covid-19: Exposing Unmatched Historical Disparities in the South African Institutions of Higher Learning. South African Journal of Higher Education 36 (1): 234-50.

Mukute, M., Francis, B., Burt, J. & de Souza, B., 2020. Education in Times of Covid-19: Looking for Silver Linings in Southern Africa's Educational Responses. Southern African Journal of Environmental Education, 36 (1): 1-16.

Naidoo, J., 2020. Postgraduate Mathematics Education Students' Experiences of Using Digital Platforms for Learning within the Covid-19 Pandemic Era. Pythagoras, 41(1).

Naidoo, P. & Cartwright, D., 2020. Where to from Here? Contemplating the Impact of Covid-19 on South African Students and Student Counselling Services in Higher Education. Journal of College Student Psychotherapy. 1-15.

Nichols, B.E., Jamieson, L., Zhang, S.R., Rao, G.A., Silal, S., ... Meyer-Rath, G., 2021. The Role of Remdesivir in South Africa: Preventing Covid-19 Deaths through Increasing Intensive Care Unit Capacity. Clinical infectious diseases, 72(9):1642-1644.

Netshakhuma, N.S., 2022. Transformation of Historically Black Universities in South Africa to Provide Access to Information, In J.A. Boivin & P.J. Heather (Eds.). Education as the Driving Force of Equity for the Marginalised. Hershey: Information Science Reference.

Nyabadza, F., Chirove, F., Chukwu, C. W., & Visaya, M. V., 2020. Modelling the potential impact of social distancing on the Covid-19 epidemic in South Africa. Computational and mathematical methods in medicine, 2020.

Oduola, A.M.J., Canavan, C.R., Fawole, O.I. & Fawzi W., 2021. Universities have become central to Covid-19 response. University World News, 22 Sep 2021, https://www.universityworldnews.com/post.php?story=20210920111723307. (Accessed 9 September 2022).

Organisation for Economic Co-operation and Development (OECD), 2020. Building back better: A sustainable, resilient recovery after Covid-19. Paris: OECD Publishing. https://www.oecd.org/coronavirus/policy-responses/building-back-better-a-sustainable-resilient-recovery-after-Covid-19-52b869f5/

Ojo, E. & Onwuegbuzie, A.J., 2020. University Life in an Era of Disruption of Covid-19: A Meta-Methods and Multi- Mixed Methods Research Study of Perceptions and Attitudes of South African Students. International Journal of Multiple Research Approaches, 12 (1):20-55.

Okoye, F.I., 2021. Higher Institution Dropouts in South Africa during Covid-19: Have we Got our Priorities Right in Resolving Teaching and Learning Challenges? International Journal of Education and Development using Information and Communication Technology, 17 (4): 144-147.
Oluka, A., Musaigwa, M. & Nomlala, B., 2021. Understanding the Experience of Accounting Students during the Covid-19 Lockdown in South Africa. International Journal of Innovation, Creativity and Change, 15 (7): 637-649.

Padayachee, N., & Bangalee, V., 2021. Reluctant to be Vaccinated for Covid-19? Here are Six Myths you Can Put to Rest. Daily Maverick, Reluctant to be vaccinated for Covid-19? Here are six m... (dailymaverick.co.za) (Accessed 1 October 2021).
Reimers, F.M., 2021. Can Universities Help "Build Back Better" in Education? The Socially Embedded University Responds to the Covid-19 Pandemic. Frontier in sustainability, 2:1-6. https://doi.org/10.3389/frsus.2021.636769.

Roberts, B., Bekker, M., Rule, S., Orkin, M., Bohler-Muller, N., & Alexander, K. 2020. The Calculus of Trust: Diminished Public Confidence in the President's Performance. Daily Maverick. The Calculus of Trust: Diminished public confidence in... (dailymaverick.co.za). (Accessed 30 September 2021)

Sanchez-Paramo, C., 2020. Covid-19 will Hit the Poor Hardest-Here's What we can do about it. Washington D.C: World Bank.

Schwarz, G. M. & Stensaker, I., 2020. Researching a pandemic: Letting Covid-19 Drive our Research. The Journal of Applied Behavioral Science, 56(3): 261-265.

Sehloho, M., 2020. New Ministerial Advisory Committee will focus on Covid-19 Vaccine Procurement: 702. https://www.702.co.za/articles/396221/new-ministerial-advisory-committee-will-focus-on-covid-19-vaccine-procurement (Accessed 5 August 2021).

Shepherd, D and Moholwane, N. 2021. The Impact of Covid-19 in Education - More than a Year of Disruption. NIDS-CRAM. 11.-Shepherd-D-_-Mohohlwane-N.-2021.-Changes-in-education-A-reflection-on-Covid-19-effects-over-a-year.pdf (cramsurvey.org)

Sisk, B.A., Baldwin, K., Parsons, M., DuBois, J.M., 2022. Ethical, Regulatory, and Practical Barriers to Covid-19 Research: A Stakeholder-Informed Inventory of Concerns. PLoS ONE 17(3):e0265252. https://doi.org/10.1371/journal.pone.0265252.

