

**DIFFERENTIAL VULNERABILITY AND ADAPTIVE RESPONSES TO
CLIMATE CHANGE-RELATED HAZARDS IN INFORMAL URBAN
SETTLEMENTS IN ACCRA, GHANA**

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CERTIFICATE OF ORIGINAL AUTHORSHIP

I, Ishmael Adams declare that this thesis is submitted in fulfilment of the requirements for the award of a Doctor of Philosophy Degree in Built Environment, in the Faculty of Design, Architecture and Building (DAB), University of Technology Sydney.

This thesis is wholly my own work unless otherwise referenced or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

This document has not been submitted for qualifications at any other academic institution.

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Format of the Thesis

In line with **section 9.1.1** of UTS Graduate Research Candidature Management, Thesis Preparation and Submission Procedures, this thesis is categorised as a **conventional thesis**.

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ABSTRACT

Current processes of informal urbanisation and marginalisation of informal dwellers, present a challenge for sustainable adaptation to climate change in cities of developing countries. At present, over half of the global population live in urban areas while much of future urban growth would be in Africa and Asia. Yet, the nature of urbanism in these continents is characterised by persistent informal settlements, where disproportionate effects of the imminent climate crisis are likely to fall. In spite of this recognition, studies that analyse the vulnerability and adaptive responses of informal settlements' residents in Africa remain few and excessively focused on the analysis of vulnerability to flooding hazards. Moreover, by the theoretical frameworks and ontological positions often adopted in these studies, the opinions of the actors, which have the potential to provide contextual explanations for the drivers of their vulnerability, tend to be overlooked. This study partly departs from this dominant ontology, as it examines the drivers of informal settlements' residents' vulnerability and adaptive responses including to wider climate change-related hazards from an actor perspective.

The study which used Accra (Ghana) as a case, applied a mixed-methods approach. This involved the collection of data through households' surveys (582 households), key informant interviews (16 sessions) and focus group discussions (14 groups) with community level and state actors. Its central argument is that patterns of differentiation in vulnerability to hazards among residents of informal settlements in Accra are underpinned by socio-economic, political and institutional factors as a contextual experience. Factors associated with the respondents' 'perceived vulnerability' are their tenancy status, size of household income, length of stay in a community and perception of 'threats of eviction' over their land. However, the residents, who are active agents, do apply their individual and collective agencies in responding to their vulnerabilities, including climate change-related hazards.

This study, therefore, recommends three entry points for addressing the vulnerabilities of informal settlements' residents and to climate change. First is the need for local authorities to address the challenge of 'threats of evictions' in informal settlements. Second, is the need to recognise and integrate local knowledge of climate change in vulnerability assessments, and third is to recognise and integrate the differentiated household and community capacities in the implementation of a participatory slum upgrading intervention in Accra. Doing so will require a paradigm shift in urban planning practice in Accra and similar contexts. The study thus extends the discourse of social vulnerability and adaptive capacity in the wider debates on sustainable urban development.

LIST OF ACRONYMS

AMA	Accra Metropolitan Assembly
CBO	Community-Based Organisation
COHRE	Centre on Housing Rights and Evictions
COP	Conference of Parties
CSO	Civil Society Organisation
ENSO	El Nino Southern Oscillation
EPA	Environmental Protection Agency
FGD	Focus Group Discussion
GAMA	Greater Accra Metropolitan Area
GDP	Gross Domestic Product
GHAFUP	Ghana Federation of the Urban Poor
GIS	Geographic Information System
GMA	Ghana Meteorological Agency
GoG	Government of Ghana
GPRS	Ghana Poverty Reduction Strategy
GPS	Global Positioning System
GSGDA	Ghana Shared Growth and Development Agenda
GSS	Ghana Statistical Service
HM	Housing the Masses
ILGS	Institute of Local Government Studies
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
KLERP	Korle Lagoon Ecological Restoration Project
L.I.	Legislative Instrument
LA	Local Authority
LEAP	Livelihood Empowerment Against Poverty
MDAs	Ministries, Departments and Agencies
MEST	Ministry of Environment, Science and Technology
MLGRD	Ministry of Local Government and Rural Development
MoFEP	Ministry of Finance and Economic Planning
MTDP	Medium Term Development Plan

MWRWH	Ministry of Water Resources, Works and Housing
NADMO	National Disaster Management Organisation
NCCAS	National Climate Change Adaptation Strategy
NCCCS	National Climate Change Committee
NCCP	National Climate Change Policy
NDC	National Democratic Congress
NDPC	National Development Planning Commission
NGO	Non-Governmental Organisation
NPP	New Patriotic Party
NRC	National Redemption Council
NUP	National Urban Policy Framework
OCHA	Office for the Coordination of Humanitarian Affairs
OPEC	Organisation of Petroleum Exporting Countries
PDHS	People’s Dialogue on Human Settlements
SAP	Structural Adjustment Programme
SDGs	Sustainable Development Goals
SSNIT	Social Security and National Insurance Trust
TCPD	Town and Country Planning Department
UDU	Urban Development Unit
UESP	Urban Environmental Sanitation Project
UN	United Nations
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNDRO	United Nations Disaster Relief Organization
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UN-HABITAT	United Nations Human Settlement Programme
UNISDR	United Nations International Strategy for Disaster Risk Reduction
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
UTS	University of Technology Sydney
WRC	Water Resources Commission

LIST OF LEGISLATION AND ACTS

Act 2 Land Development (Protection) of Purchaser Act, 1960
Act 123 Lands Act, 1962
Act 125 State Lands Act, 1962
Act 29 Criminal Codes, 1960
Act 151 Business Name Act, 1962
Act 179 Company Registration Code, 1963
Act 462 Local Government Act, 1993
Act 478 Ghana Investment Promotion Act Centre, 1994
Act 517 National Disaster Management Organisation Act, 1996
Act 651 Labour Law, 2003

Act 682 Ghana Meteorological Service Act, 2004
Act 921, Zongo Development Fund, 2017,

Act 925 Land Use and Spatial Planning Act, 2016
CAP 84 Town and Country Planning Act, 1945
L.I.1630 National Building Code, 2012
L.I.1629 National Building Regulations, 1992