



Unfolding the linkages between adaptive capacity and infrastructure systems: exploring water supply in Sub-Saharan cities

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Abstract

There is a broad debate about building resilient infrastructure both to address development challenges and to adapt to climate change (CC) related stresses and extreme events in sub-Saharan cities.

Within this debate insufficient attention has been given to the role of design, and operation of infrastructure in shaping a socio-technical environment, which plays a key role in the definition of how to access, use and dispose of resources. Urban scholars are challenged to understand how this transition can be oriented to reduce vulnerabilities, and to investigate dynamics of access and exclusion in infrastructure provisioning.

Most studies concerning the integration of CC adaptation in urban and regional planning and the design of infrastructure, focus on physical and economic aspects of resilient infrastructure systems or on increasing capacities of people, groups and institutions in defining and implementing adaptation strategies.

Integrating these two perspectives the paper analyses the different modalities of producing water infrastructure in Dar es Salaam, Tanzania. It argues that standardized solutions applied in context where people's livelihoods are highly dependent on access and management of natural resource, and infrastructure functions are complemented or replaced by social networks, risk to increase vulnerability and exacerbate exclusion.

The article provides an analytical framework to investigate interdependencies, synergies and reciprocal impacts between infrastructure system, and residents' adaptation practices and modalities of accessing and managing resources. It identifies the "enabling" and "preventing" factors for adaptation to CC and environmental management relevant to residents' livelihood.