

Stabilization of the Brahmaputra-Jamuna-Padma-Meghna River corridor, Bangladesh (PPT)

Mosselman, Erik; Aminul Haque, A.M.; Klaassen, G.; Sarker, Maminul Haque; Shahjahan Siraj, Md.; Islam, M.

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Stabilization of the Brahmaputra-Jamuna-Padma-Meghna river corridor, Bangladesh

Erik Mosselman¹,

A.M. Aminul Haque², **Gerrit Klaassen**³, **Carsten Staub**⁴, **Maminul Haque Sarker**⁵, **Md. Shahjahan Siraj**⁶, **Md. Monirul Islam**²

¹ *Deltares & Delft University of Technology, Delft, the Netherlands*

² *Bangladesh Water Development Board, Dhaka, Bangladesh*

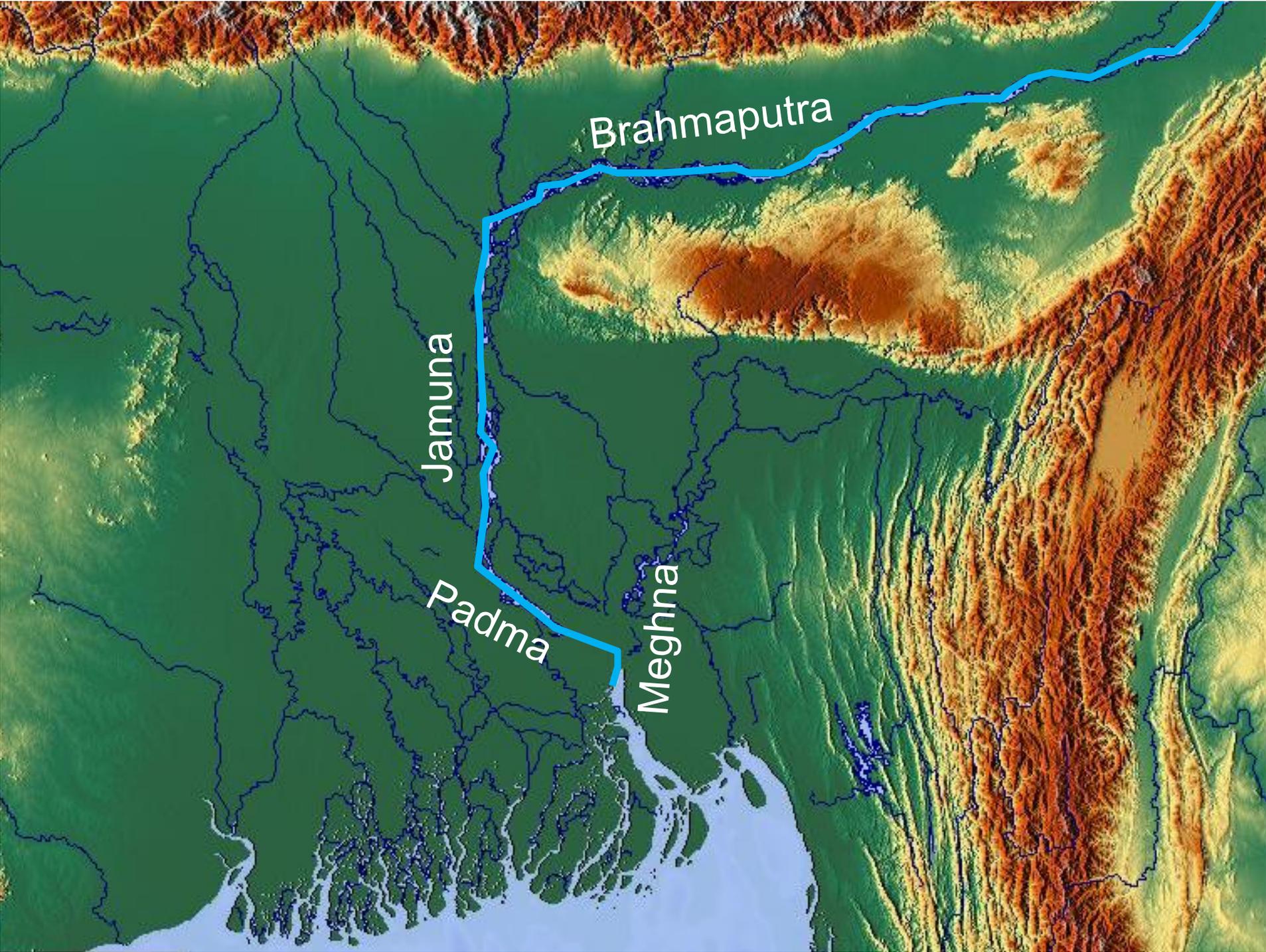
³ *Independent consultant in FRERMIP*

⁴ *Sweco, Stockholm, Sweden*

⁵ *CEGIS, Dhaka, Bangladesh*

⁶ *Bangladesh Water Development Board, Tangail, Bangladesh*



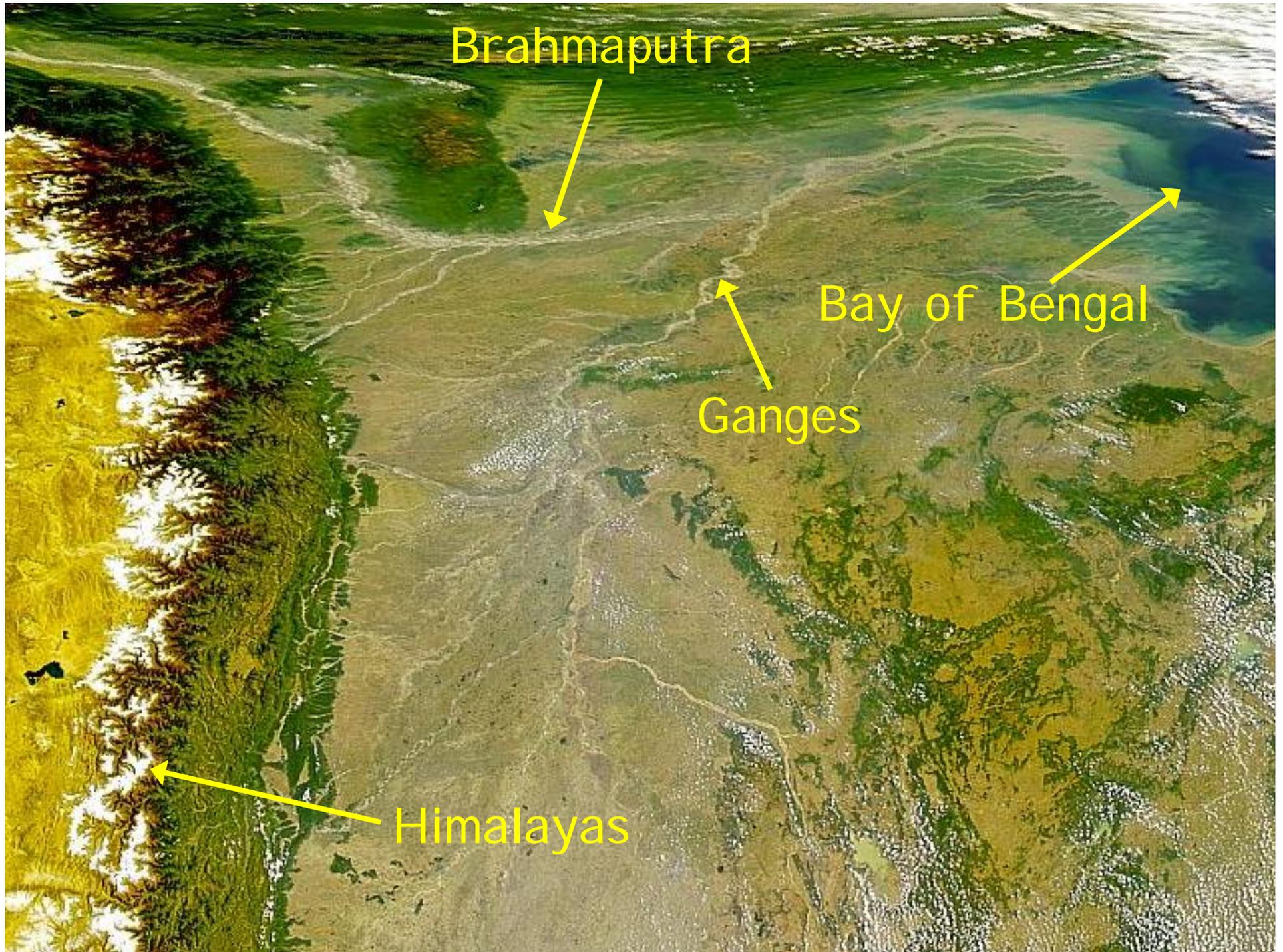


Brahmaputra

Jamuna

Padma

Meghna



