Abstract

Climate change poses serious challenges to households in informal settlements located in marginal areas such as flood plains that are sensitive to extreme weather events. This thesis explores the complex interrelationship between climate variability and informal settlements using two city-level case studies in Johannesburg, *viz*., Msawawa and Freedom Charter Square. The main objective of this study was to establish the nature of household adaptive capacity in informal settlements in relation to climate change. This entailed assessing household vulnerability to the increased frequency and severity of extreme weather events such as strong winds, extreme cold, extreme heat, floods, drought and fire, as a basis from which to understand household adaptive capacity.

Methodologically, the thesis applied a mixed method approach combining quantitative and qualitative instruments to explore household adaptive capacity in relation to climate change. This methodology was used to understand how households have coped and adapted to extreme weather events in the past. Secondary research involved analysing a range of published and unpublished documents, while the primary research component consisted of a survey of two hundred households across the two settlements as well as key-informant interviews with local leaders in the two informal settlements and relevant officials from the City of Johannesburg.

The results of this study show that in Msawawa and Freedom Charter Square, households' social and economic conditions such as those relating to employment, income, assets and health play a role in their vulnerability to climate change. The ability of households to improve their adaptive capacity is influenced by a range of factors that include access to physical capital, social capital, financial resources and governance. The research found that households in the two informal settlements rely mainly on coping mechanisms such as repairing their shacks after disasters related to extreme weather. They have very limited ability to address underlying causes of vulnerability such as weak dwellings. Social capital is one of the drivers, although not

very significant, for coping and critical to efforts for improving household adaptive capacity. The study also found that governance is a contested terrain in which it is difficult to recognise a positive impact on household adaptation to climate change. The study highlights the importance for policy-makers to recognise the need to improve household socio-economic conditions as well as building relationships of trust as drivers that could help in improving adaptive capacity and addressing household vulnerability to climate change.