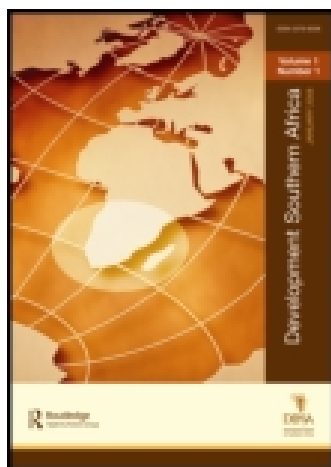


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### Interpreting the green economy: Emerging discourses and their considerations for the Global South

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# Interpreting the green economy: Emerging discourses and their considerations for the Global South

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Michelle Audouin<sup>3</sup>

*The green economy concept promises to provide a concrete roadmap to the implementation of sustainable development while delivering significant social and economic benefits and reduced environmental risks. However, the concept of a green economy is still being debated and the emerging discourse has yet to be fully interpreted within the industrial, institutional and socio-economic realities of many countries, including particularly emerging and developing nations. This paper traces the origins of the concept, providing the context for its current traction globally, and then introduces three emerging agendas around the green economy: 'the incrementalist discourse', 'the reformist discourse' and 'the transformative discourse'. The paper ends with a discussion of the application of key themes within these discourses in the context of southern Africa and considerations as the green economic debate evolves.*

**Keywords:** green economy; green economic discourse; developing countries; southern Africa; green growth

## 1. Introduction

The notion of a 'green economy', like its predecessors 'sustainability' and 'sustainable development', is a disputed one (Lélé, 1991; Mebratu, 1998; Connelly, 2007; Huberty et al., 2011) that defies universal agreement. Initially conceived by Pearce et al. (1989), and more recently popularised by influential multilateral institutions such as the United Nations Environment Program (UNEP) and the International Labour Organisation (ILO), the green economy was originally seen as a specific set of economic tools for operationalising the broader ideals of sustainable development (Jacobs, 2012). However, the concept has since evolved, becoming both broader in scope and more contested in its interpretation (Benson & Greenfield, 2012).

This shifting target became particularly evident in the lead up to and during the 2012 United Nations Conference on Sustainable Development in Rio de Janeiro (Rio+20), where a discernible line between the positions of most developed and developing nation groups became evident (The AtKisson Group, 2013). Echoing previous experience with the first Conference on Sustainable Development held in Rio 20 years earlier, developing nations lobbied for a greater emphasis on social aims generally,

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and poverty alleviation specifically. Whilst for many this consensus-making represents an advance in the debate, others argue that it can also give rise to unresolved conflicts between North and South, leading ultimately to broad, unclear policy and implementation prescriptions (Connelly, 2007; Brand, 2012).

The purpose of this paper is to explore the political economy of international green economic discourses in relation to the Global South, with particular reference to southern Africa. We also highlight some of the key areas receiving attention in the literature in order to illustrate potential conflicts and the underlying assumptions associated with various interpretations of this agenda. In doing so, our aim is to underscore the need for critical reflection and explicit articulation of the choices and trade-offs inherent in the definition of future green economic strategies. This is, we believe, especially relevant in the Global South, particularly in regions such as southern Africa, where national green economic decision-making and policy-making remains largely in its infancy, and where trade-offs, including in terms of human development, are becoming an increasingly important consideration (Resnick et al., 2012).

## **2. Green economy origins**

Although the concept of a 'green economy' was first introduced by Pearce et al. (1989), it was not until the global financial crisis of 2008, which coincided with heightened recognition of deepening environmental and social crises, that the concept moved into mainstream policy discourse. At the time, the United Nations General Assembly and other UN agencies saw the crisis as an opportunity to incorporate 'green' investments in the stimulus packages being implemented to spur economic recovery (Ocampo et al., 2011).

The green economy subsequently became one of the two main focal themes at Rio+20. However, both before and during the conference, the concept became hotly contested by a diverse range of national government and civil society groupings from across the political spectrum. Conservative critics bemoaned the emphasis on 'green' at the expense of 'growth', while progressive voices were concerned that the concept represented business as usual rather than a fundamental shift in the prevailing macroeconomic paradigm.

