




Challenges of Sustainability: Issue of Food Security in the Indian Sundarbans

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- Indian Sundarbans occupy 9,630 sq. km of land of which 4260 sq km is Reserved Forest. It has 19 CD Block and inhabited by 5 million people in 50 odd islands

Indian Sundarbans Delta CD Blocks

LEGEND

- International boundary 
- District boundary 
- Block boundary 
- Mouza boundary 
- Road 
- River & stream 
- Inhabited but not denotified 

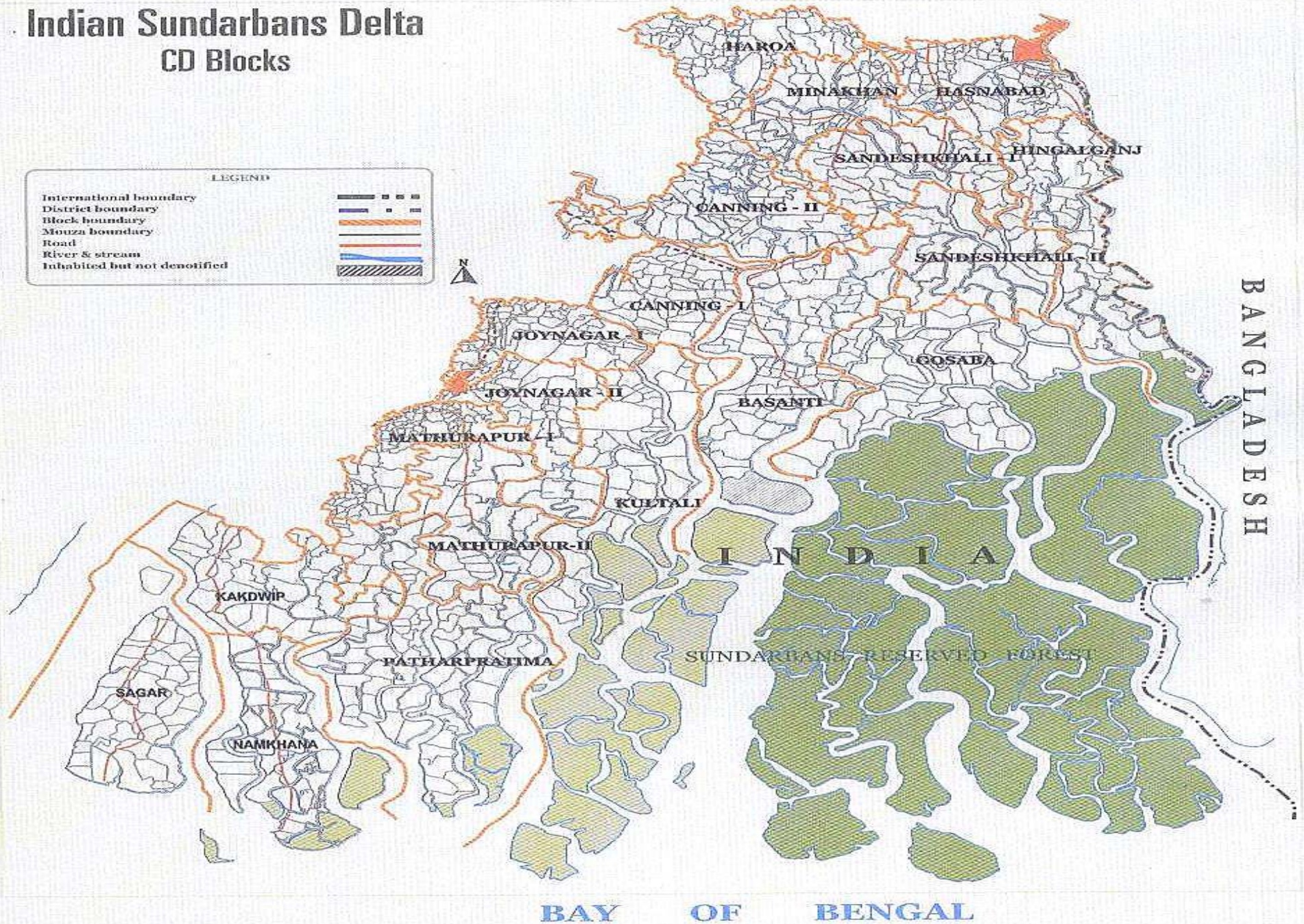

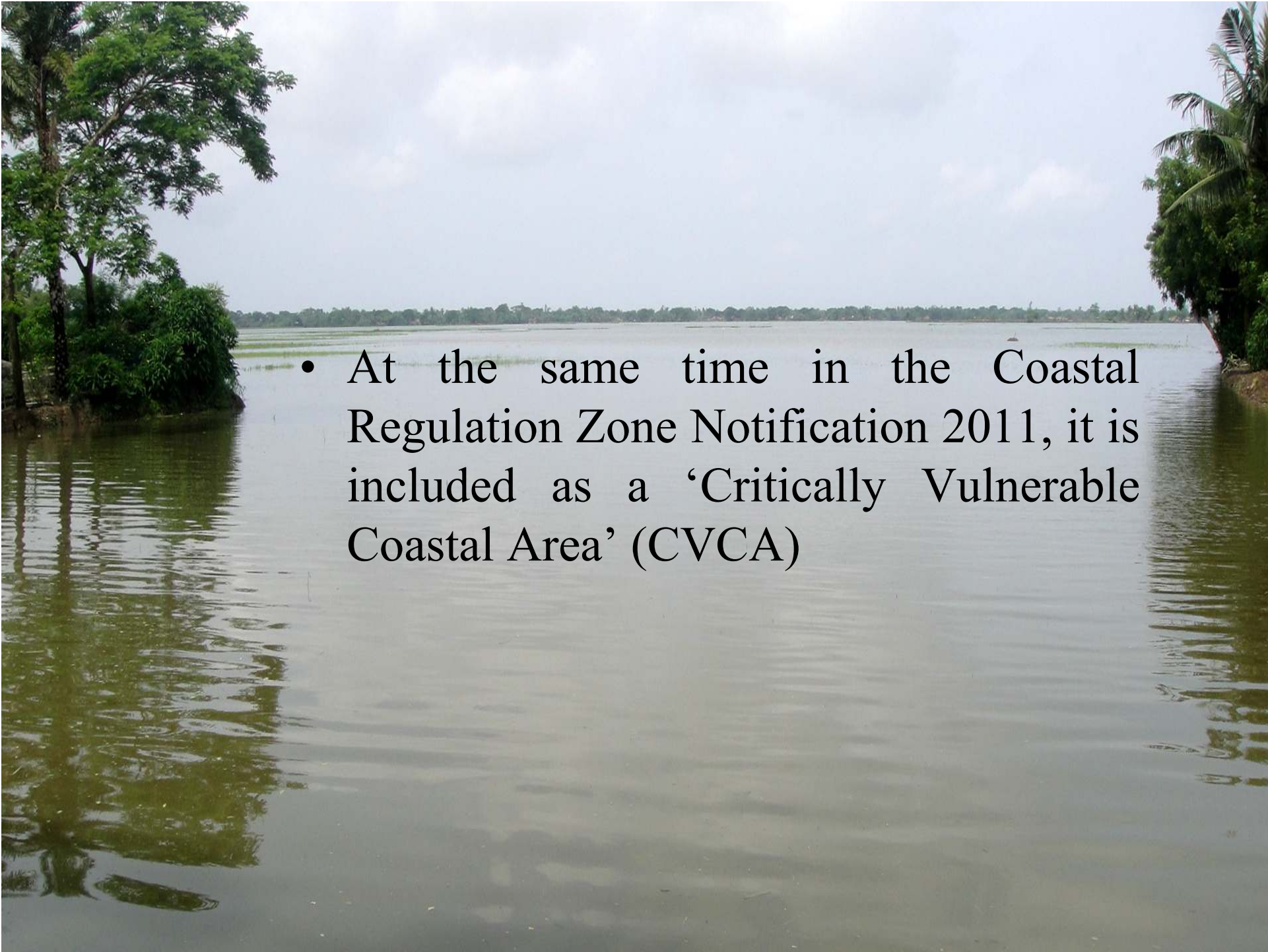
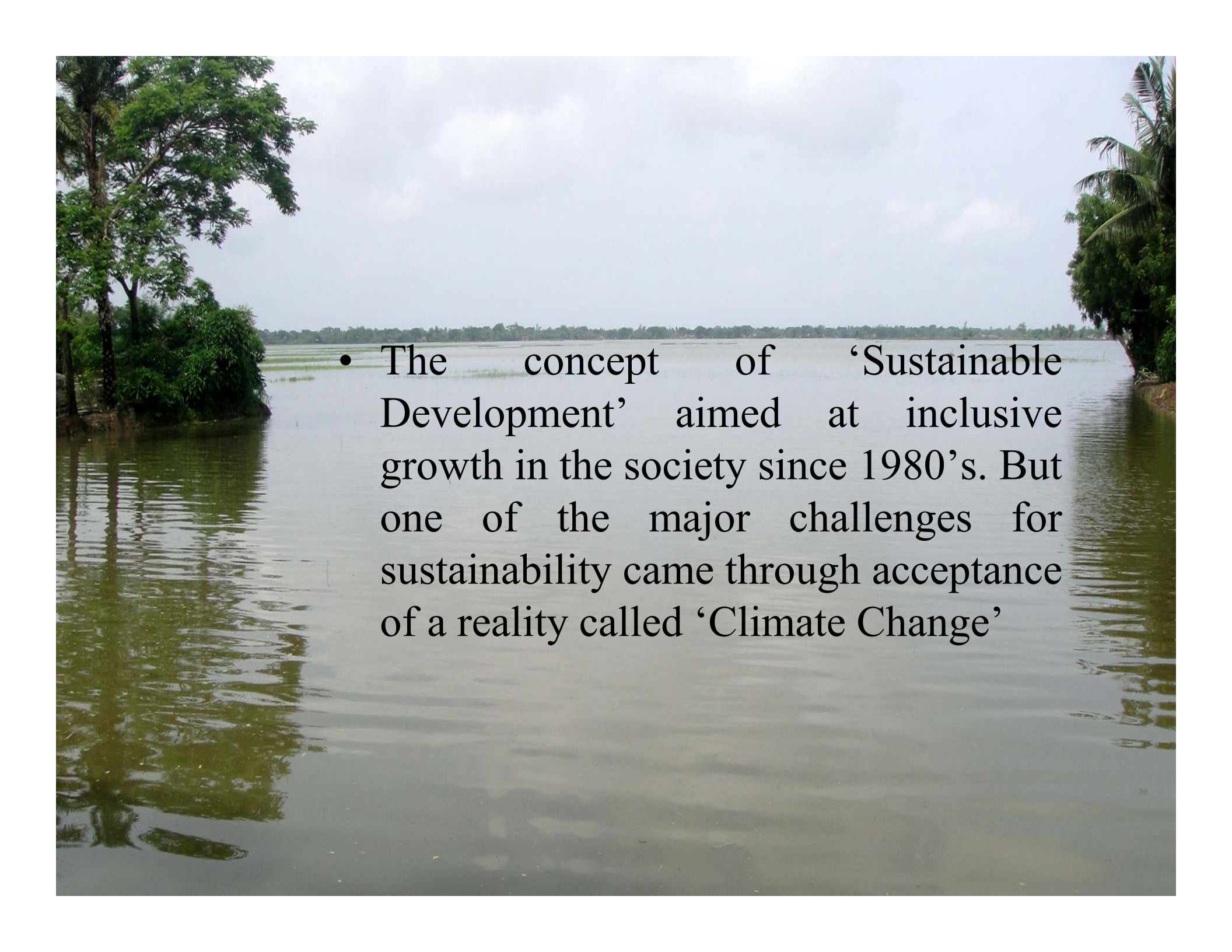
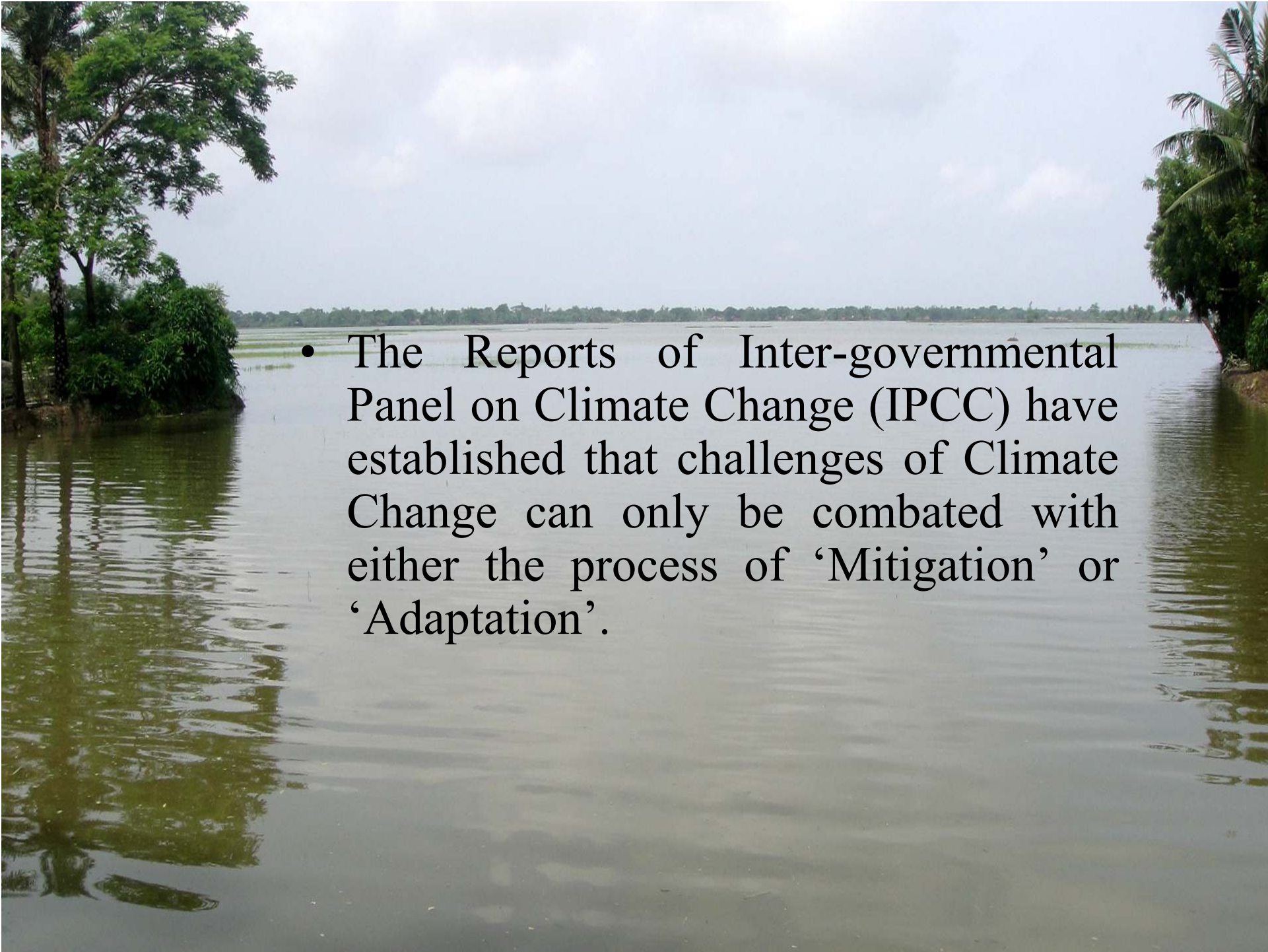