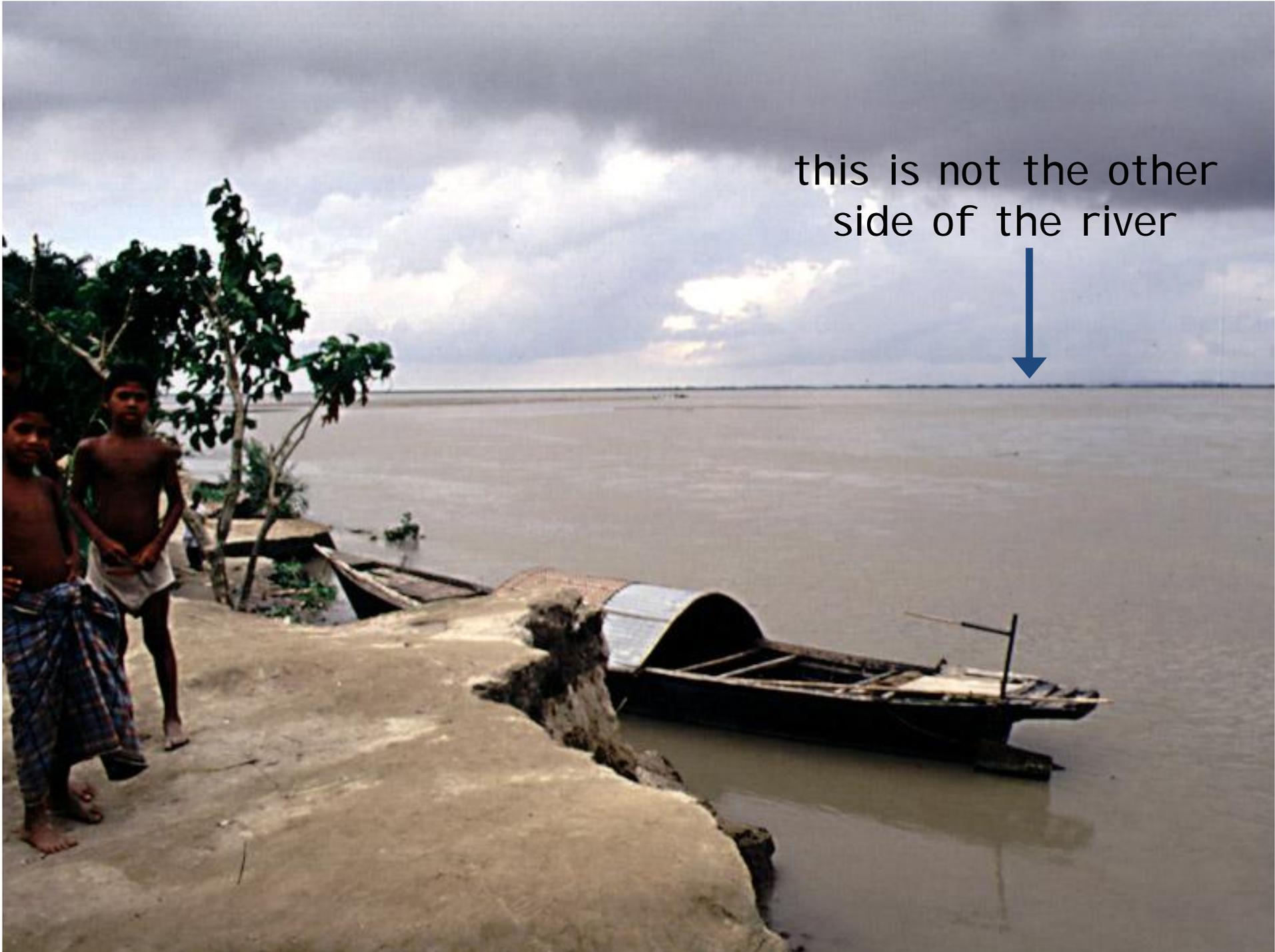
Brahmaputra

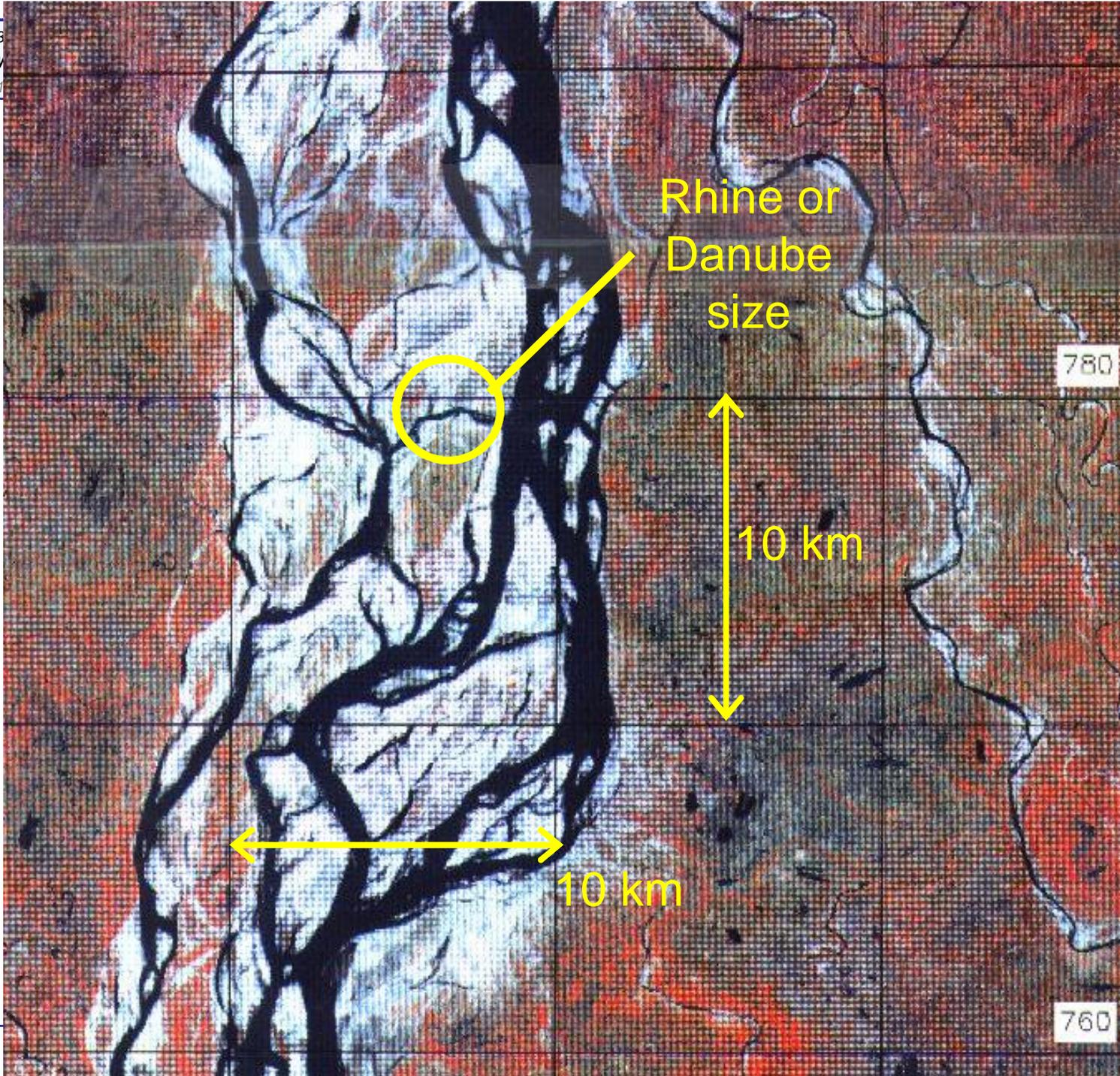
Bay of Bengal

Ganges

Himalayas

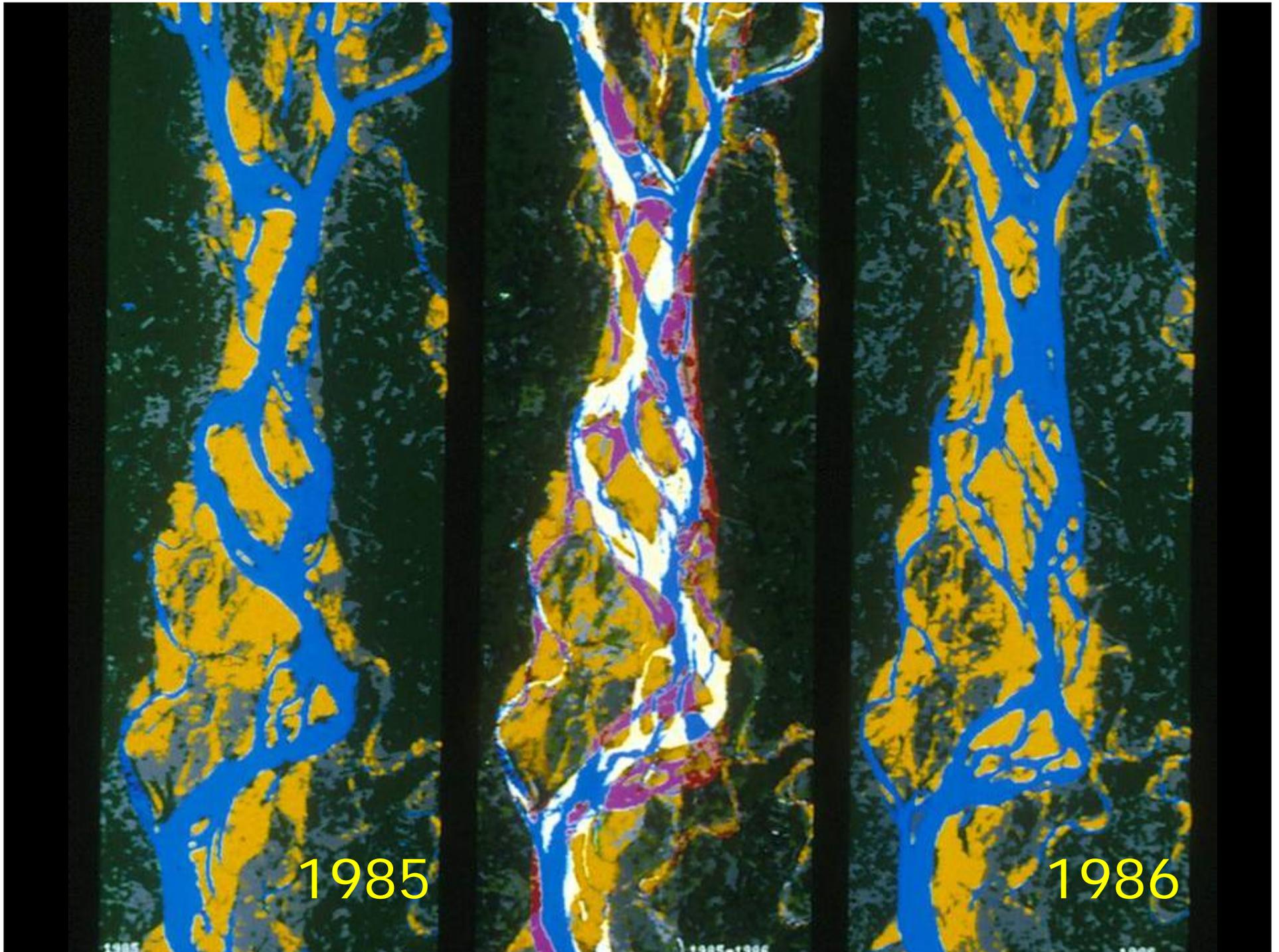
this is not the other
side of the river











1985

1985-1986

1986



Stabilization

- **Prevention of loss of land, infrastructure, religious places, etc.**
- **Prevention of flooding caused by erosion of embankments**
- **Reduction of migration to city slums**
- **Stabilization of distributary off-takes for water supply**
- **Stabilization of river at bridges, ports and ferry landings**
- **Improvement of navigability**
- **Land reclamation**