At the same time, developing countries raised concerns regarding the potential implications of wholesale adoption of the concept. Specifically, they were concerned that it would undermine their sovereign right to address their social and economic imperatives by pursuing a growth path aligned to their resource endowments (following the model of the Global North). They were also concerned about the under-representation of minority voices; that the concept would become 'hijacked' by developed countries as a new form of 'green protectionism' (Resnick et al., 2012), and that developed country commitments to assist developing countries in pursuing sustainable development would be diluted. Put simply, developing countries demanded that poverty alleviation be brought to the forefront of the debate, and that the green economy be understood 'in the context of sustainable development' (Group of 77 & China 2011a, 2011b).

The African position can be described as 'cautiously supportive'. It recognises that 'the transition to a green economy could offer new opportunities for advancing the achievement of Africa's sustainable development objectives through economic

growth, employment creation, and the reduction of poverty and inequalities' (African Ministers, 2011:1). This position has been echoed by the Southern African Development Community (SADC), which is in the process of developing a Regional Green Growth Strategy and Action Plan for Sustainable Development. According to the SADC:

the green economy will help to overhaul economies in a way that synergises economic growth and environmental protection. Building a green economy will facilitate investments in resource savings as well as sustainable management of natural capital that will drive growth. (SADC Secretariat, 2013:5)

### 3. Discourses related to the green economy

As with sustainable development, the emerging political economy around the green economy is becoming an increasingly important fixture in global economic and environmental strategy-making and decision-making. Within this debate, a number of overlapping and potentially divergent interpretations are emerging. In order to make sense of this diversity of perspectives, we outline three stylised but distinct discourses related to the concept.

These discourses have been selected on the basis of broad acceptance of the underlying premise of the green the economy, namely that the power of the economy can and should be better harnessed in the realisation of sustainability goals. As such, no discussion is offered of more radical responses to this ideal, including those arguing that no benefit could be achieved from such a pursuit. The discourses are formulated according to key sources of potential dispute, contradiction and confusion around the meaning and implementation of the green economy concept; and are described under three broad headings, namely the incrementalist, reformist and transformative discourses (see [Tables 1](#) and [2](#)). These views are primarily characterised according to the degree of change they demand of the prevailing global economic paradigm in order to bring about improved environmental and economic sustainability. However, our characterisation also highlights relevant assumptions and potential sources of fracture within and across each of the discourses.

The incrementalist discourse centres on minimising the impacts of development and economic growth on the environment. The reformist, however, goes beyond limiting environmental degradation, to emphasising the opportunity that the green economy offers to actively promoting economic growth and bringing about improved social and environmental value. In contrast, the transformative discourse argues for a more fundamental paradigmatic shift, and for the concept of growth itself to be re-defined and expanded, with greater emphasis to be placed on issues pertaining to human rights.

These three constructs are illustrative rather than comprehensive, providing a stylised interpretation of what proponents or critics of the green economy argue should or should not (sometimes implicitly) be prioritised, as well as the main premises within the green economy debate. As such, it should be borne in mind that the three discourses are highly over-simplified. Although a particular concern (e.g. social development) may arise in all three discourses, these lines of thinking are differentiated from one another according to variations in emphasis ([Table 2](#)). In reality, perspectives on the green economy occupy different, and in some cases multiple, positions between the extremes of interpretation. None of the discourses

