

Cyclones in Southern Africa, Volume 2: Foundational and Fundamental Topics

Uncertainty in disaster risk management: A reflection on cyclone idai using the systems thinking approach

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Abstract

The increasing frequency of disasters induced by anthropogenic and natural hazards has epitomised the complex nature of dealing with uncertainty. Cyclone Idai-induced floods in Southern Africa had a series of foreseeable and unforeseeable risks that affected vulnerable communities in Malawi, Mozambique and Zimbabwe. Thus a key question to address is what systems and mechanisms can vulnerable countries to disasters apply to effectively respond and mitigate challenges posed by disasters. The effects of Cyclone Idai during and after the disaster across the human and physical spheres of society as alluded to in this chapter highlight the need for suitable tools that can assist in unpacking the complexity of disaster management challenges. Adopting a mixed method approach, this chapter proposes systems thinking as a tool that can be applied in disaster risk reduction, taking into consideration that communities constitute intersected and intra- and interdependent subsystems. This chapter advances the need for disaster risk reduction which goes beyond linear approaches of risk management to non-linear frameworks. Essentially, the chapter applies complex systems thinking to enrich existing approaches by recognising known/knowable and unknown risks as well as the interconnectivity between policy, institutions and the society.