Adaptation in the context of transboundary waters: the case of Bangladesh

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ESPA Deltas: Project Aims

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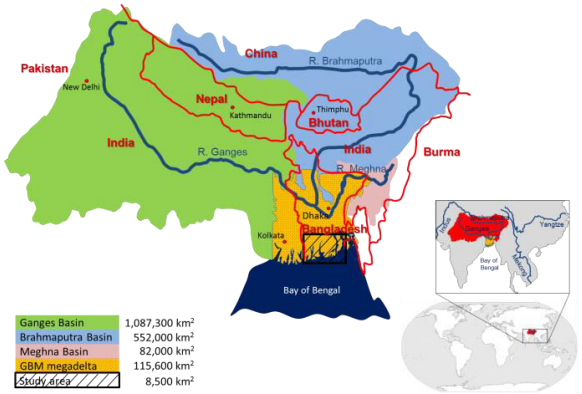

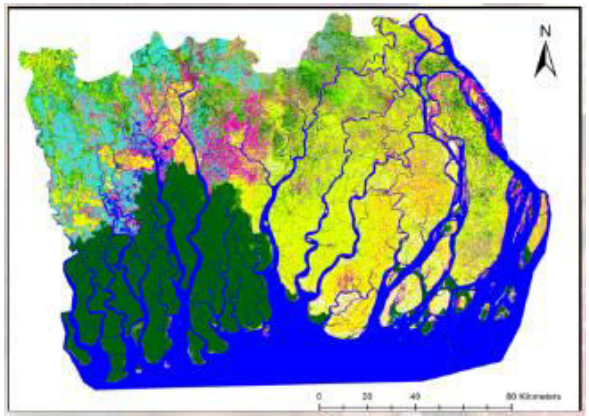

In Coastal Bangladesh

- To understand the present relationship between ecosystem services and human well-being and health.
- To project how these ecosystem services might evolve over the coming years and decades (up to 50 -100 years)
- To analyse how policy can influence these outcomes and promote ecosystem services and human well-being and health.
- To select robust policies that are effective across the range of uncertainty.
- Using participatory approaches.

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Upstream uncertainties potentially affecting flow in the GBM delta:

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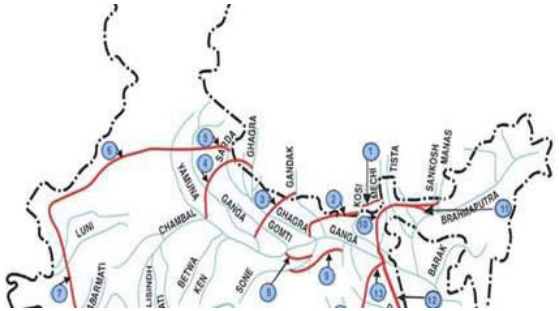


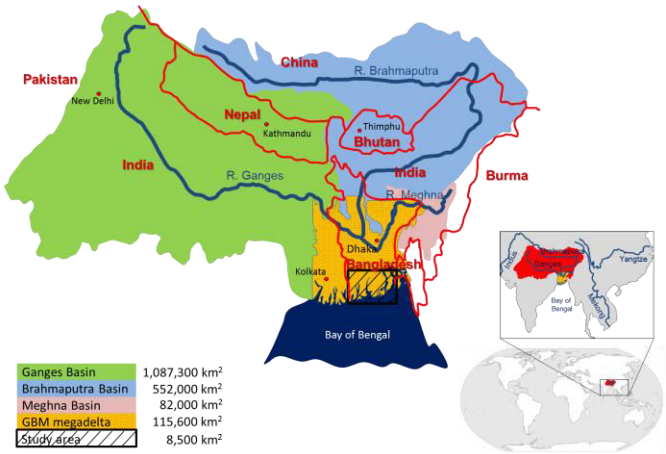
Inter-linking Rivers Project (Himalayan component)

Agreement on the Teesta River: imminent?

High level of uncertainty re. future changes in temperature (conservative projection: +2°C by 2050) and precipitation patterns

Possible diversion of Brahmaputra by China for north-south Diversion projects?

World Bank-linked Development of NW-1, upstream of Farakka?



Renegotiation of the Farakka Treaty in 2026?

