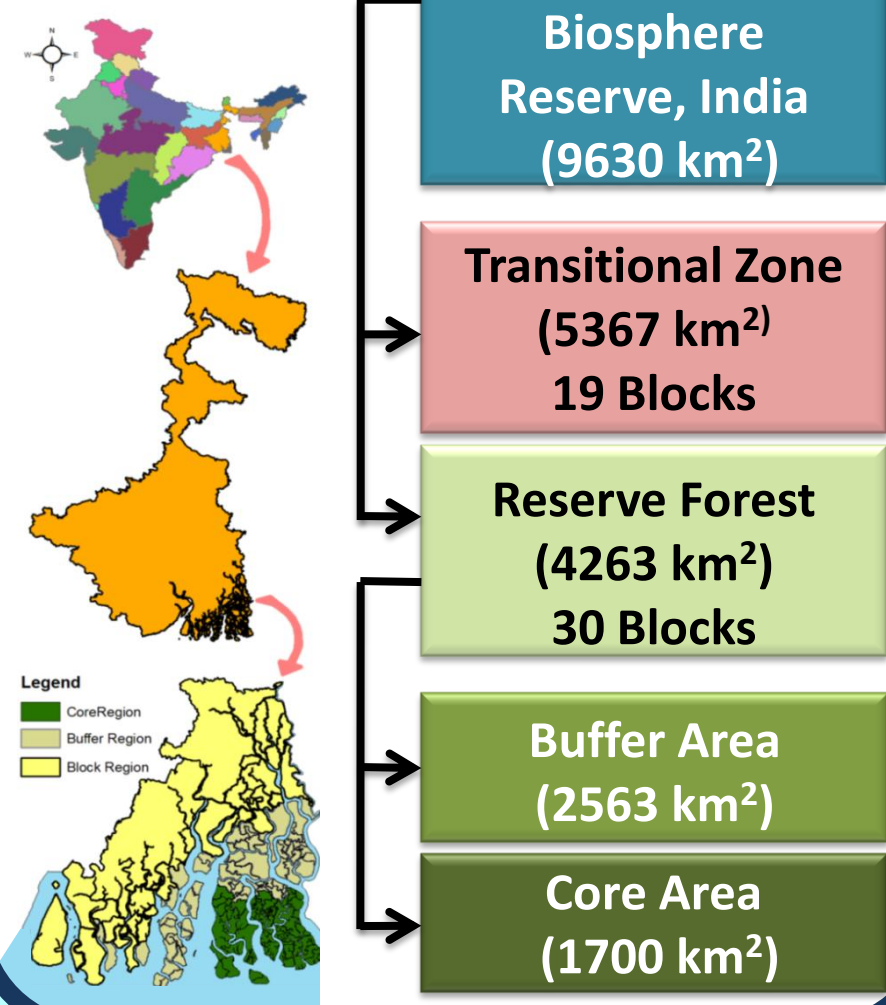




Assessment of Fresh Water Availability and Demand in the Sundarban Biosphere Area of Indian Bengal Delta