**Table 1: Distinguishing features of the three discourses**

Discourse	Distinguishing features
Incrementalist	<ul style="list-style-type: none"> <li>• Pro-growth, consistent with the prevailing economic paradigm</li> <li>• Environmental cost avoidance (e.g. emission taxes) will provide insurance against slowed growth and crises over the medium term</li> <li>• GDP as an unchallenged and appropriate measure of progress</li> <li>• No clear comment on environmental limits (although efficiencies are emphasised)</li> <li>• Job opportunities through manufacturing and technology associated with environmental efficiencies</li> </ul>
Reformist	<ul style="list-style-type: none"> <li>• Pro-growth, with improvements to (but still within) the existing economic paradigm</li> <li>• Costs of inaction important (as above) for the long term and new sources of wealth (e.g. ecosystem services) available for advanced growth</li> <li>• Additional indicators of value needed in addition to what is in current use (e.g. 'beyond GDP')</li> <li>• Recognition of some environmental limits (e.g. imperative of fossil fuel reduction) and supportive of decoupling (mostly relative)</li> <li>• Social returns with an emphasis on green jobs including through natural resource management and lifestyle changes (e.g. green cities and products)</li> </ul>
Transformative	<ul style="list-style-type: none"> <li>• Pro-development (broadly defined, beyond simply GDP growth) for developing countries; zero/de-growth most appropriate for developed countries</li> <li>• Demands more attention to human rights, including voice of minorities in green economy debate</li> <li>• Emphasis on absolute rather than relative decoupling</li> <li>• Suggest alternative measures of progress, including a consideration of a broader conception of societal well-being</li> <li>• Caution against technology as a panacea, highlighting risks of overconsumption and risks to social and ecological communities</li> </ul>

represent the views of any one particular organisation; indeed, such views typically span across more than one of the discourses identified here.

The descriptions presented below are therefore offered as a conceptual 'map' to orientate, within the debate, those engaged in understanding and promoting the green economy; rather than a precise and comprehensive categorisation. This orientation can assist policy-makers, for example, in understanding the origins, as well as the advantages and disadvantages, of particular 'green economic' strategies, and to select those most appropriate within particular circumstances.

### 3.1 The 'incrementalist' discourse

The 'incrementalist' interpretation of the green economy is defined by its broad acceptance of the prevailing macroeconomic paradigm, while calling for greater use of market-based tools to internalise environmental externalities (Huberty et al., 2011). Thus, while not quite business as usual, this view could be understood as a renewed drive for greening the so-called 'brown economy', primarily through economic means. For example, environmental taxes and trading schemes are proposed as mechanisms for reducing emissions of greenhouse gases and other pollutants to 'efficient' levels, through the market mechanism. As such, proponents of this discourse seek not to

**Table 2: Relative visibility or emphasis of key issues in each discourse**

Discourse	Relative visibility or emphasis of key issues						
	Growth <sup>a</sup>	GDP <sup>b</sup>	Human rights	Social development	Technology	Resource limits and decoupling	Natural capital as source of potential economic value
Incrementalist	+++	+++	-	+ (jobs)	+++	-	-
Reformist	++	+	++	++ (jobs and lifestyle)	+++	++ (relative)	+++
Transformative	- (developed), + (developing)	-	+++	+++ (well-being)	-	+++ (absolute)	-

*Notes:* The number of '+' signs indicates the level of emphasis and import given to a specific issue by the different discourses; '-' signs indicate either detraction or distance from value of the issue identified, or ambiguity on this subject.

<sup>a</sup>Importance placed on physical size of the economy. <sup>b</sup>As the primary measure of progress.

reconsider conventional interpretations of growth, nor challenge the capitalist system, but rather to improve the employment of its devices towards mitigating environmental impacts, largely in order to reduce costs and ensure opportunities for continued growth. The changes it calls for are modest and incremental, seeking merely to bring environmental externalities (e.g. greenhouse gas emissions) within the purview of the existing paradigm, rather than to reconsider the paradigm itself.

Although not exclusive to the incrementalist discourse, the concept of 'green growth' is perhaps reflective of many of its principles, as emphasised in the following definitions. Green growth refers to:

job creation or GDP growth compatible with or driven by actions to reduce greenhouse gasses. (Huberty et al., 2011:6)

economic growth (growth of Gross Domestic Product or GDP) which also achieves significant environmental protection. (Jacobs, 2012:4)

The notion of green growth concept reveals a strong adherence to a classical economic understanding of how development should be defined, and prosperity assessed. In this interpretation, development is equated with economic growth, which in turn is seen as occurring mainly through 'physical growth' of material throughput (Daly, 2008). The basic premise underlying this discourse is therefore that the costs of addressing environmental damages are below natural economic growth rates, as long as these are addressed early (Jacobs, 2012). Some degree of environmental protection is therefore seen as compatible with growth (Huberty et al., 2011).

