CHAPTER 13

INFRASTRUCTURE POLICY AND PLANNING FOR RURAL, PERI-URBAN AND URBAN AREAS IN ZIMBABWE

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INTRODUCTION

This chapter is premised on the knowledge gap in the Zimbabwean developmental agenda where infrastructure policy is missing, especially in the planning and sustenance of human settlements. Since the 1980s, there has been an increase in the occurrence of human induced and natural disasters and losses from disasters. Infrastructure development is key in preventing people from being exposed to these disasters. Infrastructure has been defined by Ringskog (2013:23) as "the basic physical and organizational structures needed for the operation of a society or enterprise, or the services and facilities necessary for an economy to function". Road and building infrastructure are the physical structures of focus for this study.

Natural hazards need not always be disasters (Dube, Mtapuri & Matunhu, 2018). In 2019, a rude awakening occurred with the destruction of road and building infrastructure in Zimbabwe's Chimanimani and Chipinge Districts in Manicaland Province and parts of Masvingo Province and the need for an integrated, coordinated and harmonised policy framework for infrastructure development was realised. Learning and understanding from post-disaster environments are imperative for the development of resilient and sustainable infrastructure policy options to address gaps in both theory and practice (Chatiza, 2019). Policy research and formulation are critical in enhancing the functional and structural stability of supporting infrastructure systems to reduce the impact of risks emanating from natural hazards and disasters and to safeguard human settlements (Chirisa et al., 2016).

This chapter introduces a study on and insights gained from disaster, risks and infrastructure. The theoretical framework underpinning the study and a brief global, regional and local literature review on resilience, infrastructure and sustainable settlements is then discussed. Methods used to outline the reality of these three areas are then presented, followed by a discussion of the results and conclusions drawn from the study.

THEORETICAL FRAMEWORK

To explore the relationship between the occurrence of natural hazards and infrastructure destruction, the study adopts the Critical Infrastructure (CI) framework, which is used as the main theoretical underpinning of this study.

Critical Infrastructure (IC) is a complex and intricate system that is designed to facilitate and enhance the permanent provision of services necessary for the functioning of a society (McDaniels et al., 2008; Church, Scaparra & Middleton, 2004). CI, as defined by Church, Scaparra and Middleton (2004:491), is "those elements of infrastructure that, if lost, could pose a significant threat to needed supplies (food, energy, medicines), services (police, fire), and communication or a significant loss of service coverage or efficiency". O'Rourke (2007) posits that there is a certain national infrastructure that is vital in the event of destruction or incapacity because of the debilitating impact these have on the social, economic and environmental settings of a nation and its inhabitants.

Across the globe, focus in the 1980s was mainly on the provision of essential public infrastructure such as roads, highways, airports and bridges to create an interwoven infrastructure network (Murray & Grubesic, 2007). In the 1990s, there has been a shift to including the protection of essential infrastructure from failure and destruction as a result of natural disasters and terrorism activities as experienced in America (Murray & Grubesic, 2007). The importance of the components of infrastructure on the day to day lives of the people requires close monitoring of its reliability and vulnerabilities. As O'Rourke (2007:4) argues, "the ability to model the effects of infrastructure failure is an important aspect of network design, disaster recovery planning, critical infrastructure identification, and fortification". This suggests deliberate efforts at global, national and local level towards building resilience in CI. This will enable communities to mitigate the shocks of climate-induced disasters.

LITERATURE REVIEW

Global efforts indicate that there has been increasing attention paid to improving the resilience of infrastructure (UN-Habitat, 2009; Ringskog, 2013; Chirisa, 2019). In Africa, for instance, the first Africa Climate Resilient Infrastructure Summit was held in 2015 in Addis Ababa with a focus on the vulnerability of infrastructures to disaster and climate risks (Dube, Mtapuri & Matunhu, 2018). The United Nations plays a significant role in efforts to provide resilient infrastructure through the Sustainable Development Goals (SDG) (2015-2030) where this is one of its many goals. Infrastructure resilience resonates well with Goal 11 of the SDGs that targets sustainable, inclusive and resilient cities and human settlements. The importance of resilient infrastructure and, in some countries, the concept of resilient infrastructure is gaining attention in policy debates.