





MAKING ROADS WORK FOR FLOOD MANAGEMENT IN COASTAL BANGLADESH

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Triple win

Reduced damage to roads

Reduced damage to surrounding area

Water for productive use

It is a major asset management issue

Water is 35% of damage to paved road, up to 80% to unpaved roads

Roads change the surface hydrology and have major impacts on run-off

- now often causing local flooding, water logging, drainage congestion and sedimentation and erosion
- this can be turned around in large potential for water harvesting and water management



No consideration in design for water harvesting from roads or controlling erosion and other damage



No culture of engagement with roadside population litigation and compounds



Innovative designs and guidelines:

- Road water harvesting
- Sand mining
- Tree planting



Strengthen process of engagement with roadside communities

Current Road Practice

- Erosion, floding, water logging
- Dust impact on health
- 35% of road damage by water
- Insecurity and reduced resilience





"Roads for Water"

- Harvest water for productive and social use
- Agriculture, rangelahd, fiser is
- Other livelihood opportunities
- Reduce erosion and land loss
- Lower road damage
- Higher ability of people, households, communities to deal and thrive in the face of shocks and stresses

Uniform guidelines irrespective of different socio-economic systems (agriculture, pastoralibit, fiser i a)

No coordination with other stakeholders (agriculture, water)

Accommodating diverse socio-economic and natural contexts for 'roads for resilience'.

Develop systems of defining access to new benefit streams

Multi-sector, multi-actor coordination in development and maintenance









Coastal Bangladesh

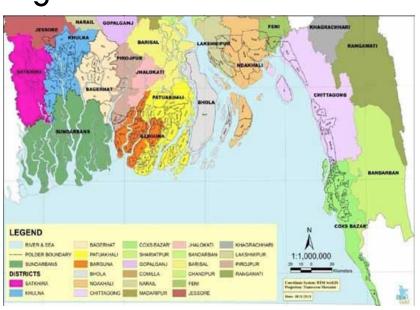
Roads and embankments are the same

Roads as flood shelter

Roads as post flood shelter

Roads for polder water management

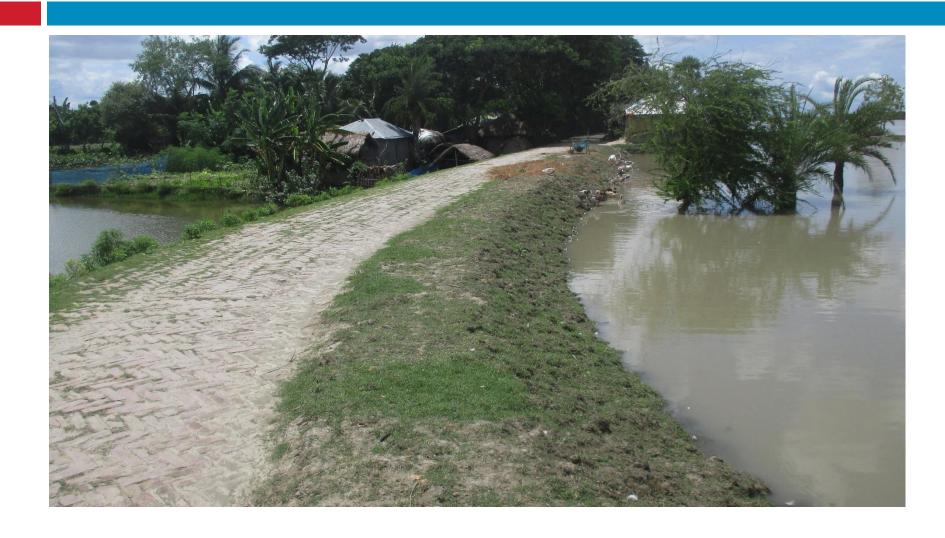
Frontline in climate change and sea level rise