In the incrementalist discourse, the terms 'GDP growth' or 'economic growth' are generally seen as synonymous with the concept of 'development', while GDP is understood as the predominant measure of progress (Fioramonti, 2013). Defined as the market value of goods and services produced within an economy in a given time period, GDP is limited in its ability to capture long-term wealth creation and non-market contributors to well-being, such as health, leisure and informal economic activity. As such, the economic growth sought within this discourse can be understood as one that primarily encourages increased production and consumption of 'green' goods, rather than societal advance more broadly.

In this model of the green economy, benefits to the economy will come largely from the reduction of greenhouse gas and other emissions, which can hinder the ability of economies to grow, particularly in the long term (e.g. through the impact of climatic changes on crop growth) For example, Stern (2007) argued that the expected impacts of climate change could result in significant losses (between 5 and 20%) to GDP annually, raising international awareness of the economic risks posed by climate change. Although Stern's results remain contested, the essence of calls for new green economic models generally reflect the principles outlined by his report; and in particular the realisation that the short-term costs of addressing climate change are outweighed by the long-term costs of failing to act.

The incrementalist discourse advocates policies that stimulate the production of new 'clean' and 'green' technologies and markets to mitigate the drivers of climate change (OECD, 2011; Davies, 2013). Such low-carbon investments were touted as a key driver of the 'Green New Deal' intended to support nations in overcoming the 2008 global economic crisis. In many countries, fiscal stimulus packages introduced after the crisis contained significant funding earmarked for green technologies, such as



alternative sources of energy, improved transport, and other innovations aimed at reducing emissions.

A focus on technology and manufactured capital such as infrastructure is therefore a key principle underpinning the incrementalist discourse. These packages and innovations are not only seen as a driver of reduced environmental impact, but also of the generation of new products and markets (including products with export potential), and of large numbers of so-called ‘green jobs’, which would serve to further invigorate local and even national economies. According to Caprotti (2012), however, these technologies are primarily intended to serve technical or financial ends, largely through improved efficiencies, rather than the more ‘disruptive’ aim of contributing towards meaningful social and environmental progress (a point more heavily emphasised by the reformist discourse).

In this respect, the incrementalist perspective shares the outlook associated with what is known as the ‘weak’ interpretation of sustainable development; where losses or declines in natural capital are permitted, as long as stocks of other types of (e.g. manufactured or financial) capital are increased to compensate for such losses (e.g. Pearce & Atkinson, 1993; Jacobs, 2012). This approach therefore avoids any explicit recognition of any physical limits to growth in absolute terms; or of the existence of critical natural capital, which needs to be maintained in its own right.

### 3.2 The ‘reformist’ discourse

The reformist discourse extends the incrementalist view to propose a much more ambitious and diverse agenda for the green economy – namely that, with the right combination of actions and long-term planning, activities in pursuit of environmental conservation can stimulate stronger economic growth as compared with the status quo. In particular, proponents of the reformist discourse assert that green economic activities can contribute significantly to economic growth, as well as to addressing seemingly intractable social issues such as poverty and environmental degradation (UNEP, 2011b). These measures are not just aimed at reducing the costs of climate change or greening the so-called ‘brown’ economy, but at essentially restructuring the economy through new means of generating and capturing value and innovation in markets, industries and national accounts while adapting to projected environmental changes. This discourse does not therefore hold simply that environmental protection is compatible with growth (as per the incrementalist discourse), but that it can, in fact, be a driver of growth.