Fig. 6: Administrative map of Sundarbans


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- The Indian Sundarbans has been declared a Tiger Reserve (1973), National Park, 'World Heritage Site' by UNESCO (1987) and Biosphere Reserve (1989) Government of India

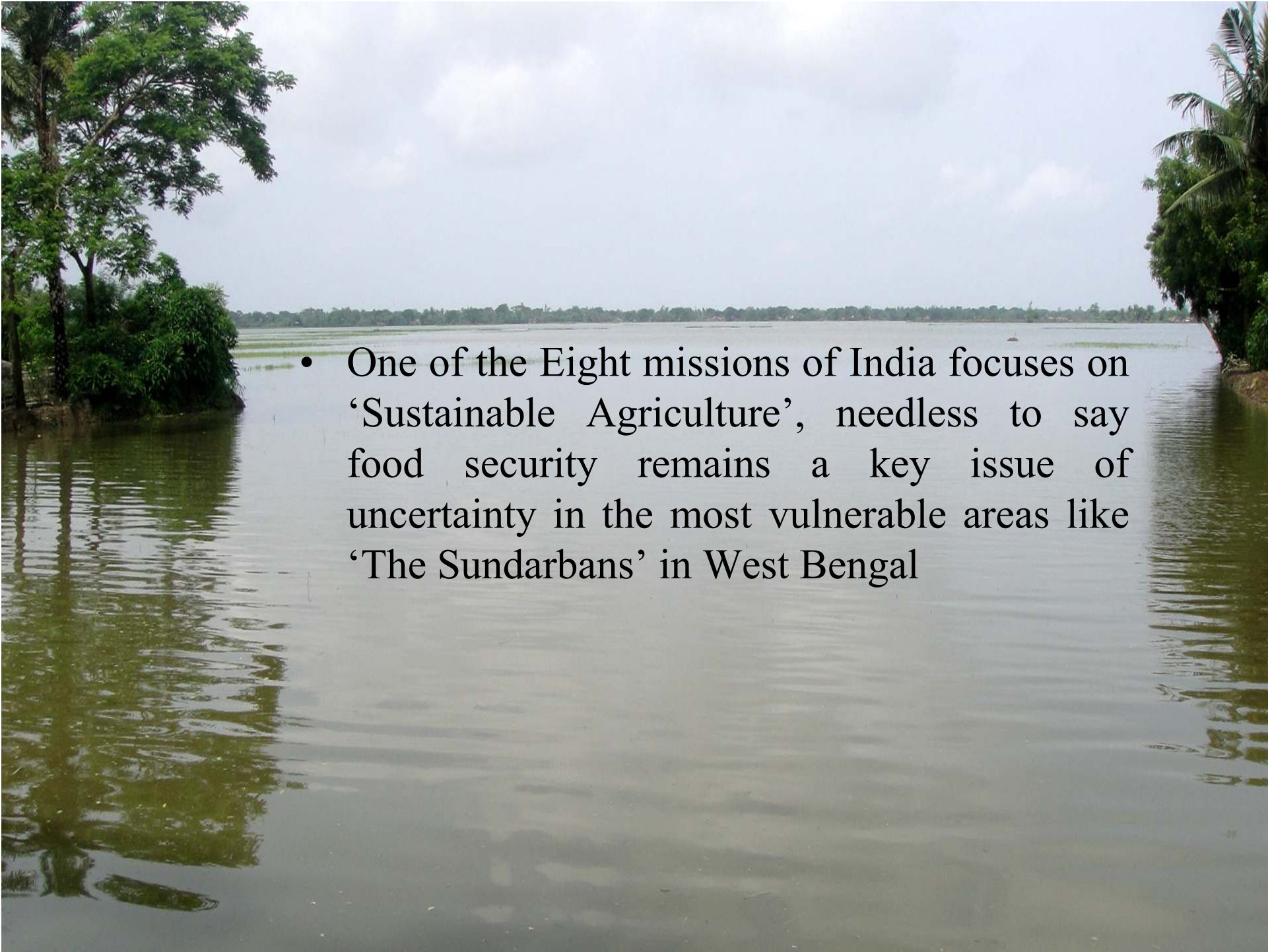
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- At the same time in the Coastal Regulation Zone Notification 2011, it is included as a ‘Critically Vulnerable Coastal Area’ (CVCA)

