

The Making of Urban Resilience: Critical Energy Infrastructure in Accra and Dar es Salaam

By: Joyce Anagnayeli Eledi Kuusaana

Abstract

Critical infrastructure systems are vital components of contemporary societies. In recent years, international academic debates have focused on their increasing vulnerability and the exposure of urban populations to new external threats such as climate change, terrorist and cyber-attacks and risks resulting from the growing complexity and interrelationships that exists within and between these systems. As in many African cities/countries, electricity provision in Accra (Ghana) and Dar es Salaam (Tanzania) is characterized by regular interruptions, breakdowns and failures of centralized networks. As such, this research examines how various stakeholders improvise and develop creative responses in co-providing, supplementing, retrofitting and backing up unreliable power supply by centralized networked electricity systems. Considering the hybrid arrangements of networked and non-networked infrastructures and the diverse public and private forms of service provision in such geographies, this research examines how city authorities, public utilities and other service providers – under an environment of institutional and resource constraints as well as rapid and informal urban growth – can contribute to the safety and resilience of urban infrastructure systems to protect urban populations from infrastructure failures. At the same time, the study explores the level of preparedness of urban residents and businesses, and their creativity in dealing with infrastructure breakdowns through heterogeneous, flexible, and redundant systems of co-provision and diverse forms of adaptive practices. The overall objective is thus to assess urban strategies to prevent infrastructure failures and to prepare for them. Academically, the PhD study aims to critically challenge urban and infrastructure resilience debates from global South perspectives.