We consider the majority of mainstream green economic discourse to fall within the reformist school. The well-known UNEP and OECD definitions of a green economy are indicative of this perspective:

An economy ‘that results in improved well-being and social equity, while significantly reducing environmental risks and ecological scarcities’. (UNEP, 2011b)

Fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies. (OECD, 2011)

Like the incrementalist agenda, the reformists see economic growth as non-negotiable (OECD, 2011). What differentiates this view, however, is its belief in ‘green

investment' (e.g. investment in natural capital) to act as a powerful vehicle for delivering not only social and environmental improvements, but also economic development that is healthier, stronger and more vigorous than would otherwise be the case (Brockington, 2012). While emphasising short-term stimulus measures and the subsequent impacts of such investments on the economy, this view also offers a significant promise for the long term (Bowen, 2012). According to this perspective, the green economy represents the next wave of innovation, which will revolutionise the way we think about growth and create unparalleled opportunities for new job creation, changes in lifestyles, and production and consumption efficiencies; which will in turn contribute toward improved social and environmental well-being (Jacobs, 2012). These changes are also expected to have significant macroeconomic implications, such as improved stability and investor confidence (OECD, 2011).

Again here we see the extension of the central role played by technology and manufactured capital as a means of transitioning to proposed new green economic models. In this case, however, the focus is not on specific technological improvements as a source of increased efficiencies and reduced environmental impact (as was the case with the incrementalist discourse), but on the need for a major industrial transition, which will overcome the 'lock-in' of previous fossil-fuel-based energy systems (Davies, 2013), while also promoting major market returns in the form of new 'green' consumer products (Bowen, 2012), export industries, and job-creating productivity gains (Huberty et al., 2011). This will be achieved, for instance, through the removal of environmentally harmful subsidies (amounting to an estimated US\$1 to 1.2 trillion per annum globally), such as subsidies on fossil fuels (World Bank, 2012), and investment in denser, more accessible and mixed-use urban centres.

Champions of this more ambitious agenda extend the scope of the required changes well beyond that of reducing the costs of climate change. For instance, compared with the incrementalist discourse, here we see more explicit acknowledgement of the challenges posed by the prevailing economic paradigm, and of the limitations of the earth's system to provide ecological goods and services. The notion of ecological services, popularised by the Millennium Ecosystem Assessment, relates to the 'use values' of natural resources, including provisioning and cultural services, processes such as flood or erosion control (regulating services), and more fundamental ecosystem roles such as seed dispersal (supporting services), as well as non-use (existence and bequest) values.

In the reformist's green economy, an awareness of society's degree of dependence on these services (and of their degradation) has translated into a number of proposed means of better leveraging the economic system and its instruments to more effectively capture the contribution of natural capital. UNEP's The Economics of Ecosystems and Biodiversity project is an example of an emerging approach in this domain. The objective of The Economics of Ecosystems and Biodiversity project was to provide a global standard for natural capital accounting for the purposes of comparison and assessment of overall 'stocks'. In this case, the attachment of financial value to biodiversity and ecosystem services allows for their incorporation in management and accounting systems and, subsequently, provides an incentive for investment in this form of capital. According to UNEP (2011a), initiatives such as these can be expected to result in enhanced stocks of renewable resources.

The reformist view can therefore be understood to parallel the 'strong' sustainability perspective, in which it is recognised that there are unique characteristics of some forms of natural capital that cannot be replaced, or substituted for. In this case, natural capital is not seen as being substitutable with manufactured capital; and must instead be maintained in its own right (Ekins et al., 2003). It is acknowledged, however, that increased capture of natural capital and productivity in society's use of natural resources is insufficient on its own to ensure environmentally sustainable economic growth (OECD, 2011).

In addition, the reformist discourse emphasises a broader conception of development and societal progress, rather than the narrower concept of economic (GDP) growth. It recognises the failure of GDP to account for the social and environmental costs of economic activity, and thus its inconsistency with the broader aims of a green economy. Indeed, because GDP only accounts for market transactions, many social and environmental 'bads' (such as crime and pollution) tend to be included as 'goods' in the calculation of GDP (Van den Bergh, 2009). As such, reformists support the consideration of additional indicators of progress 'beyond GDP', including those that better reflect social and environmental costs and benefits.