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World's Large Rivers

18-21 April 2017, New Delhi, India

Works in 1990s – still standing





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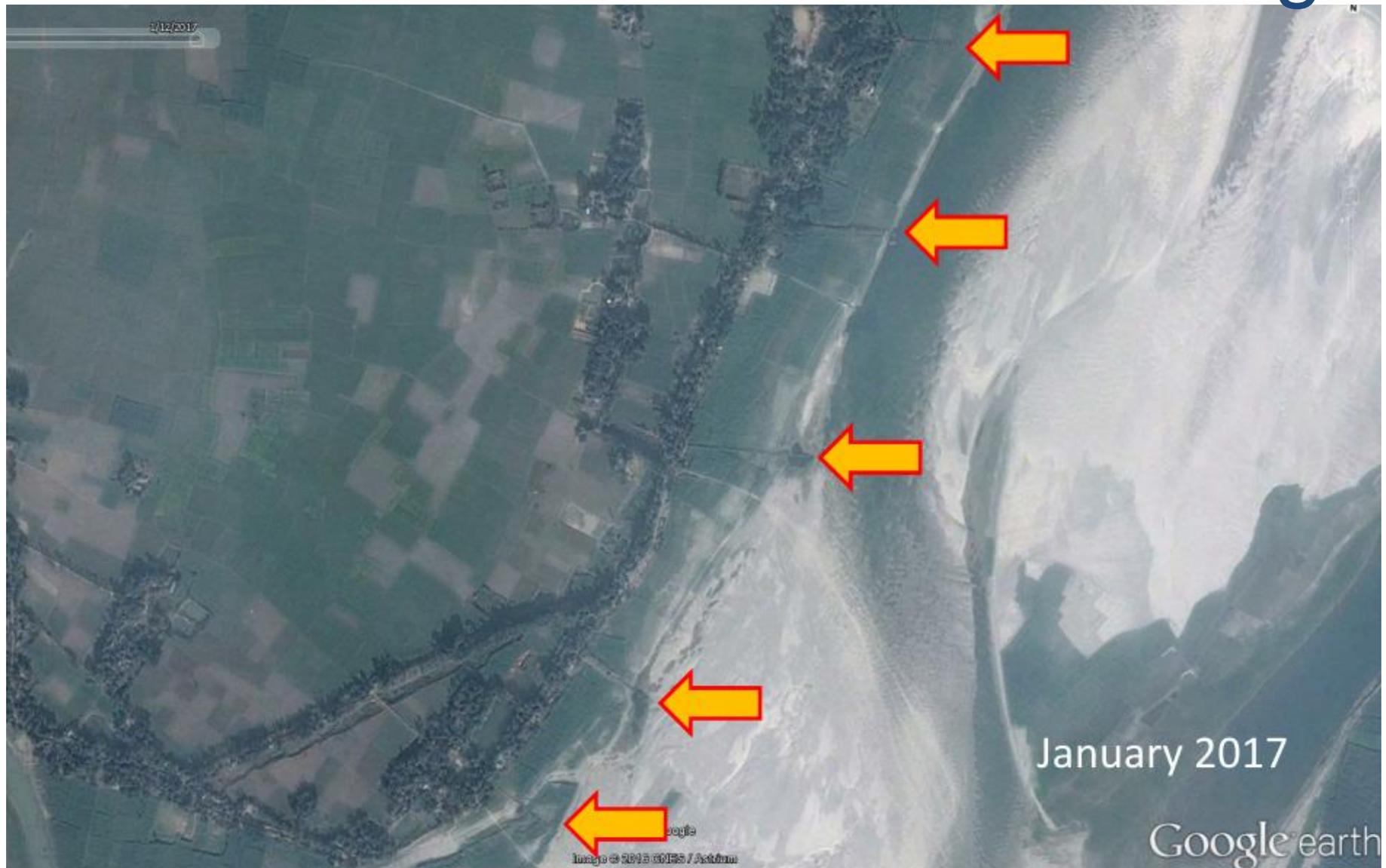


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Evolving insights

- **Longitudinal protection causes less scour than groynes or spurs**
- **Any structure requires monitoring and maintenance: no strong distinction between hard and soft engineering**
- **Adaptive approach, seizing opportunities offered by the river in particular years**
- **Sand-filled geo-textile bags are a feasible alternative to stone and concrete**
- **Current developments in FRERMIP: Flood and Riverbank Erosion Risk Management Investment Program**