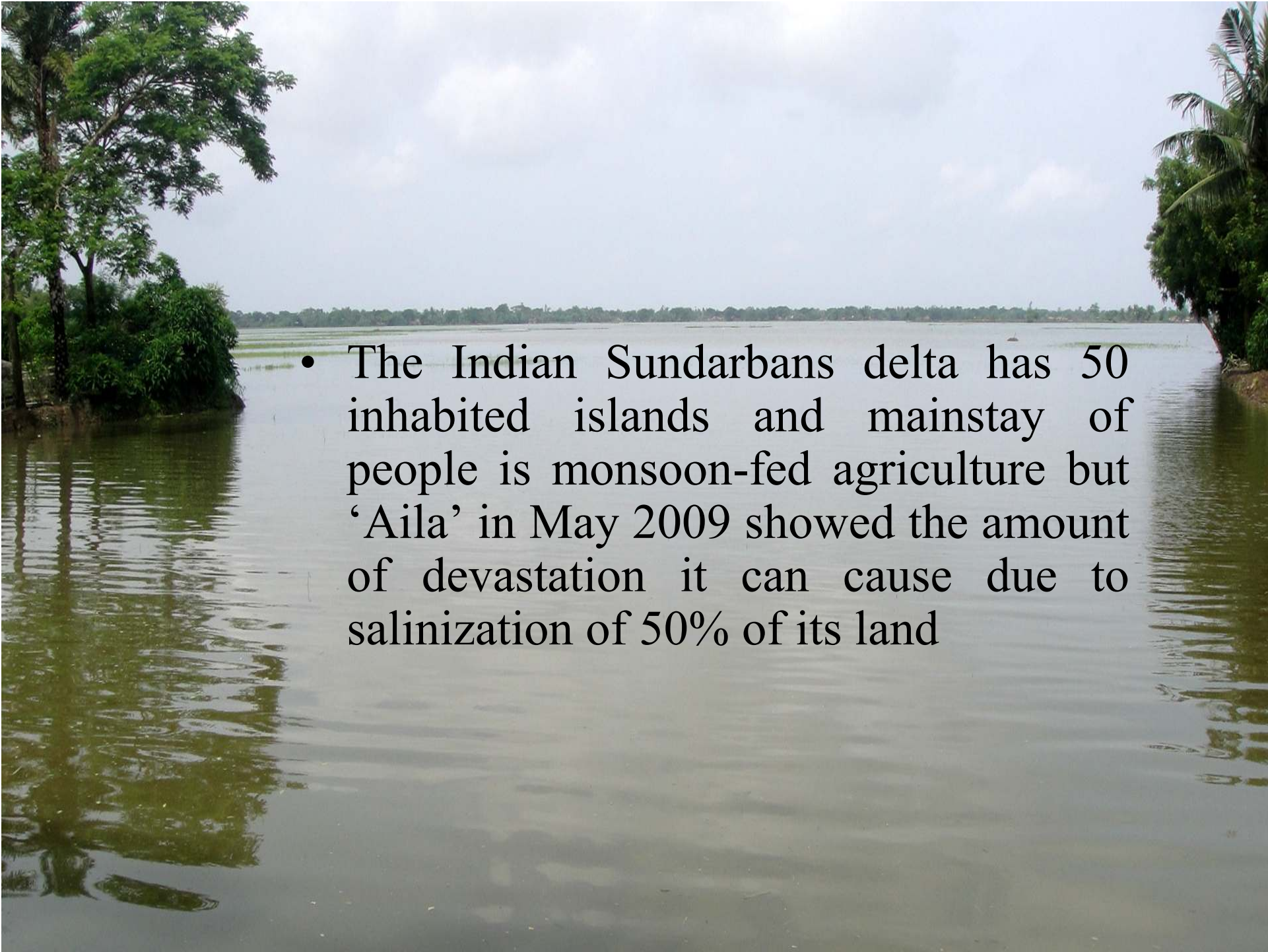
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- A wide river or lake with lush green trees on both banks under a cloudy sky. The water is calm, reflecting the sky and the surrounding greenery. The trees on the left are tall and dense, while the trees on the right are more sparse and include palm trees. The sky is overcast with soft, grey clouds.
- The concept of ‘Sustainable Development’ aimed at inclusive growth in the society since 1980’s. But one of the major challenges for sustainability came through acceptance of a reality called ‘Climate Change’

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- The Reports of Inter-governmental Panel on Climate Change (IPCC) have established that challenges of Climate Change can only be combated with either the process of ‘Mitigation’ or ‘Adaptation’.

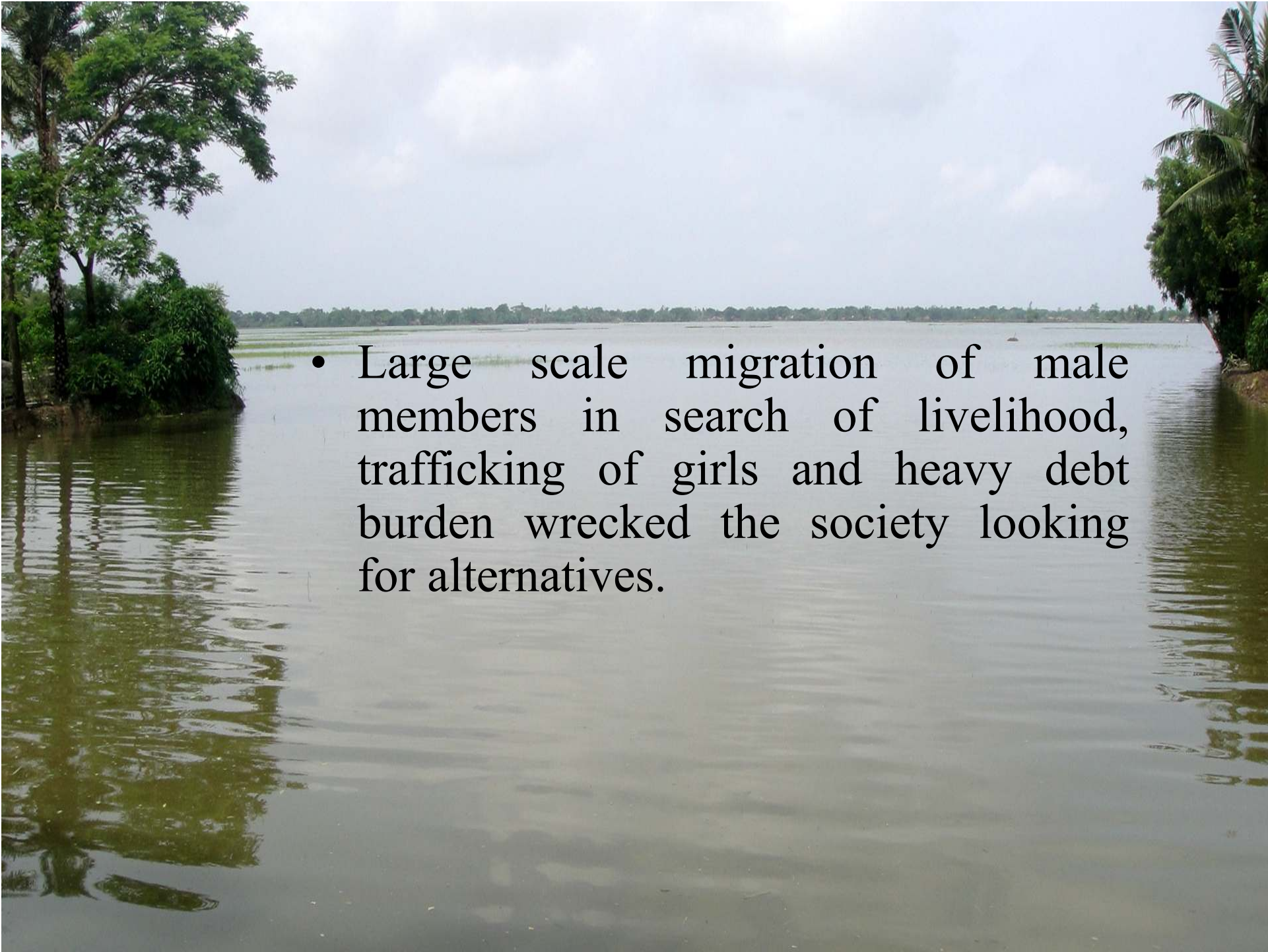
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- A wide river or canal with lush green trees on both banks under a cloudy sky. The water is calm and reflects the surrounding greenery. The sky is overcast with soft, grey clouds. The trees on the left are dense and include palm trees. The trees on the right are also lush and green. The overall scene is peaceful and natural.
- While ‘Mitigation’ calls for change in current technologies, which is beyond the means of developing countries. ‘Adaptation’ to climate change to ensure sustainability in the vital sector remains the more plausible alternative