Accelerating hydropower Development on Ganges And Brahmaputra rivers In both India and China

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Existing Transboundary Framework

- **Treaty on Sharing of the Ganges at Farakka (Bangladesh / India, 1996)**
- Expert Level Mechanism between China and India (data-sharing during flood season)
- Flood management treaties on Ganges tributaries – Mahakali, Gandak, Kosi (India / Nepal)
- Flood forecasting networks on the Ganges and Brahmaputra rivers, between India and Nepal, and India and Bhutan respectively
- **Joint Rivers Commission (Bangladesh / India, established 1972)**
- None of the basin states have ratified the UN Watercourses Convention

Challenges for adaptation in Bangladesh – upstream factors

- Upstream management capacity in India is weak:
  - water managed at state level, rather than national
  - Union government impotent in face of states that do not wish to update existing legislation affecting water
  - Recent efforts to rationalise management of Ganges have not yet yielded results, though government priority
  - Institutional disagreements result in fragmented water resource management (e.g. between quality and quantity; surface and ground; economics v. environment)
  - Highly politicised issue (e.g. importance of farmers, political disagreements between state and Centre)
- Relationship with China
- Both India and China need to adapt to global change too
- India's bilateral and river-specific approach to water agreements

Challenges for adaptation in Bangladesh – domestic factors

- Levels of coordination re. hydrometeorological planning and data sharing with upstream states are inadequate
  - Ability to adapt to **upstream adaptation** is therefore limited
- Quantitative Assumptions in Farakka Treaty driving annual volumetric agreement based on historic data up to 1988 – impact of non-stationarity?
- Initial National Adaptation Plan has now expired
  - No mention in 2005 version of need for improved transboundary waters coordination
  - preparation of new adaptation plan has just started, led by UNDP
- Relevant governance framework for water resource and land management is generally:
  - outdated
  - rigid but lack of detail increases scope for arbitrary decisions;
  - enforcement penetration is inadequate (e.g. with respect to informal systems); and
  - Is not capable of supporting policy

Policy / Law Timeline in Bangladesh

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Chart suggests there is relatively little implementation of policy through law, for example, but that doesn't mean there is none through e.g. infrastructure; investment; economic tools etc.

Policy	Year	Legislation
National Social Protection Strategy (3rd draft)	2014	
	2013	Water Act
	2012	
	2011	
Sixth Five Year Plan Plan for Disaster Management National Industrial Policy Perspective Plan Child Labour Elimination Policy	2010	Standing Orders on Disaster
National Adaptation Plan of Action National Tiger Action Plan	2009	Right to Information Act
	2008	
	2007	
Coastal Development Strategy National Fisheries Strategy National Food Policy	2006	
Fifth Five Year Plan Coastal Zone Policy	2005	
	2004	
	2003	
Population Policy	2002	
Rural Development Policy	2001	
	2000	Environment Court Act Water Development Board Act
National Water Policy	1999	
National Fisheries Policy	1998	
	1997	Environment Conservation Rules
	1996	Ganges Water Sharing Treaty
	1995	Environment Conservation Act Protection and Conservation of Fisheries (Amendment) Act
National Forest Policy	1994	

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Challenges for adaptation in Bangladesh – domestic factors

- Getting legislation through legislature is very time consuming, and binary political system does not help
- Capacity of legal, institutional and policy framework to facilitate adaptation is low in terms of adaptive governance principles:
  - Iterativity
  - Flexibility
  - Connectivity
  - Subsidiarity

Observations - reality

- Legal and institutional framework needs overhauled if policy is to be implemented and adaptability achieved
- Political situation will not enable this to happen
- Equating quantity with quality in terms of law and policy does not work
- Disaster Risk Management process took a long time, but demonstrated that cross-institutional coordination was possible, that new power structures were possible and that workable (and dynamic) combinations of primary and secondary legislation could be created
- Implementation of adaptive governance principles to workable mechanisms is understood (see e.g. IUCN Adaptive Water Governance, and more broadly *Hill Clarvis, Allan, Hannah*, 2014)

References and Acknowledgements

- A. Allan, E. Barbour *et al* (2015), *Integrating science, modelling and stakeholders through qualitative and quantitative scenarios*, ESPA Deltas Working Paper no.5, available at www.espadelta.net.
- M. Hill Clarvis, A. Allan, D. Hannah (2014), *Water, resilience and the law: From general concepts and governance design principles to actionable mechanisms*, Environmental Science and Policy 43 (2014) 98-110

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