Smalley, A., 2021. Higher Education Responses to Coronavirus (Covid-19). National Conference of State Legislatures, https://www.ncsl.org/research/education/higher-education-responses-to-coronavirus-covid-19.aspx. (Accessed 9 September 2022).

Smith, C. P. 2000 'Content Analysis and Narrative Analysis.', in Handbook of Research Methods in Social and Personality Psychology., pp. 313–335. doi: 10.1093/acprof.

Sobane, K., Gastrow, M. & Oosthuizen, A., 2021. HSRC Research during Covid-19: The Importance of Policy Briefs in Supporting Engagements between Researchers and Policymakers. HSRC Review, 19 (1): 9-11.

Sokhulu, L.H., 2020. Students' Experiences of Using Digital Technologies to Address their Personal Research Needs during the Covid-19 Lockdown. African Identities, 19 (4), 436-452.

Soudien, C., 2020. Continuing Inequalities in South African Higher Education: The Changing Complexities of Race and Class. In

J. Bhabha, W. Giles & F. Mahomed (Eds.). A Better Future: The Role of Higher Education for Displaced and Marginalised People, pp. 106-128. Cambridge: Cambridge University Press. doi:10.1017/9781108655101.006.

Soudien, C., 2021. The Role of South Africa's Social Scientiests in Covid-19 Responses: Why it Matters. The Conversation. https://theconversation.com (Accessed 5 August 2021).

Sucheran, R., 2021. Preliminary Economic Impacts of the Covid-19 Pandemic on the Hotel Sector in South Africa. African Journal of Hospitality, Tourism and Leisure, 10(1): 115-130.

Taylor, N.M. & Moji, K., 2021. Pandemics. Journal for Peace and Nuclear Disarmament, 47:59.

Teng, T., Shively, C.A., Li, X., Jiang, X., Neigh, G.N., Yin, B...& Xie, P. 2021. Chronic Unpredictable Mild Stress Produces Depressive-like Behavior, Hypercortisolemia, and Metabolic Dysfunction in Adolescent Cynomolgus Monkeys. Translational Psychiatry 11(1). https://doi.org/10.1038/s41398-020-01132-6.

Universities South Africa, 2021a. Covid-19 has Shown that Collaboration and Partnerships are Critical for the System. Pretoria: Universities South Africa.

Universities South Africa, 2021b. Underfunding is a Threat to Postgraduate Studies. Pretoria: Universities South Africa.

University of Cape Town, 2020. UCT Research and Innovation Highlights Report 2019-20. https://www.uct.ac.za/main/research/publications/research-reports (Accessed 5 August 2021).

University of Johannesburg, 2021. Covid-19 Research and Innovation Initiatives at University of Johannesburg, South Africa. https://docs.google.com/spreadsheets/d/e/2PACX1vTR6ZN9IQrBYB8h3Kwz8xB3kcOv9ALGmRSEiASZRMxhaeLyVjnxbiaXz8gSw0zP1HiIwJNnSUM_2Xh/pubhtml?form=MY01SV&OCID=MY01SV (Accessed 5 August 2021).

Vallejo B. M. & Ong, R. A. C., 2020. Policy Responses and Government Science Advice for the Covid 19 Pandemic in the Philippines: January to April 2020. Progress in Disaster Science, 7: 100115.

Van Breda, A.D., 2018. Resilience of Vulnerable Students Transitioning into a South African University. Higher Education, 75: 1109-1124.

Vermeulen, J., 2020. Free Data for University Students in South Africa. Mybroadband. https://mybroadband.co.za/news/cellular/349109-free-data-for-university-students-in-south-africa.html (Accessed 31 May 2021).

Weiner, D. L., Balasubramaniam, V., Shah, S. I. & Javier, J. R., 2020. Covid-19 Impact on Research, Lessons Learned from Covid-19 Research, Implications for Paediatric Research. Paediatric research, 88(2): 148-150.

Willner, P., 2016. The Chronic Mild Stress (CMS) Model of Depression: History, Evaluation and Usage. Neurobiology of Stress. Aug 24;6: 78-93. doi: 10.1016/j.ynstr.2016.08.002. PMID: 28229111; PMCID: PMC5314424.

Yang, W. & Shaman, J. L., 2022. Covid-19 Pandemic Dynamics in South Africa and Epidemiological Characteristics of Three Variants of Concern (Beta, Delta, and Omicron). ELife, 11.

Zhang, W., Lu, X., Kang, D. & Quan, J., 2022. Impact of Postgraduate Student Internships during Covid-19 Pandemic in China. Frontiers in Psychology, 12.