Climate Change Governance in the Coastal Region of Bangladesh: Roadmap towards Sustainability

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Abstract
The impacts of climate change are particularly severe in Bangladesh due to its extreme poverty and economic dependency on climate-sensitive sectors like agriculture, food, and fisheries. Geographical location, frequent disasters, changes in precipitation and temperature, and man-made local environmental changes have dramatically reduced the stability of the coastal environment. This study investigates the impacts of climate change on the two most vulnerable coastal districts (Khulna and Bagerhat) of Bangladesh between 2008 and 2009 by analyzing recent and predicted changes to the coastal environment and livelihood patterns. In particular, it examines what climate change adaptation strategies have been adopted at the grass-roots level, with the aim of proposing improved strategies for mainstreaming climate change adaptation and mitigation in order to achieve climate-proof development and sustainability in Bangladesh. The study finds that the south-western coastal region of Bangladesh currently experiences livelihood and food insecurity as a result of the changing pattern of climate and human-induced activities in the natural environment. Current climate change adaptation initiatives are inadequate to secure the livelihood of the huge number of people affected by climate change. This ultimately means that people are being displaced to urban areas. The study concludes by suggesting a framework for development, involving multi-stakeholder engagement through less overlapping and more effective integrated actions between communities, civil society organizations, NGOs and various local government departments to build, at the grass roots level, a sustainable community that is resilient to the impacts of climate change.

3. STUDY AREA
5-W Coastal Region
- Special focus: Five sub-districts of Khulna and Bagerhat district
- Main Occupation: Agriculture
- Fish farmer, day labour, the Sundarban forest dependent
- Zone of multiple vulnerabilities and opportunities

4. RESULTS: VULNERABILITY
LMFs and non farm households are increasing (54% are landless)
Production hampered: natural disaster and increase of saline areas
Agriculture sector: 21% of GDP and 50% of labour force are dropping
Shrimp farming leads to environmental degradation
Extrem food crises: mid July to Nov, March to mid April
Temporary migration (range 1 day to 6 months): multiple works
Drinking water situation become worse and worse
About 20-30 mil. environmental migrants with 1m SLR (landloss:17%)

5. RESULTS: CHALLENGES TOWARDS ADAPTATION
Number of affected people get direct project benefit is negligible
Rigid project criteria
Limited allocation of budget for livelihood strategic solution
Lack of integration between NGOs and Local Govt. initiatives
More initiatives in the worse affected areas, thus neglecting medium or less affected areas: regional conflicts

6. SECTORAL ADAPTATION
Water Resources: demand based technological incorporation to access safe drinking water, preservation and efficient strategies for water management in polders and drinking water supply (Table)
Coastal Protection: technology and capacity improvement in building sea wall and incorporation of GIS-RS based planning for URI
Livelihood: diversification and dissemination of livelihood options to create an environment for multiple work opportunities at household level such as: floating agriculture/hydroponics, vegetable cultivation in marginal land, crab fishing, mat making, poultry, apiculture & honey processing
Health: strengthening public health prevention strategies, sanitation improvement, replication of NGO initiatives at community level

10. CONCLUSIONS
No other alternatives for Bangladesh except adaptation and strengthen the household resilience capacity
Potential sectors need technologies & strategies, which incorporate into their development processes
Building institutional capacity for climate proof development initiatives is imperative
Regional cooperation with neighboring countries
Grass-root involvement is mandatory and empower local government institutions in terms of project planning and decision making power

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