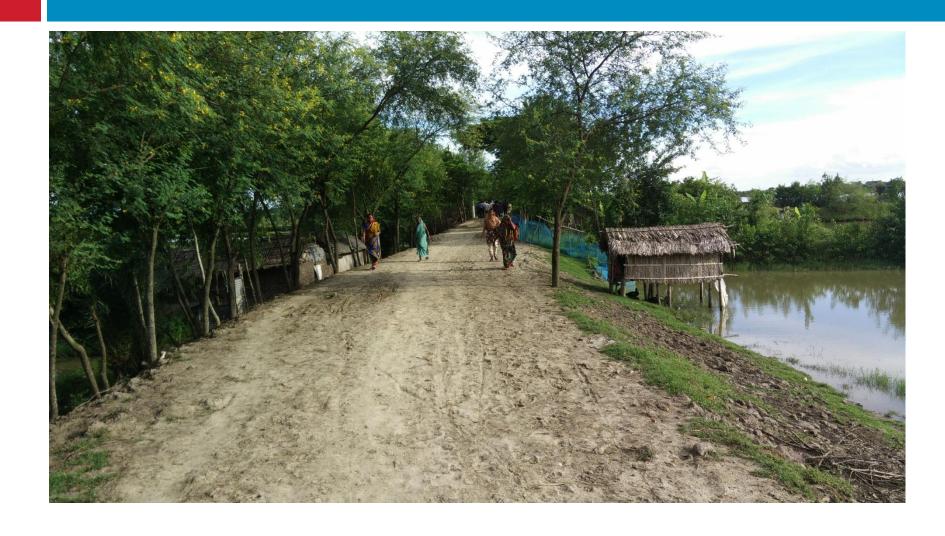
Many small floods – considerable damage



Embankments (60%) are roads



Need to synchronize both



Need to jointly create strong roads/embankments



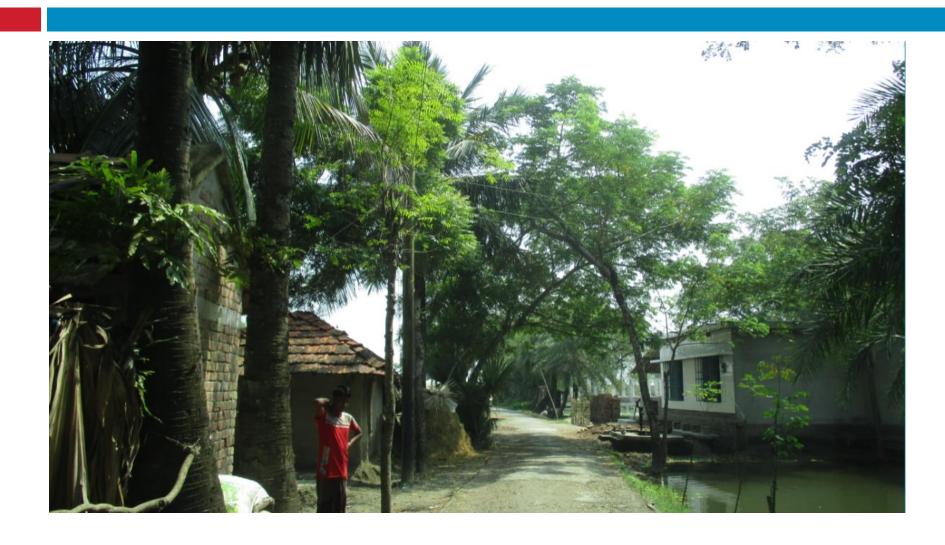
Lack of coordination — lowering of embankment for road widening