Accordingly, the reformist discourse also promotes the need for 'dematerialisation' of the economy; that is, to 'decouple' economic progress from the consumption of natural resources and the generation of negative environmental impacts. For the most part, however, the reformist discourse emphasises relative (rather than absolute) decoupling. Unlike absolute decoupling, which refers to a reduction in the total impact of an economy on the environment, relative decoupling refers only to a reduction in impact per unit of GDP. As such, relative decoupling still allows for an increase in overall impact – as long as increases in GDP outweigh efficiency increases, then the overall impact of economic activity on the environment will continue to increase.

### 3.3 The 'transformative' discourse

Unlike the first two schools of thought, the final discourse originates primarily in the views of civil society and other observers, rather than policy-makers and international multilateral organisations. While not dismissing the idea in its entirety, the transformative discourse captures a number of key criticisms of the mainstream discourse (as described in the previous sections); and calls for a more radical review of society's economic and broader developmental objectives. In particular, what differentiates this discourse is its take on the role of values, the market and social equity.

This perspective is best captured by the following two distinct but related views:

So do all solutions revolve around *Homo oeconomicus* once again? If we are looking for new models for society that accept human rights, equity, cultural diversity and democratic participation as fundamental principles while at the same time aiming to stay within ecological limits, we are tasked with nothing less than reinvention of the modern age. (Unmüßig et al., 2012)

A green economy must be a 'steady state' economy, or one that grows in terms of the benefits that it delivers (over and above any costs), but not in terms of its physical size. (Daly, 2010)

The starting point of the transformative discourse lies in its strong critique of the growth paradigm inherent in the current capitalist economic system, and in particular its role in creating social inequality and environmental degradation. Proponents of this view argue for a green economy that is not based on continued growth in the traditional sense of the word (Daly, 2008, 2010; Jackson, 2008). For example, those that support a steady-state economy (Daly, 2008, 2010) argue for economies that are stable (rather than growing) in magnitude, and that are therefore compatible with planetary limits and ecosystems and suggest that, in some cases, 'de-growth' may be required to restore a steady state. Similarly, Jackson (2008) calls for a reduction in material consumption, particularly in economies that are already highly developed. Typically, the argument for decreased material consumption also expands the set of values on which economic and other activity should rest, beyond solely the profit motive. Jackson (2008) maintains that the 'social logic of consumerism' should be addressed, and sources of identity and meaning lying outside the sphere of the market (e.g. family, creativity and care of others) explored. Both Daly (2008) and Unmüßig et al. (2012) support a transformed economy in which the notion of 'sufficiency' (wealth in moderation) is central. Such approaches demand a re-examination of the very notion of value, to include alternatives to GDP, such as 'Wellbeing', as an indicator of societal progress.

Advocates of this discourse also argue that, if economic activity is to remain within ecological limits, there is a need for 'absolute' rather than 'relative' decoupling (Jackson, 2008). For example, the so-called 'Jevons Paradox' or 'rebound effect' suggests that efficiency improvements often lead to an increase in demand (e.g. as a result of lower costs), thereby negating any savings from efficiency gains. It is also argued that the social and ecological impacts of new technologies, particularly large-scale technologies, are often inadequately considered (Unmüßig et al., 2012), and the employment benefits overestimated (Davies & Mullin, 2011).

In response to the rebound effect, UNEP's International Resource Panel calls for both 'impact' and 'resource' decoupling as a means to achieving absolute decoupling. While resource decoupling involves reducing the rate of resource consumption, impact decoupling requires the wiser and cleaner use of resources (UNEP, 2011a). The International Resource Panel explains that resource decoupling addresses the problem of scarcity by decreasing the rate of resource consumption, while increasing resource productivity (UNEP, 2011a). Impact decoupling, on the other hand, focuses on mitigating and/or minimising the environmental impacts of development. The International Resource Panel argues that both of these strategies are required (UNEP, 2011a). Furthermore, this argument is made within the context of 'rethinking growth', as referred to above.

