

Weathering the storm: environmental change and dynamic vulnerability in Subarnabad, Bangladesh



Presented by:

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Acknowledgements: Reducing Vulnerability to Climate Change Project (RVCC),
Institute of Development Education for Advancement of Landless (IDEAL)



Climate and Development

- Climate hazards already pose immediate challenges
- Climate change may exacerbate vulnerabilities
- Development initiatives:
 - Address current livelihood needs
 - Contribute to longer-term capacity building



Livelihoods

- Livelihood:
 - Comprise of people, their capabilities, and means of living
- Sustainable when:
 - Cope and recover from stress and shocks
 - Maintain or enhance capabilities and assets
 - Provide sustainable livelihood opportunities

(Chambers & Conway, 1991)



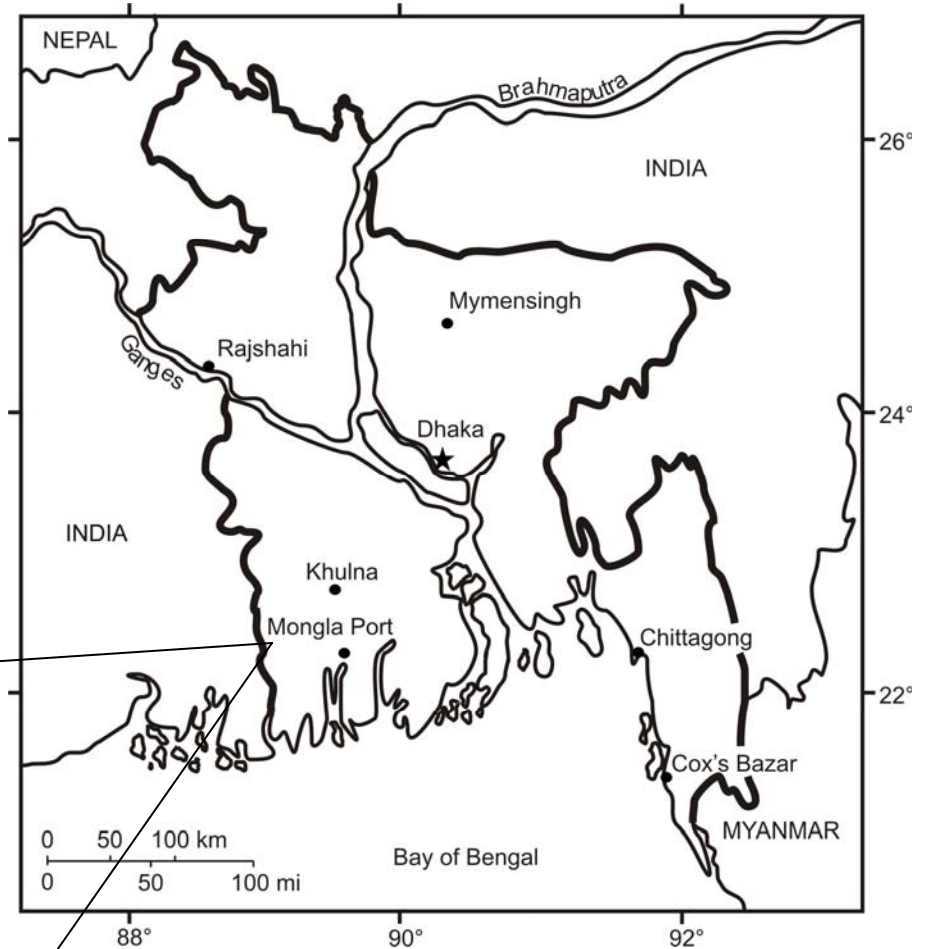
Research Aim

- Understand the nature of vulnerabilities to environmental change
- Assess vulnerabilities relative to climate change

Village of Subarnabad



Subarnabad





Evolution of the Problem

**Structural
measures built**

- Coastal Embankment Project
- Farraka Barrage

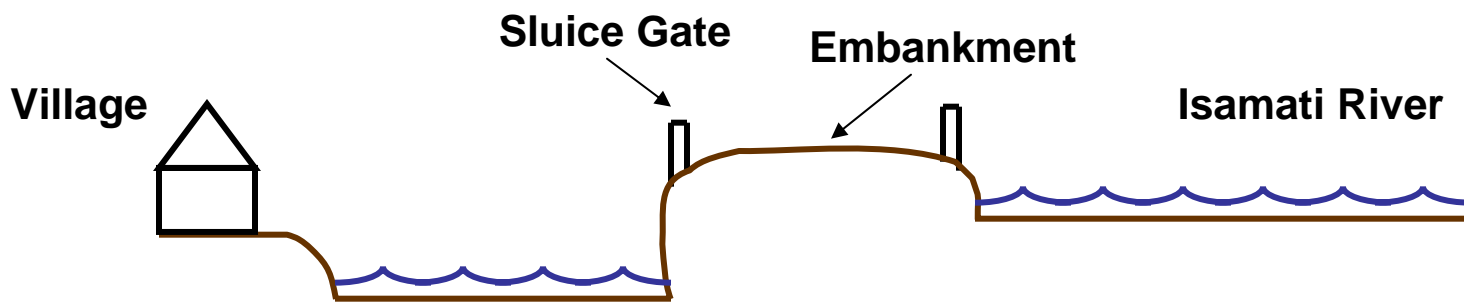
Evolution of the Problem

**Structural
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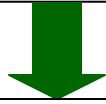
**Waterlogged
conditions**

- Changes in tidal flow
- Silting of the Isamati River
- Drainage congestion and waterlogged conditions

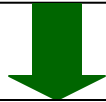


Evolution of the Problem

**Structural
measures built**



**Waterlogged
conditions**



**Decrease in
crop yields**

- Decreased rice yields
- Decreased profits for land holders
- Decreased employment opportunities