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FRERMIP





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FRERMIP

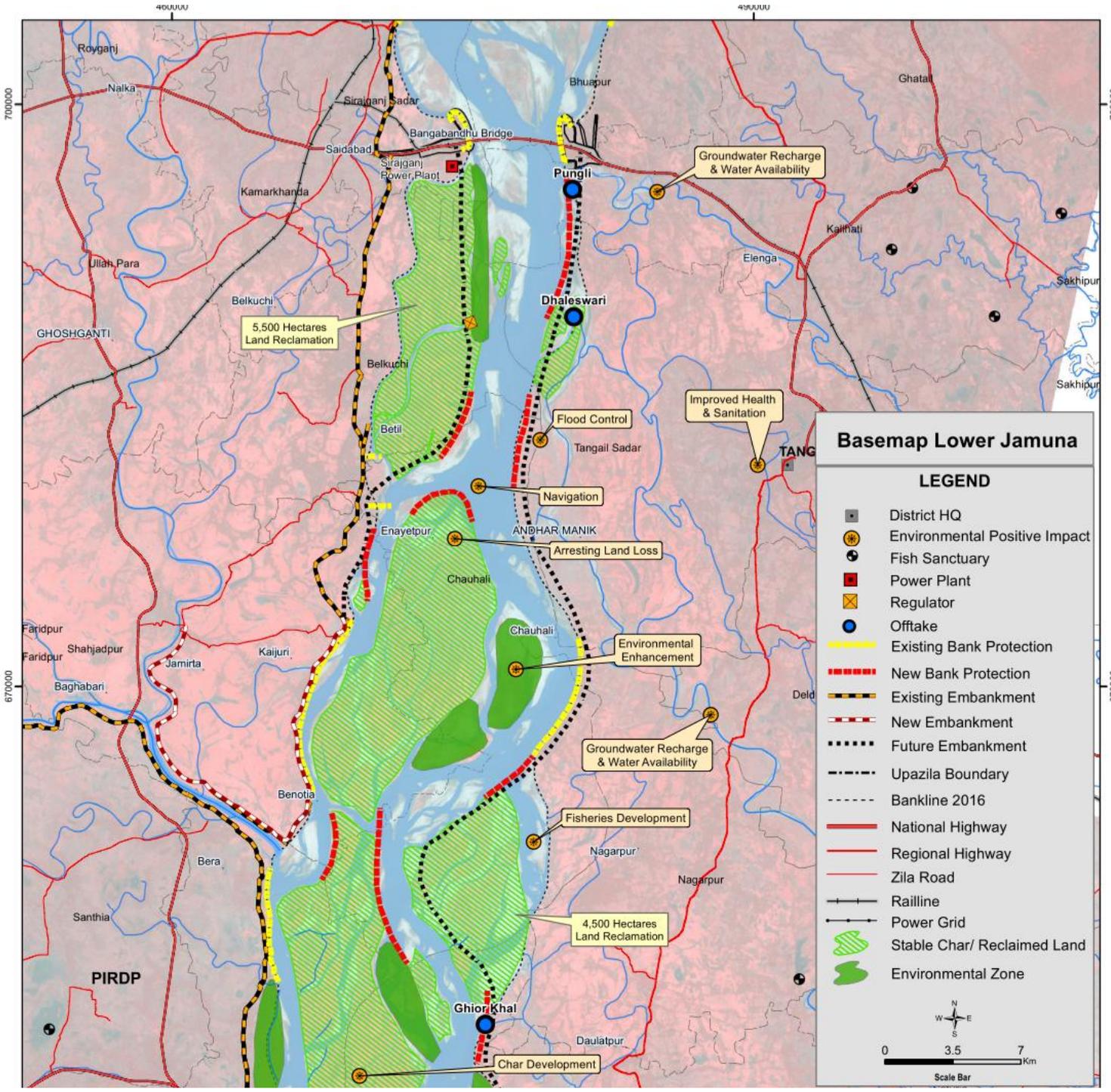




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FREERMIP





5,500 Hectares Land Reclamation

4,500 Hectares Land Reclamation

Groundwater Recharge & Water Availability

Improved Health & Sanitation

Flood Control

Navigation

Arresting Land Loss

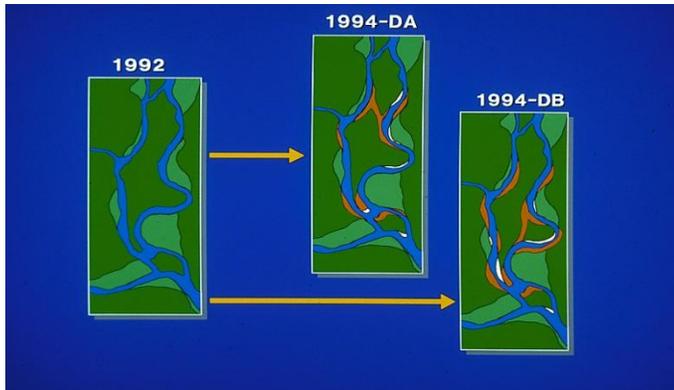