Consideration of human rights is central to transforming the economy, particularly in light of current global inequalities between rich and poor. This position is evident in the conclusions of a meeting of African Indigenous leaders held prior to Rio+20 (IPACC et al., 2011). The conclusions of this meeting draw attention to issues of power, arguing that the green economy represents an opportunity for multinational corporations to unduly influence national governments and ruling parties (IPACC et al., 2011). They also insist that more attention be paid to 'the role of Indigenous Peoples and local communities as stewards of biodiversity' (IPACC et al., 2011:5), and for their rights to be protected.

Similarly, critics of the green economy often question the mainstream view of attaching a financial value to environmental goods and services, arguing that this constitutes the 'privatisation of nature'. This is argued clearly by IPACC et al. (2011:5), who claim that 'if UNEP is saying that all nature should be considered "capital", this negates the argument for the inherent value of nature and the importance of intergenerational obligations for sustainable use and conservation of biodiversity and ecosystems'.

A central concern underlying these and other critiques of the economic valuation of natural resources is that such resources would become more vulnerable to commercial exploitation, often negatively affecting local communities. Indeed, UnmüBig et al. (2012) point out that such valuation typically does not consider the social context in which ecosystem services are provided, arguing that many of the last intact ecosystems exist in areas occupied by Indigenous Peoples and local communities. In these areas, the market can threaten traditional ownership rights to land and other natural resources.

#### **4. The green economy in southern Africa**

With few exceptions, most countries in Southern Africa sit near the bottom of international human development rankings (such as the UNDP's Human Development Index), and all in the region struggle with high levels of poverty. As such, a critical question in the green economy debate is whether green growth is 'good for the poor' (Dercon, 2012). Although the mainstream or reformist discourse asserts that, in theory, the green economy is a pro-poor agenda, there are still a number of questions as to how this will be achieved. For instance, an increasing number of analysts note that the relationship between green innovation and industrial activity on the one hand, and economic growth on the other, is highly contingent on time and place (Huberty et al., 2011; Dutz & Sharma, 2012; Victor & Jackson, 2012), casting doubt on the likelihood of broad-based 'win-win' green economic outcomes (Huberty et al., 2011).

One major stumbling block to the realisation of a green economy in southern Africa lies in the prominent role played primary industries (specifically mining and agriculture) in economic development. According to MacLennan & Perch (2012), the extractive sector has been responsible for more wealth and value creation than any other industry in the region. Almost one-half of the countries in the region are highly mineral dependent, with mining contributing 9 to 29% of the GDP of countries such as Angola, Botswana, Guinea, Mauritania, Namibia and South Africa (World Bank, 2011). Mining and other primary industries have provided a valuable source of local employment and infrastructure development, but at considerable cost to the environment and to the ability of these countries to transform and develop their economies beyond natural resource extraction.

The SADC region is also highly dependent on fossil-fuel-based energy sources such as coal for the delivery of electricity, with limited investment in renewables and other alternatives. Much of the energy used in the region is sourced from South Africa, which is responsible for generating over one-half of the electricity used on the African continent (Kenny, 2006). In recent years, South Africa's government has continued to invest massively in the commissioning of new (and re-commissioning of old) coal-fired power plants. Their rationale for doing so lies in the country's significant, accessible and inexpensive coal reserves (Kenny, 2006), the high load factors of

coal-fired plants as compared with renewables, the significant past investment in and employment provided by coal-fired technologies, and the need to expand electricity supply to the country's poor (Resnick et al., 2012).

From a technological standpoint, southern African countries are also far behind their northern neighbours in their ability to develop and commercialise green technologies. In a recent analysis of green technological developments internationally since 1996, sub-Saharan Africa ranked as one of the lowest regions in the Global South, registering less than one-third of the number of green patents as compared with the leading eastern Pacific region, and several orders of magnitude lower than regions in the Global North (Dutz & Sharma, 2012). A major limiting factor in this domain is the availability of appropriate skills and policies to enable such developments. This is not only the case in the least developed nations in the region, but also in the relatively advanced South Africa, where 'the skills gap is significant and green economic advances will undoubtedly be hampered as a result' (ILO, 2010).