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Location

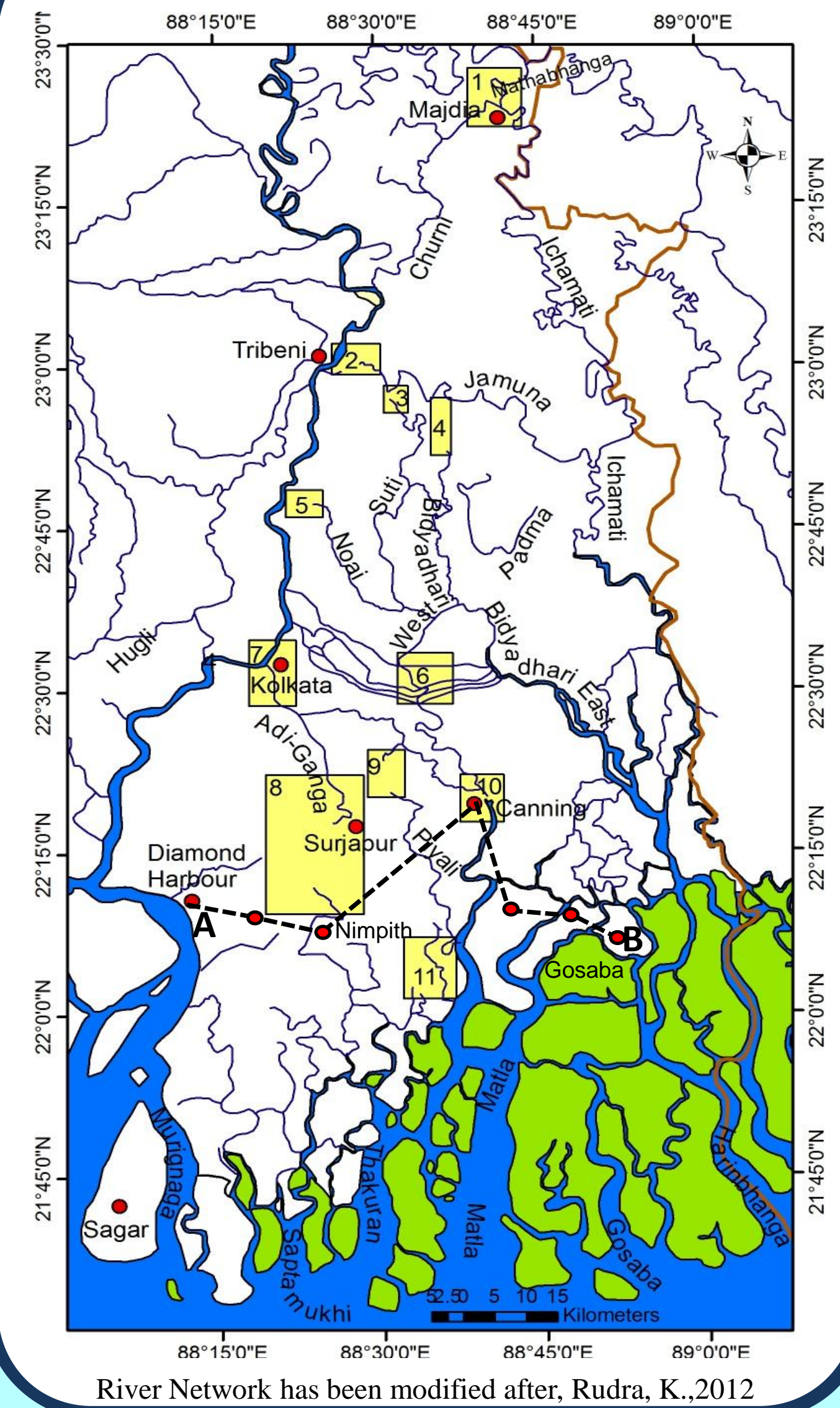


Freshwater is a scarce resource in the Sundarban Biosphere Reserve (SBR) area (19 blocks) of Indian Bengal Delta though it is traversed by numerous creeks and rivulets and receives a huge amount of precipitation during monsoon.