Adaptation to Waterlogged Conditions

- Land flooded with saline water
- Change from rice to shrimp farming
- Initiatives supported by gov't





Implications for Livelihoods

Direct Change

- Common resources
- Livelihood options
- Household incomes
- Fragility of mud homes
- Health problems
- Environmental degradation



Indirect Change

- Feminization of workforce
- Family disputes
- Marriage difficulties
- Increased free time
- Increased petty crime
- Increased women-headed households
- Difficulty educating children



Differential Adaptive Capacity

- Adaptive capacity:
 - Function of: assets, fiscal resources, control over resources, gender, external support, leadership
- High adaptive capacity
 - Profit from saline water intrusion
- Low adaptive capacity
 - Became more marginalized

Current Adaptation

- Taking a loan
- Lease small piece of land
- Increase working members of family
- Decrease intake of food
- Work outside the village
- Use fertilizers



Purpose – to address **Immediate Needs**



Sustainable Livelihoods

- Initiatives to address current livelihood issues
- Support from local NGO to try new income generating activities
 - Training, loans and technical support









Sustainable Livelihoods

- Address immediate needs
- Increase adaptive capacity to future needs
- Decrease vulnerability to current and future environmental stresses
- Promote local sustainable development



Acknowledgements:

University of Guelph

Social Sciences and Humanities Research Council

Reducing Vulnerability to Climate Change Project
(RVCC), CARE Bangladesh

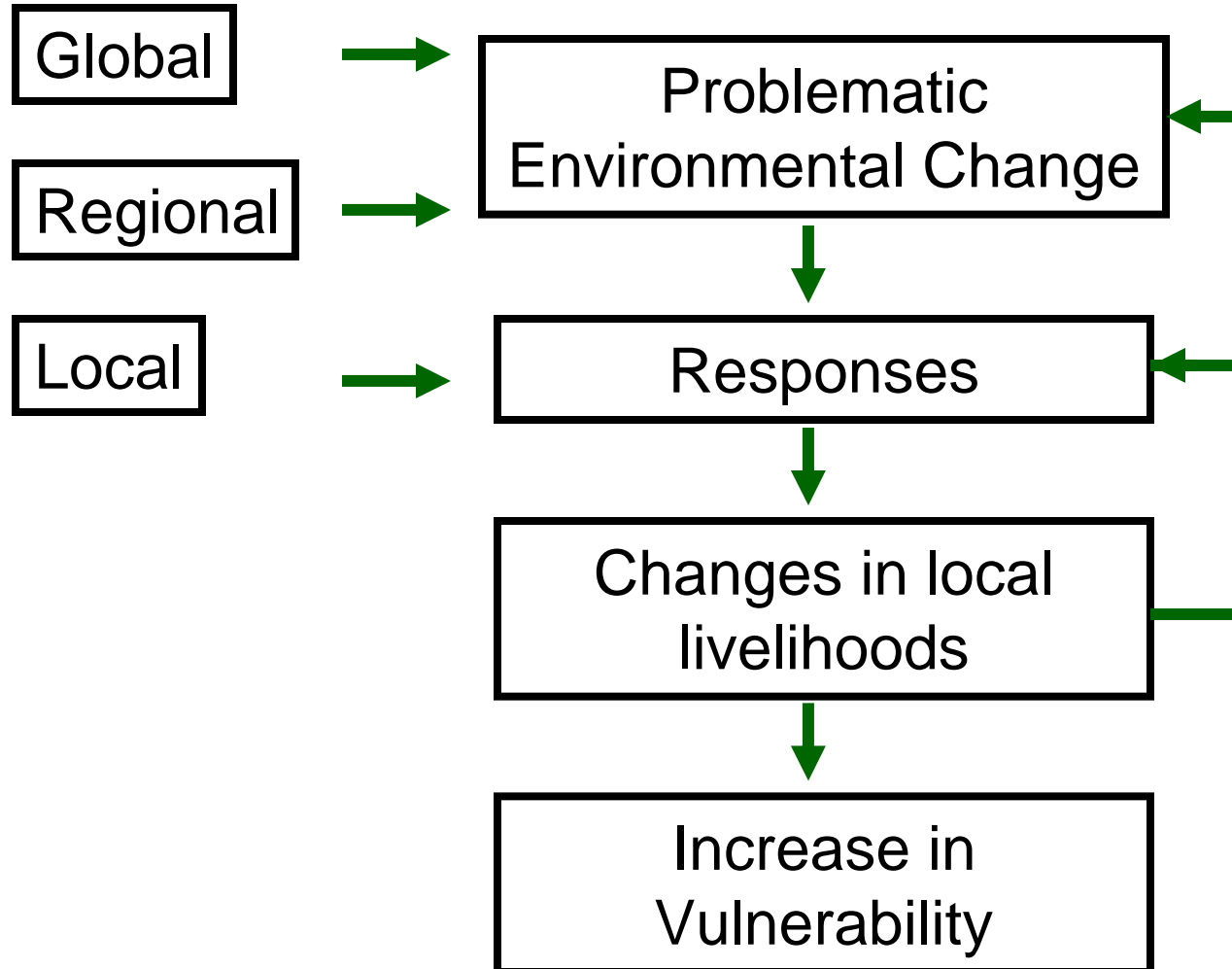
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Vulnerability and Livelihoods

- Environmental change, vulnerability and sustainable development related to questions of **livelihoods**
- Primary concern: survival in short term
- Reflected in current adaptation strategies



Dynamic Vulnerability



Implications for Livelihoods

- Local crop production
 - Potable water
 - Fruit trees
 - Fodder for livestock
-
- Change in production system changed local livelihoods
 - Decrease in livelihood options