In some cases, competency in these areas is improving (Dutz & Sharma, 2012), whereas in others, such as in mining innovation, industry has shifted away from research and development from southern Africa toward other regions, such as Japan and Australia. This skills gap leaves the region at a disadvantage in attempting to compete with both emerging (e.g. China) and developed country competitors (e.g. Germany), and therefore highly dependent on technology transfer (Huberty et al., 2011; Dutz & Sharma, 2012). It also reduces significantly the likelihood of successful export markets for green goods, and thus the ability for southern African economies to realise growth driven by these industries.

Indeed, most SADC countries are well endowed with natural resources, and have invested significantly in exploiting these resources, bringing valuable returns in the form of employment and income generation. Examples include Zambia, Malawi and Mozambique, where – despite environmental impacts – the exploitation of mineral resources, commercial agriculture and land-intensive and labour-intensive biofuels respectively are viewed as key ingredients to ongoing economic development (Resnick et al., 2012; Mulikela, 2013). These strategies are consistent with conventional economic development theory, which suggests that such countries should continue to exploit their comparative advantage (based on their resource endowments) in order to have the greatest short-term and medium-term impact, as well as enabling economic development. In such cases, switching toward an alternative 'green' development pathway is risky, and potentially infeasible (MacLennan & Perch, 2012), entailing significant sunk costs and massive reductions in employment and economic growth rates in the medium term.

Despite this, countries in the region are aware of the pitfalls of replicating past (northern) models of development, and most have expressed their support for and intention to explore green economic opportunities. In Botswana, for instance, a recent green economic dialogue noted that 'the current GDP growth-based trickle-down development pathway has led to some misallocation of capital which had undermined the environmental asset base for development, and moreover has not resulted in benefits for poor groups' (Jansen & Bass, 2012:1). The country has therefore begun to discuss alternatives to GDP (Jansen & Bass, 2012). Other countries, such as Namibia and Tanzania, have also publicly pledged their support for green economic transitions, while South Africa has been hailed internationally as a major front-runner in the

transition towards a green economy. There are also a number of smaller scale examples in the region of successful and potentially scalable green economic initiatives (see for example UNEP & UNDP, 2010; UNEP, 2012; WWF, 2012).

## 5. Conclusion

In contrast to the 1992 Earth Summit, the primary concern of negotiators at Rio+20 was on the economic, rather than the social and (to a lesser degree) environmental, pillars of sustainable development. In addition, the language concerning the ultimate goal also changed, moving from a priority for economic development among those nations who need it most to economic growth for all (Bowen, 2012; Sterner & Damon, 2011). However, although the green economy is seen as an idea introduced by northern nations (Bauer et al., 2012), it is arguably those in the south that are most in need of economic development (Victor & Rosenbluth, 2007).

At the same time, however, existing texts on the green economy suggest a broad spectrum of possible interpretations around the concept; and, as yet, only limited information on the practical application of green economic principles, particularly for poorer nations (Dercon, 2012; Victor & Jackson, 2012). Observers and analysts of the emerging green economic discourse suggest that the notion may not be as widely applicable among developing nations as it is among emerging and developed countries, and that the risks and trade-offs in these countries need to be carefully assessed. Thus, the question of path transformation in these cases may be as much (if not more) a practical one as it is an ideological one.

It is therefore critically important that these nations continue to actively engage with the evolving discourse around the green economy, and assess opportunities presented by the pursuit of such an agenda in this light. For southern Africa, this will mean keeping human rights and social equity at the forefront of the green economy and green growth discussion, as well as the identification of new opportunities for improved value capture, economic stimulation and investment and innovation. These arguments are consistent with the statements made by the Group of 77 & China (2011a, 2011b) to the UN Conference on Sustainable Development, which emphasised that there is a need for flexibility in a country's approach to the green economy and the sovereignty in choosing its own development pathway, in accordance with its own national economic, social and environmental circumstances and priorities.

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