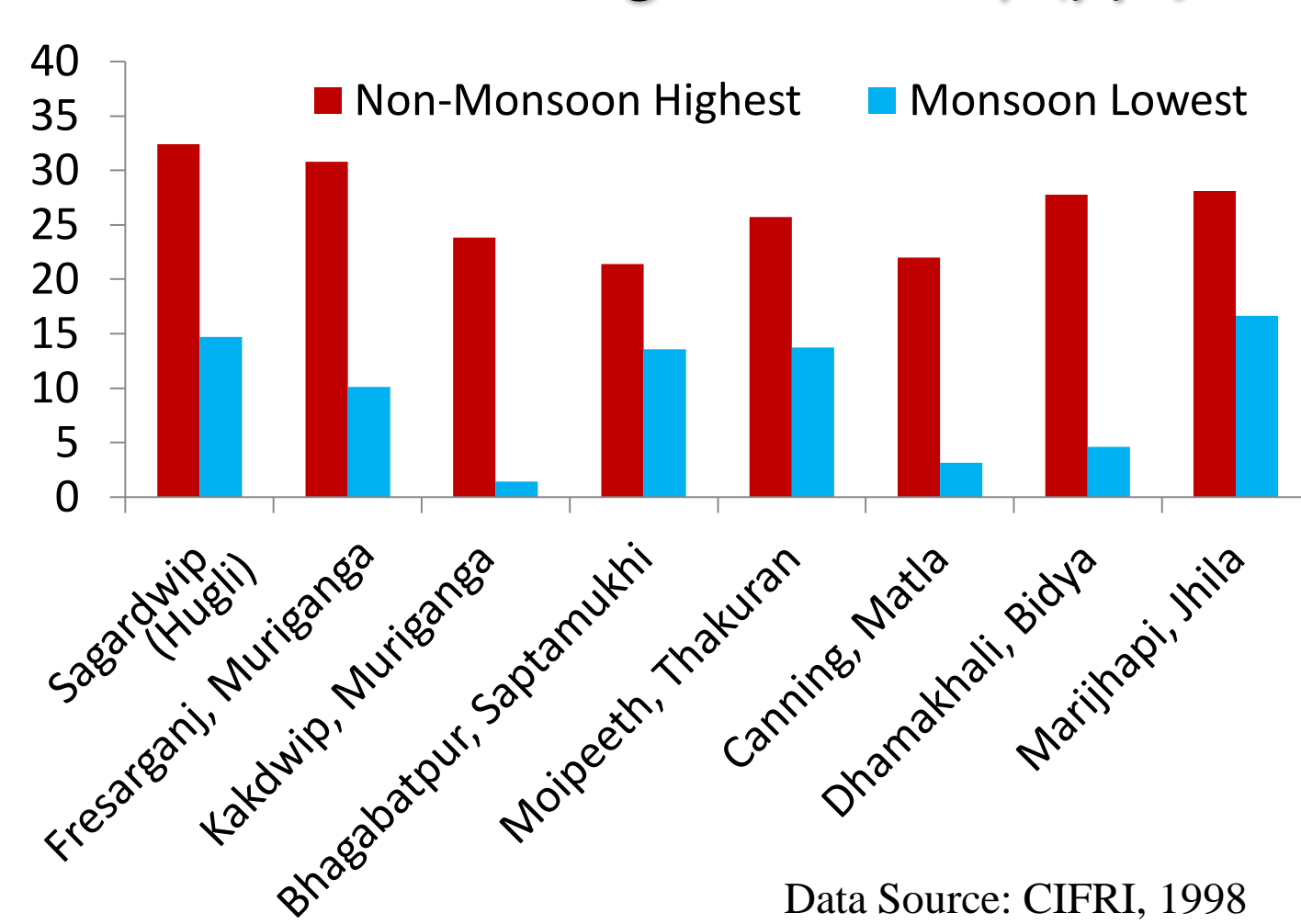
Most of the rivers have lost their connections with their parent river. The rivers are mostly saline in Sundarban. The groundwater is also saline in shallow aquifers. Fresh groundwater is only available at a depth of >250 metres (Sinha Ray, 2010).