Construction is at any cost a challenge



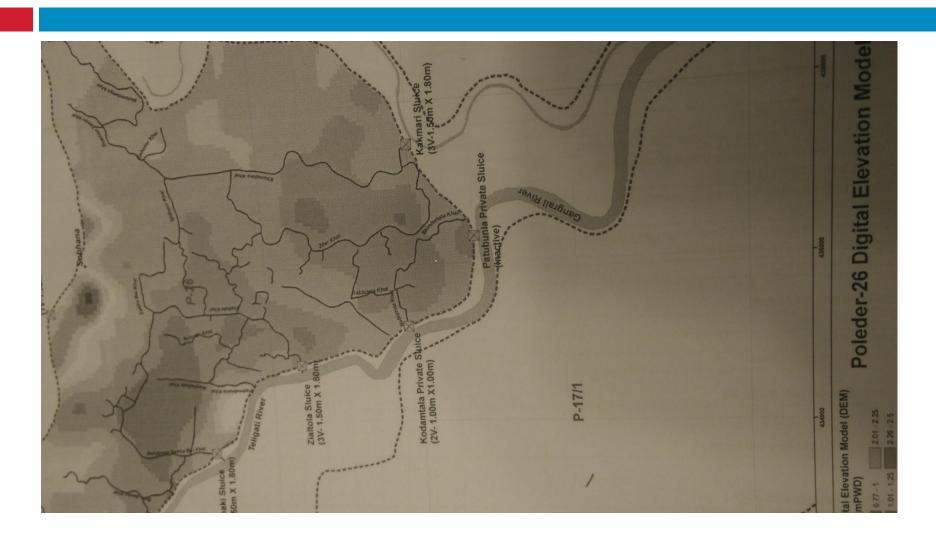
Roads as flood and post flood shelters



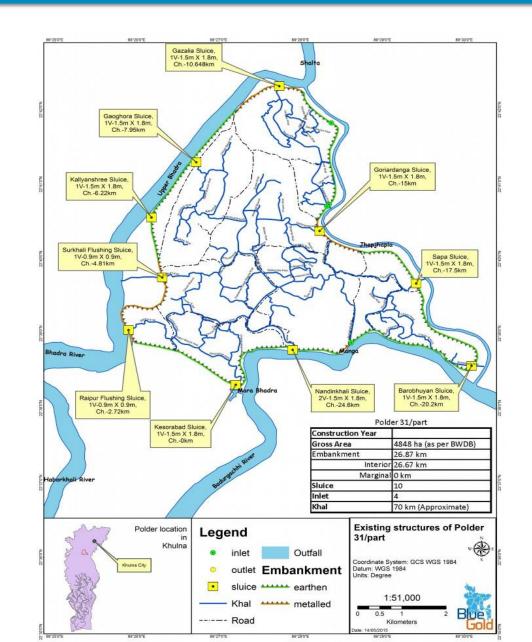
Roads are only free public space – to be better developed as flood shelters



Polder water management is important and matter of decimeters



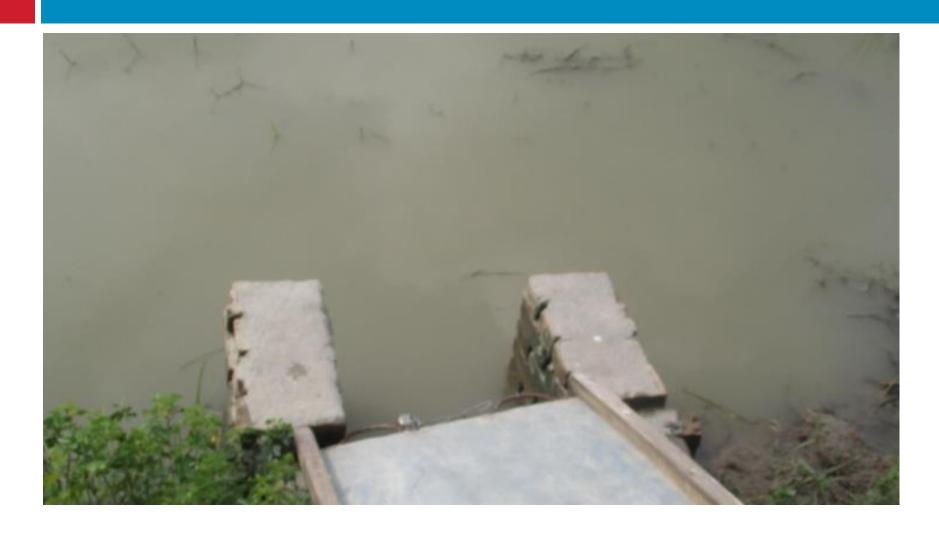
JUMP START: MAKING USE OF ALL ROAD WATER CROSSINGS



Roads can compartimentalize between high and low areas



Making systematic use of culverts and provide them with gates



A different perception on climate change adaptation

Rather than making roads climate/ water proof, (which is costly so one may have to build less roads)

we should optimize roads as instruments for water management and climate resilience

And achieve triple wins at marginal additional cost, if at all

Roads for Water Initiative



Learning alliance

- 1. Work with road programs
- 2. Work on optimized practices
 - Guidelines and designs
 - Investment budgets
 - Maintenance practices
 - Social interaction and cooperation
- 3. Capacity building
 - Short courses
 - Guided learning
 - Tools (models)
 - Research
- 4. www.roadsforwater.org



Learning alliance

Please join and contact:

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www.roadsforwater.org





