

# **Community Adaptation to Climate Change - Building Resilience to Flooding Risk and Vulnerability**

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# Presentation Outline

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- The Issue
- Objectives
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- Research Methodology
- Expected Outputs and Outcomes
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# Introduction

- According to the report of Working Group I of the Intergovernmental Panel on Climate Change, projected increases in the globally averaged surface air temperature from 1990 to 2100 are between 1.4°C and 5.8°C (IPCC, 2001c). One of the anticipated effects of climate change is the possible increase in both frequency and intensity of extreme weather events, such as hurricanes, floods, and droughts (Tompkins, 2002).
- According Wilby and Perry (2006) the United Nations projects that by 2030, 60% of the world's population will reside in urban areas.
- Urban Flooding is a crucial development challenge facing community members and decision makers

# Impacts of Floods

- Flooding has dire consequences on the socio-economic activities of the communities as well as the health of individuals (McMichael *et al.*, 2001; Tapsell *et al.*, 2002)
- Floods can lead to displacement, spread of diseases, damage of properties & assets, low income generation, high cost of living, loss of lives, etc

# The Issue

- What are community members, governments (both local and national) and institutions doing to address flooding problems?
  - Should we migrate from the flood prone areas or we should adapt and minimise the risks?
  - It is therefore imperative to understand how communities most vulnerable to the incidence of flooding, experience and devise an urban flood risk management strategy to help reduce vulnerability in flood-prone areas
- ➔ We have to be proactive not just reactive. Strengthening people and community resilience can reduce the degree of vulnerability against floods.

# Objectives

- To explore, through the experiences of communities in flood prone areas of Accra, the conditions of exposure and vulnerabilities to flooding, poor sanitation and inadequate water supply
- To collate narratives of the coping mechanisms adopted by the communities in flood prone areas

# Objectives

- To extract from the coping mechanisms the actions adopted by the HH/Community that enhanced their adaptation and resilience to flood risk and allied vulnerabilities
- To examine the effects of community cohesion and adaptation to flood risk
- To determine the perceived responsiveness of public (local and / or central government) interventions to flooding vulnerability

# Research Questions

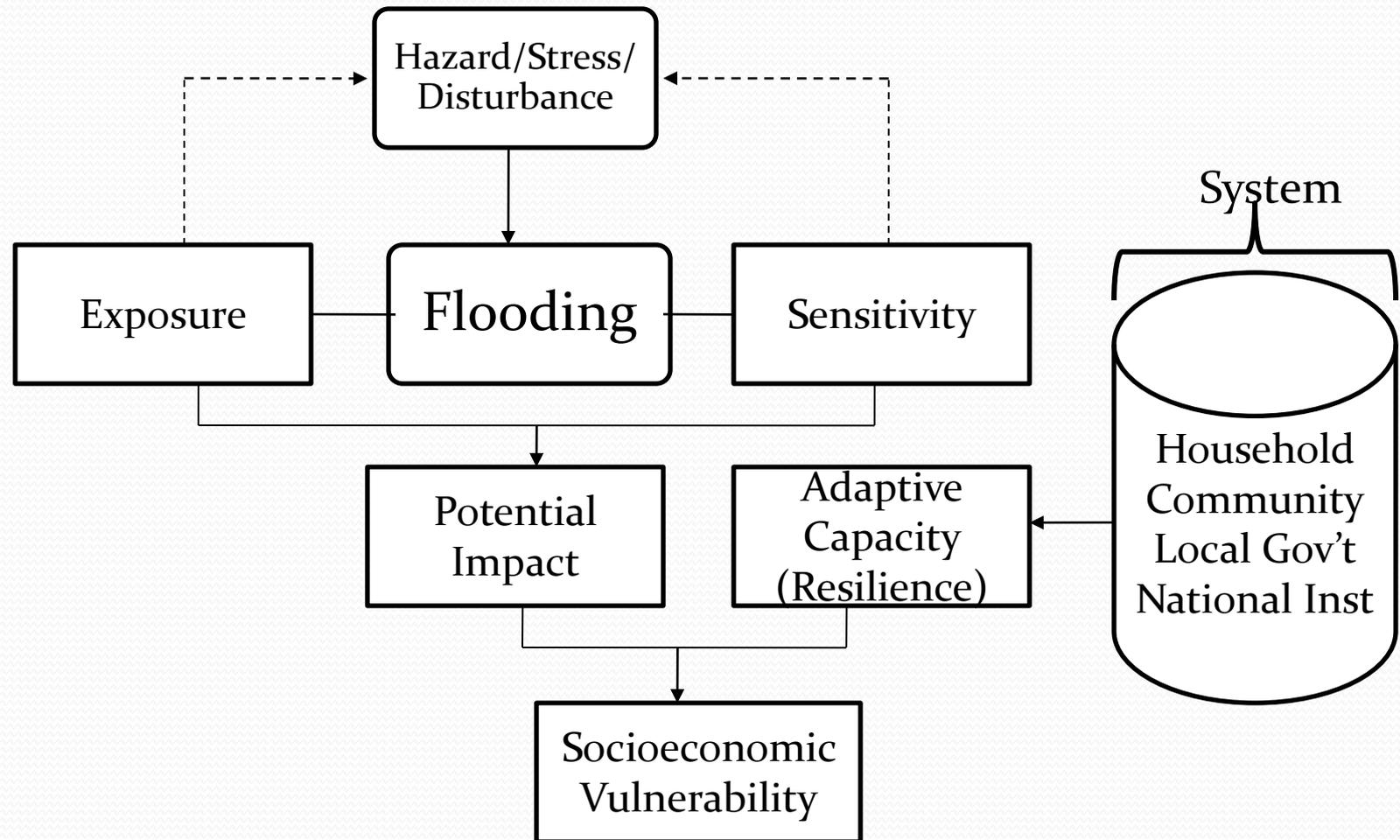
Factors and conditions that enable at-risk and vulnerable communities in flood-prone areas to build and sustain their resilience to perennial flooding events