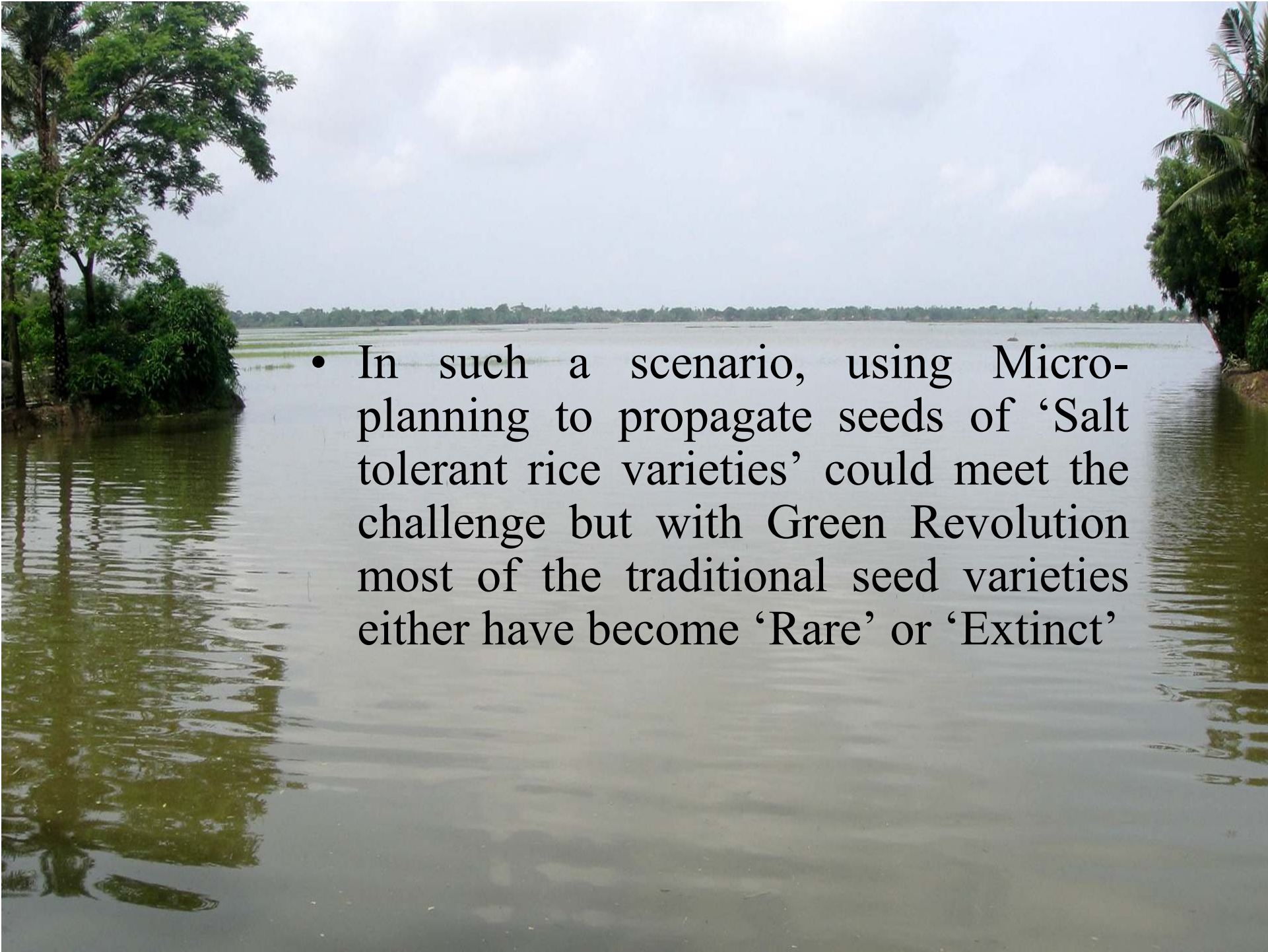
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- The major global concern over the phenomenon of Climate Change has now led India, amongst others to launch a Mission based 'National Action Plan on Climate Change' in 2008


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- One of the Eight missions of India focuses on ‘Sustainable Agriculture’, needless to say food security remains a key issue of uncertainty in the most vulnerable areas like ‘The Sundarbans’ in West Bengal

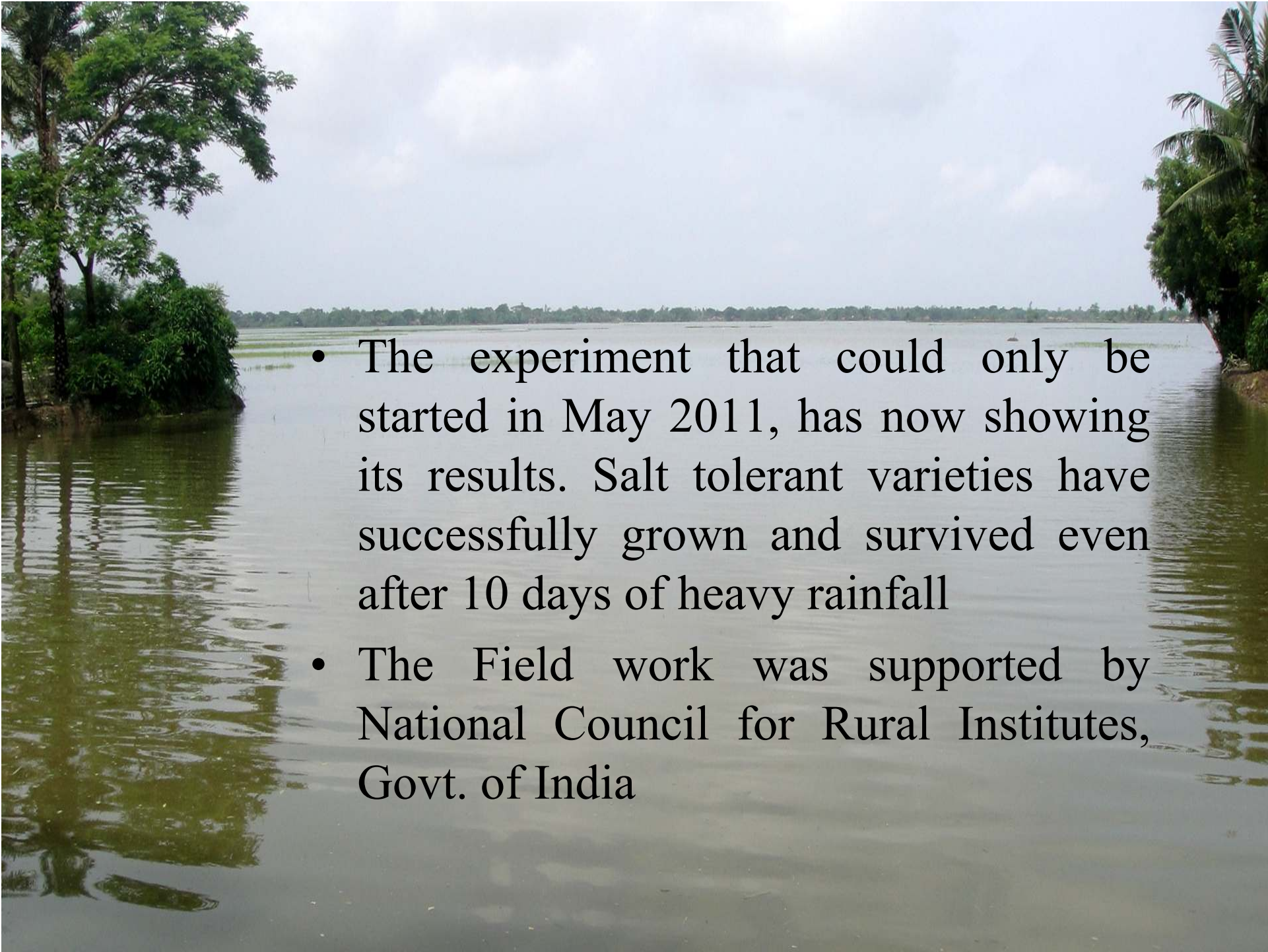
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- The Indian Sundarbans delta has 50 inhabited islands and mainstay of people is monsoon-fed agriculture but 'Aila' in May 2009 showed the amount of devastation it can cause due to salinization of 50% of its land