Environmental Enhancement

Groundwater Recharge & Water Availability

Fisheries Development

Char Development

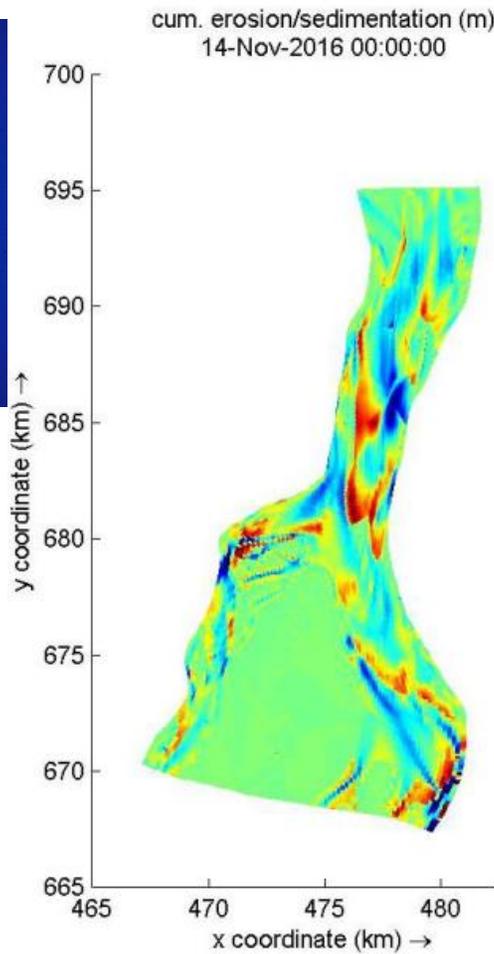
Morphological models



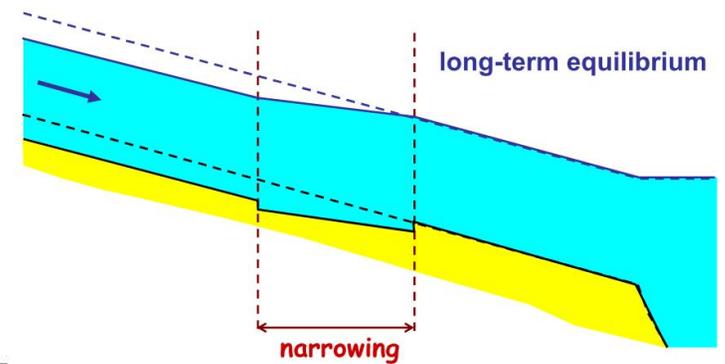
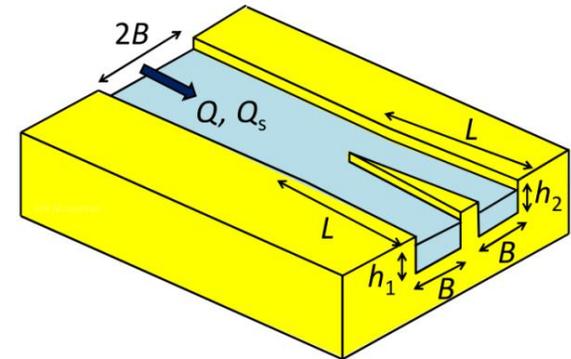
empirical probabilistic



physical



numerical



analytical



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***Let's
see the
movie!***

Mosselman, Haque, Klaassen, Staub, Sarker, Siraj & Islam