- How did flood-prone communities experience vulnerability to flooding?
- What issue(s) / factor(s) triggered the inception of community initiatives against the flooding?
- What specific community initiatives were adopted to address the flooding problems?
- What issues/events/personalities galvanized community mobilization to address the flooding problems?

# Research Questions

- What was the extent of community mobilization prior to / during and after joint actions against the flooding problems?
- What was the government's/local authority response to flooding?
- What complimentary public interventions aided in enhancing community resilience to flooding and when did such interventions?
- What were the challenges and successes of the communities in addressing the flooding?

# Conceptual Approach



# Research Methodology

Method	Purpose	Source of Information	Output/Outcome
Literature Review	To gain knowledge and understanding of the concepts and other studies carried out relating to climate change & flooding	Projects & Assessment Reports, Previous Studies, Maps, Policies, Legal frameworks, Journals, etc	Review of relevant literature
Flood-prone Community Selection	To select the flood risk areas that can be used for the study	IWMI studies	3 Communities Selected
Observation	To understand the communities' daily practices and activities relating to flooding	The Community	Detail records of events, behaviors and activities related to flooding

# Research Methodology

Method	Purpose	Source of Information	Output/Outcome
Semi-structured Interviews	To solicit purposive information on the impacts of flooding & the capacity to deal with the floods	Affected HH & Community members	Information on the impacts of flooding on Households and their coping mechanisms
FGDs	To understand how flooding affects different grps of pple and their capacity or mechanisms to address the problems	Community groupings, LCBOs	Information on how different groups of people are affected by flooding and how they cope with it.
Institutional Study	To gain expert opinions and information on the role of institutions in supporting pple to cope with flooding	LG, NADMO, TCPD, MA , EPA	Information on institutional support, strategies and plans for communities.

# Selected Communities

Community	Main Features
Mataheko	Heterogeneous community with diverse ethnic and cultural background, interests and aspirations.
Gbegbeyiese	Largely homogeneous with similar traditions, culture, values and language
Old Fadama	Uniqueness in terms of illegal occupancy and Commercial Activities. Unplanned, underserviced, inaccessibility, sanitation challenges, etc

# Expected Outputs

- Research report presenting the findings
- Policy brief on building community resilience against climate change-induced flooding
- A case study monograph on adaptation and resilience to flood-based climate change.

# Expected Outcomes

- Contribute to influencing behaviour of community to minimize human settlement contributions to flooding risks
- Enhancing the knowledge of communities in Climate Change & Flooding and their impact on water and sanitation and livelihoods
- Empowering local governments in mitigating flooding risks through a better understanding of issues that prepare them for proactive settlement planning and management
- Building the cohesiveness of the community as a tool for self-help projects for reducing the risks of flooding

# Status of the Research

 Literature Review

 Fieldwork

 FGDs

 Institutional study

 Data collation and Analysis

# Conditions of Flooding

- Poor planning: *'flooding was not a serious problem in this community until the construction of the Tarkoradi station which blocked the main water way in this community'* (71 year old lady, Mataheko)
- Location of the community (e.g. Gbegbeyese)
- Lack of proper drainage in all the three communities
- Poor household solutions
- .....

# Preliminary Findings...

- **Increase in cost of living:** *“When I move two steps forward in life, I do move three steps backwards when the floods come”* (42 yr old man)
- **Keep valuable belongings at safe places:** *“Around this time [rainy season] I send my valuable things to my friend’s place for safe keeping. But my brother, when I go for them, I can’t find some, and you know, I can’t complain because I will send it back”* (32 yr old lady)
- **Raising of door and window level** to minimize the amount of water that enter rooms when it floods. *“Fill and raise is the style”* (28 yr gentleman)
- **Women & children collect flood waters from rooms** before warming the room with charcoal after floods.



Thank you