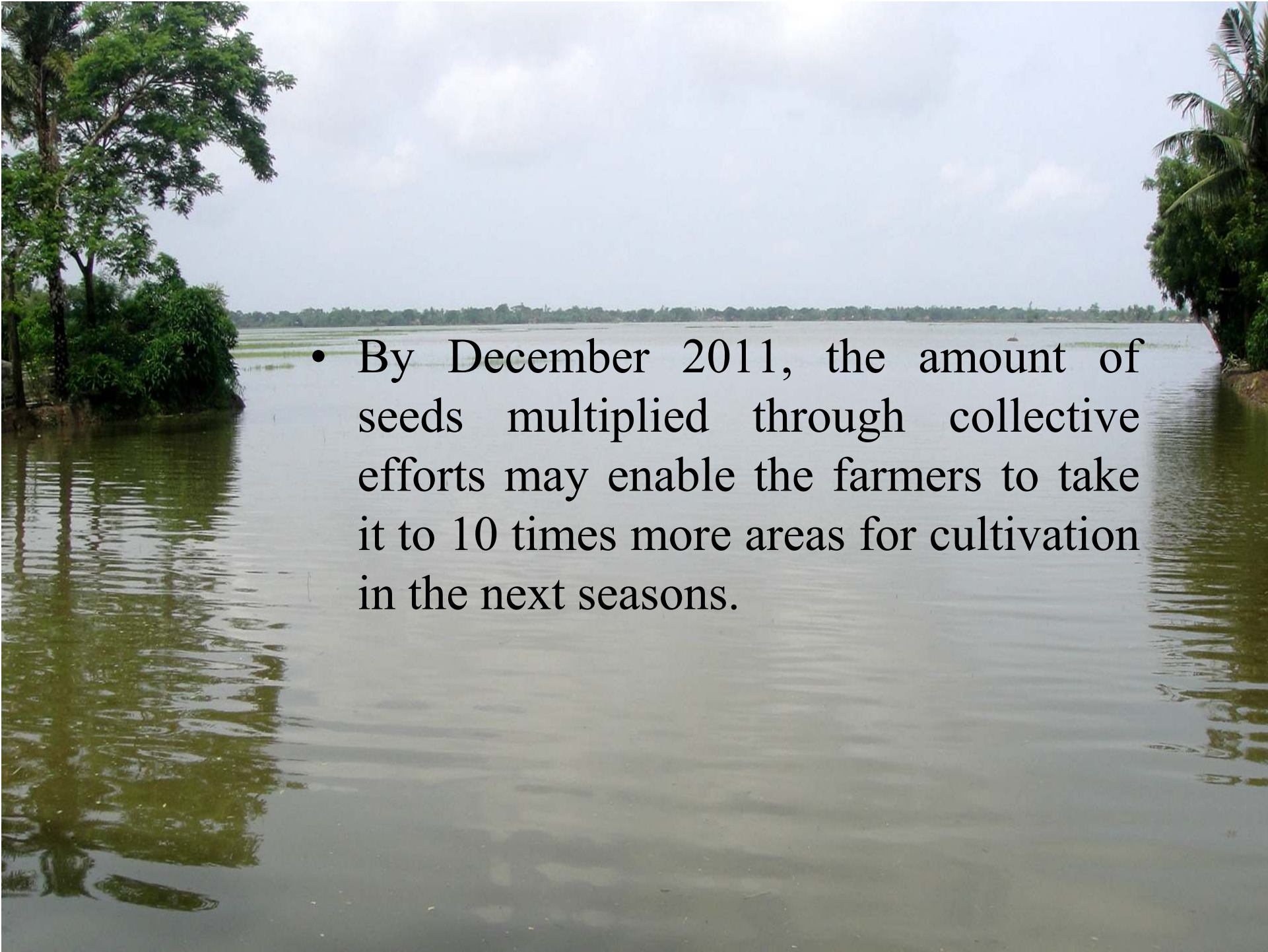


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- Large scale migration of male members in search of livelihood, trafficking of girls and heavy debt burden wrecked the society looking for alternatives.

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- In such a scenario, using Micro-planning to propagate seeds of ‘Salt tolerant rice varieties’ could meet the challenge but with Green Revolution most of the traditional seed varieties either have become ‘Rare’ or ‘Extinct’

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- ENDEV- A Society for Environment & Development embarked upon such a project since 2009
 - An intensive search for Salt tolerant rice varieties was made from remote villages to NBPGR, New Delhi


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- The experiment that could only be started in May 2011, has now showing its results. Salt tolerant varieties have successfully grown and survived even after 10 days of heavy rainfall
 - The Field work was supported by National Council for Rural Institutes, Govt. of India

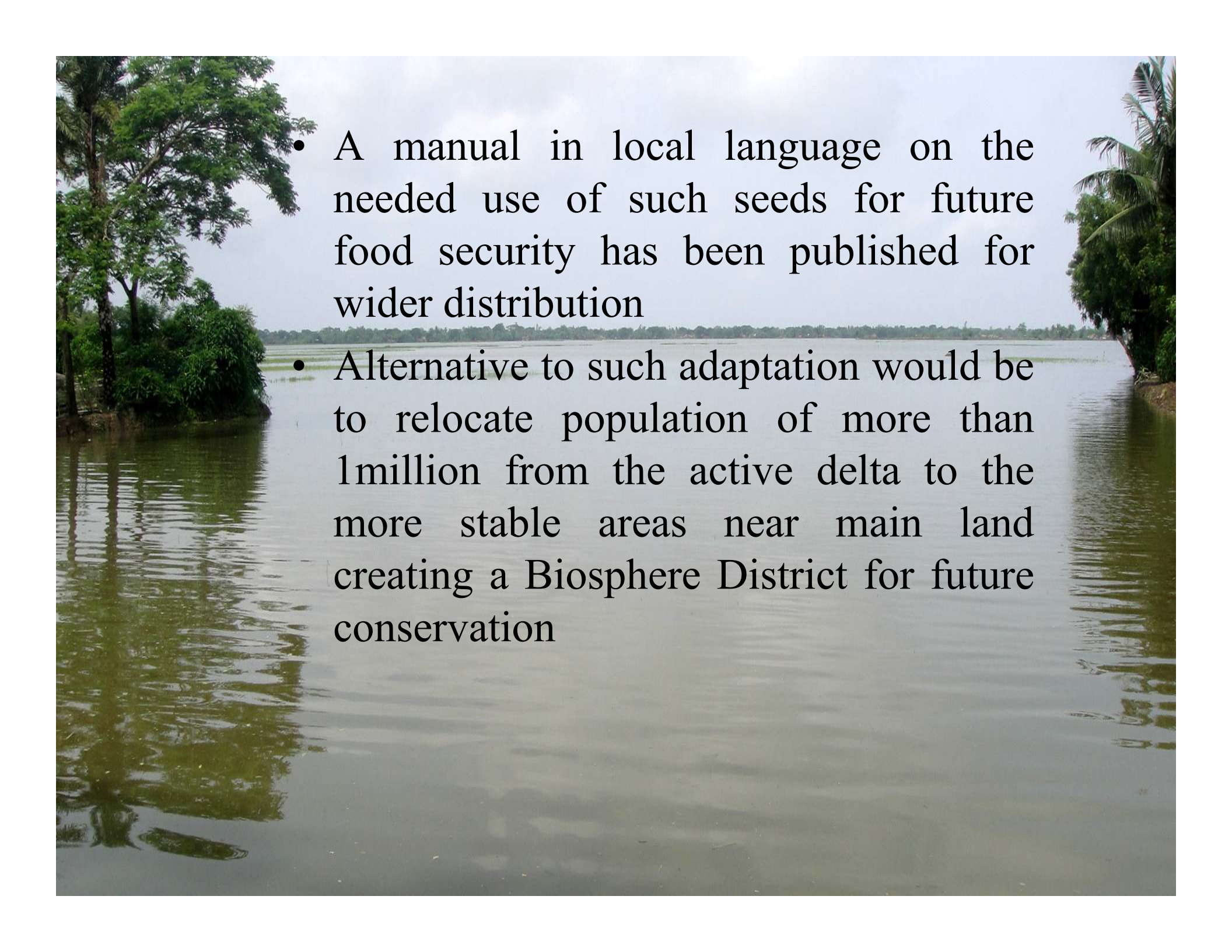
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- By December 2011, the amount of seeds multiplied through collective efforts may enable the farmers to take it to 10 times more areas for cultivation in the next seasons.



- Each area will try to establish a Seed Bank to offer limited seeds to farmers affected by salinity with an agreement that double the amount of seeds would be returned to seed bank after harvest



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- Monthly visit of ENDEV Team and Farmers' Meet opened up a process of effective dialogue between the community and the Technical Team Volunteers

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- A wide river or delta landscape with lush green trees on the banks and a cloudy sky. The water is calm, reflecting the surrounding greenery. The sky is overcast with soft, grey clouds. The trees on the left bank are tall and dense, while the right bank has a few palm trees and other vegetation. The overall scene is a natural, rural setting.
- A manual in local language on the needed use of such seeds for future food security has been published for wider distribution
 - Alternative to such adaptation would be to relocate population of more than 1million from the active delta to the more stable areas near main land creating a Biosphere District for future conservation

SUNDARBANS

BIOSPHERE DISTRICT

2050

LEGEND

International boundary
 District boundary
 Block boundary
 Mouza boundary
 Road
 River & stream
 Inhabited but not denotified

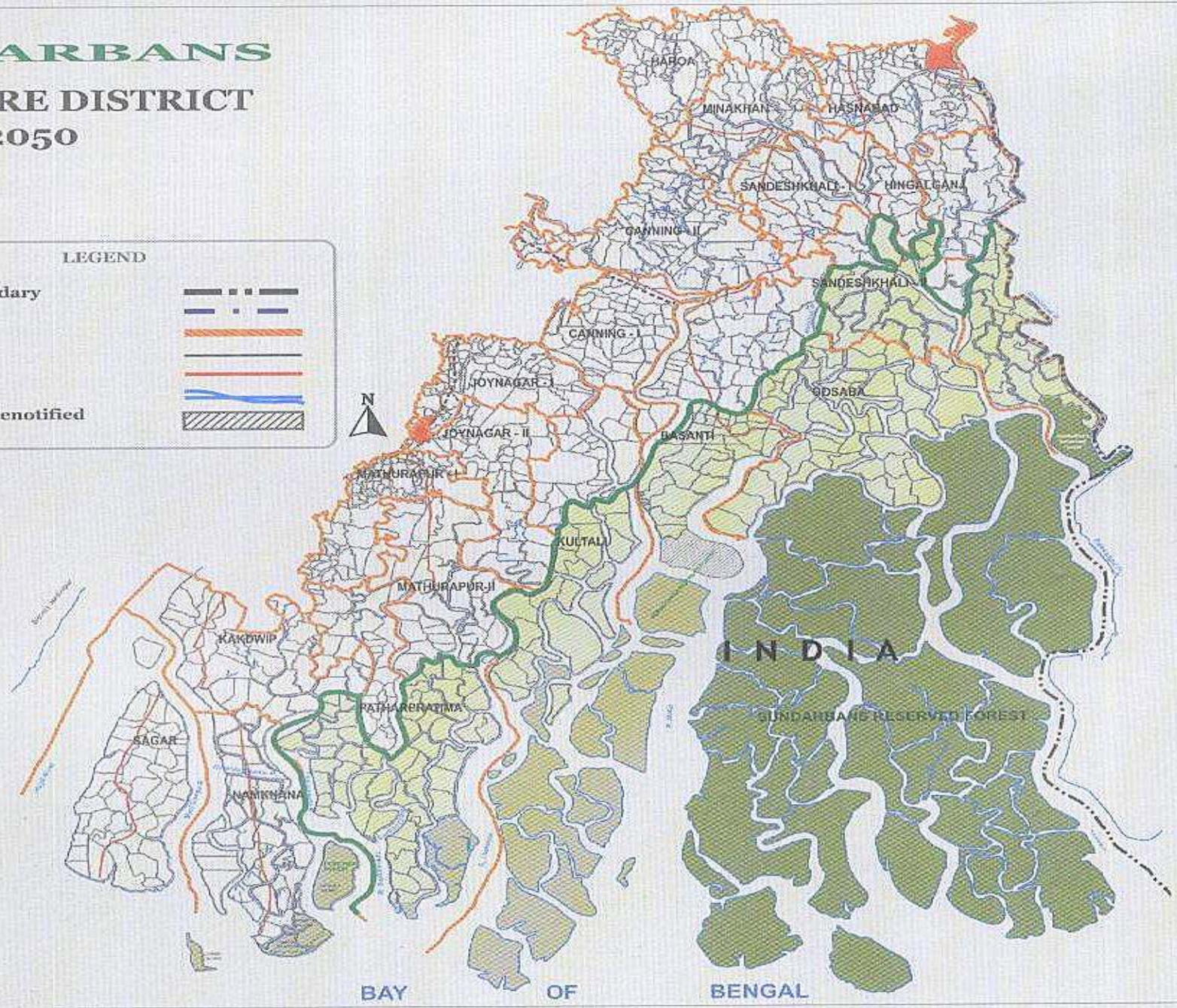
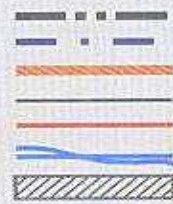
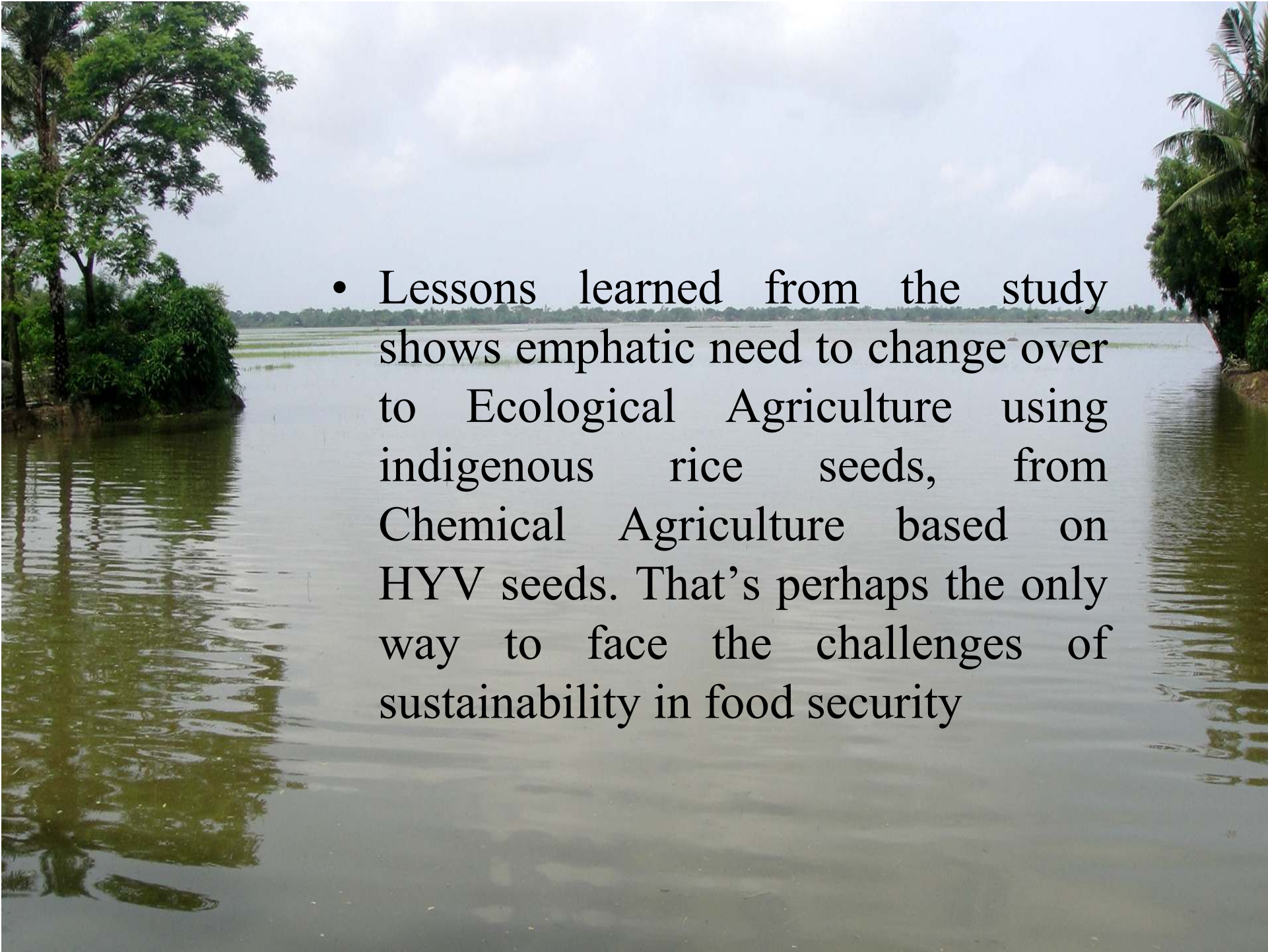
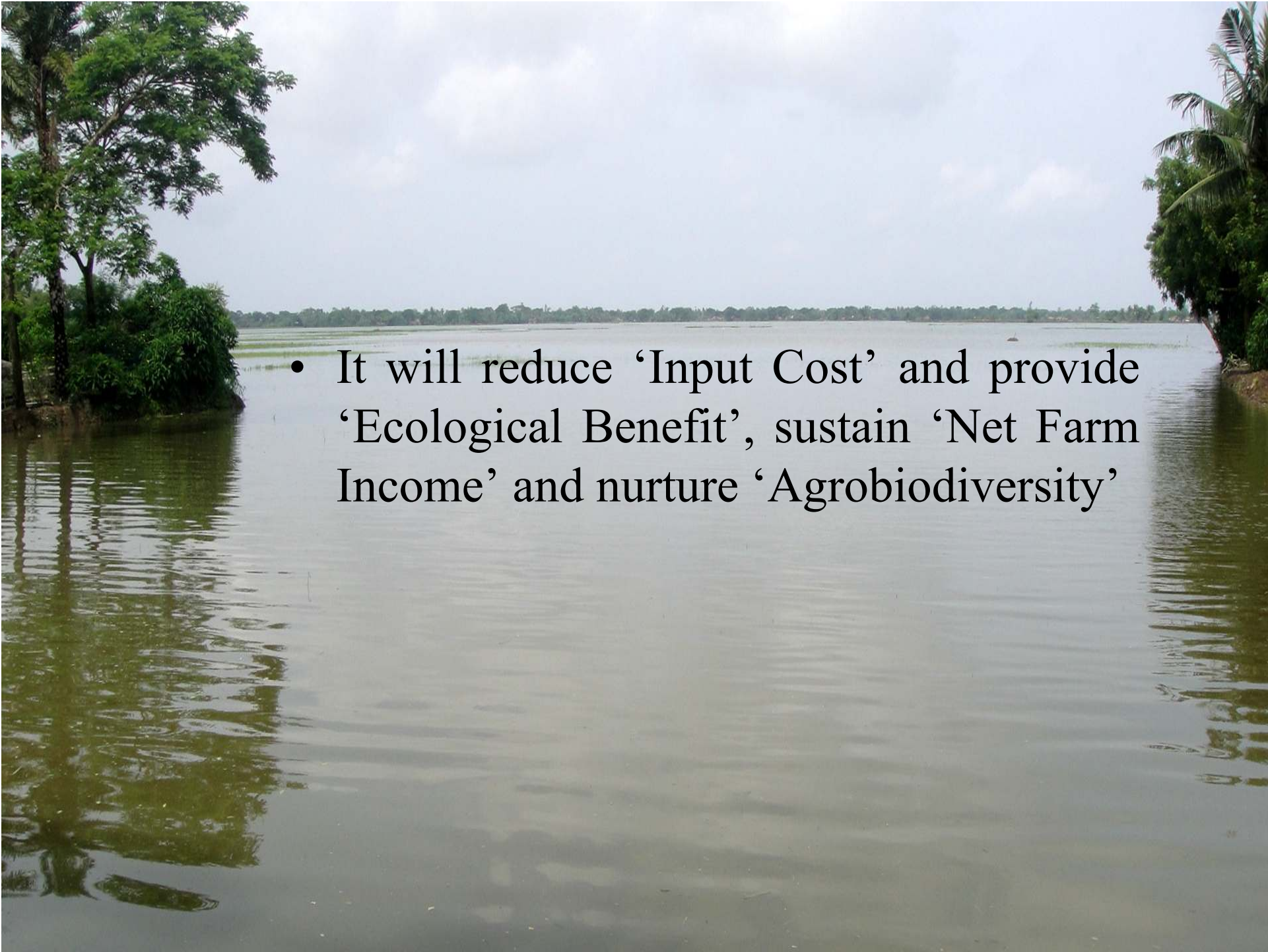


Fig. 9: The area below the green line could be considered for mangrove restoration

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- Lessons learned from the study shows emphatic need to change over to Ecological Agriculture using indigenous rice seeds, from Chemical Agriculture based on HYV seeds. That's perhaps the only way to face the challenges of sustainability in food security

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- It will reduce ‘Input Cost’ and provide ‘Ecological Benefit’, sustain ‘Net Farm Income’ and nurture ‘Agrobiodiversity’



Thank you