Scarcity of upstream fresh water, high soil and water salinity, saline ground water make it very difficult for the people to secure their livelihood. The present paper identifies the water related problems and assesses sectoral water demand and availability in SBR.

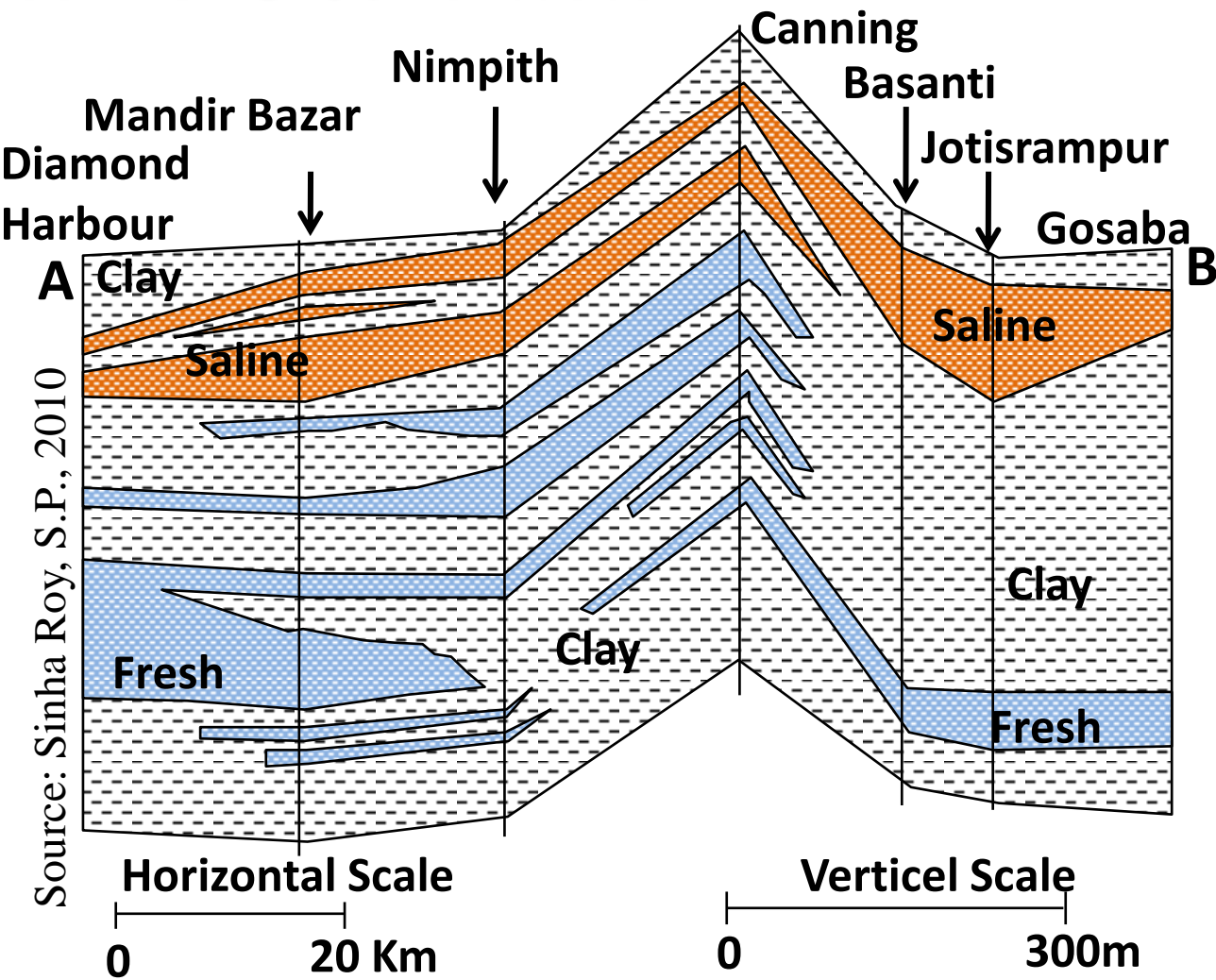
Disconnected River Network



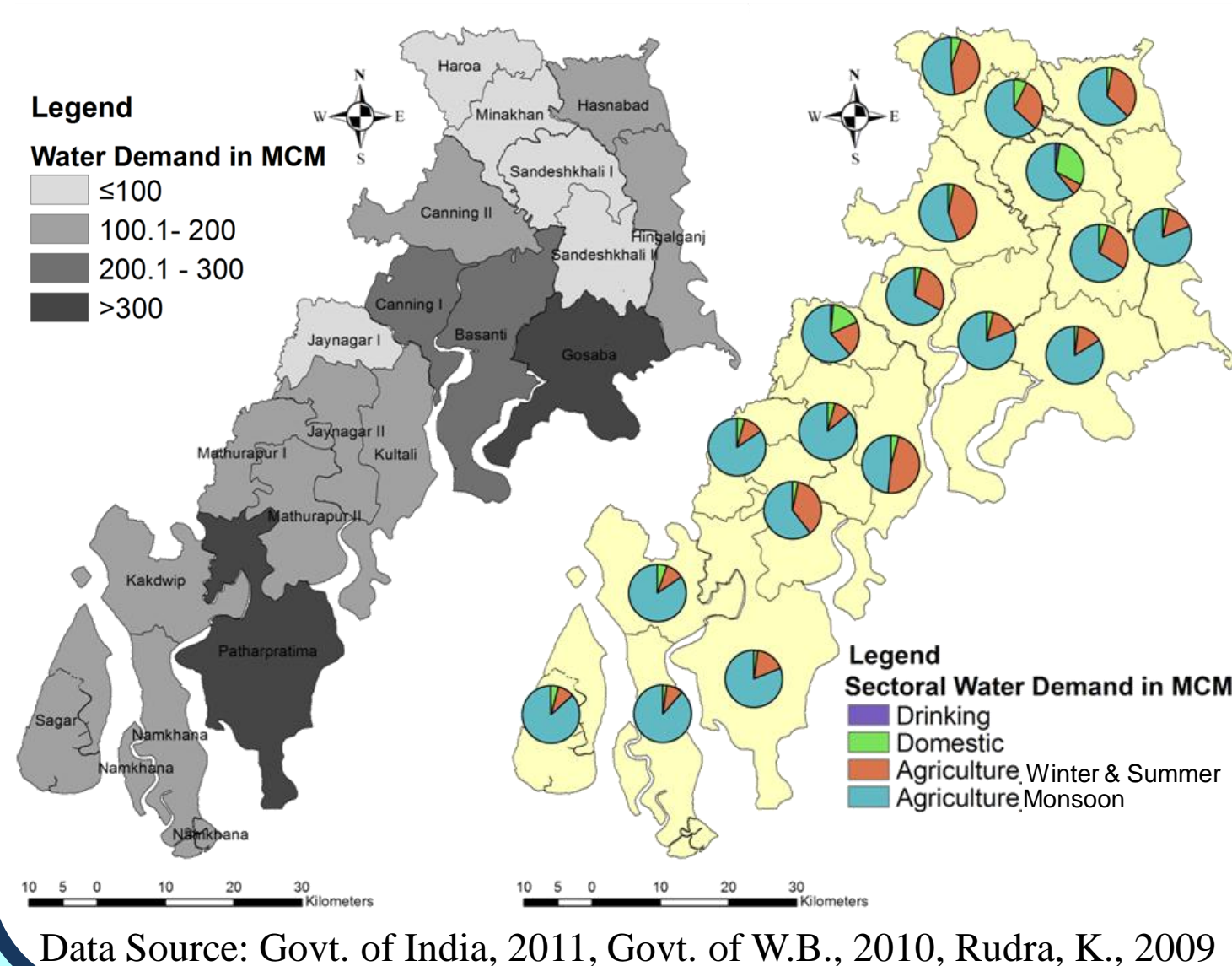
Seasonal changes in Salinity (ppt)



Saline Ground Water



Annual Water Demand



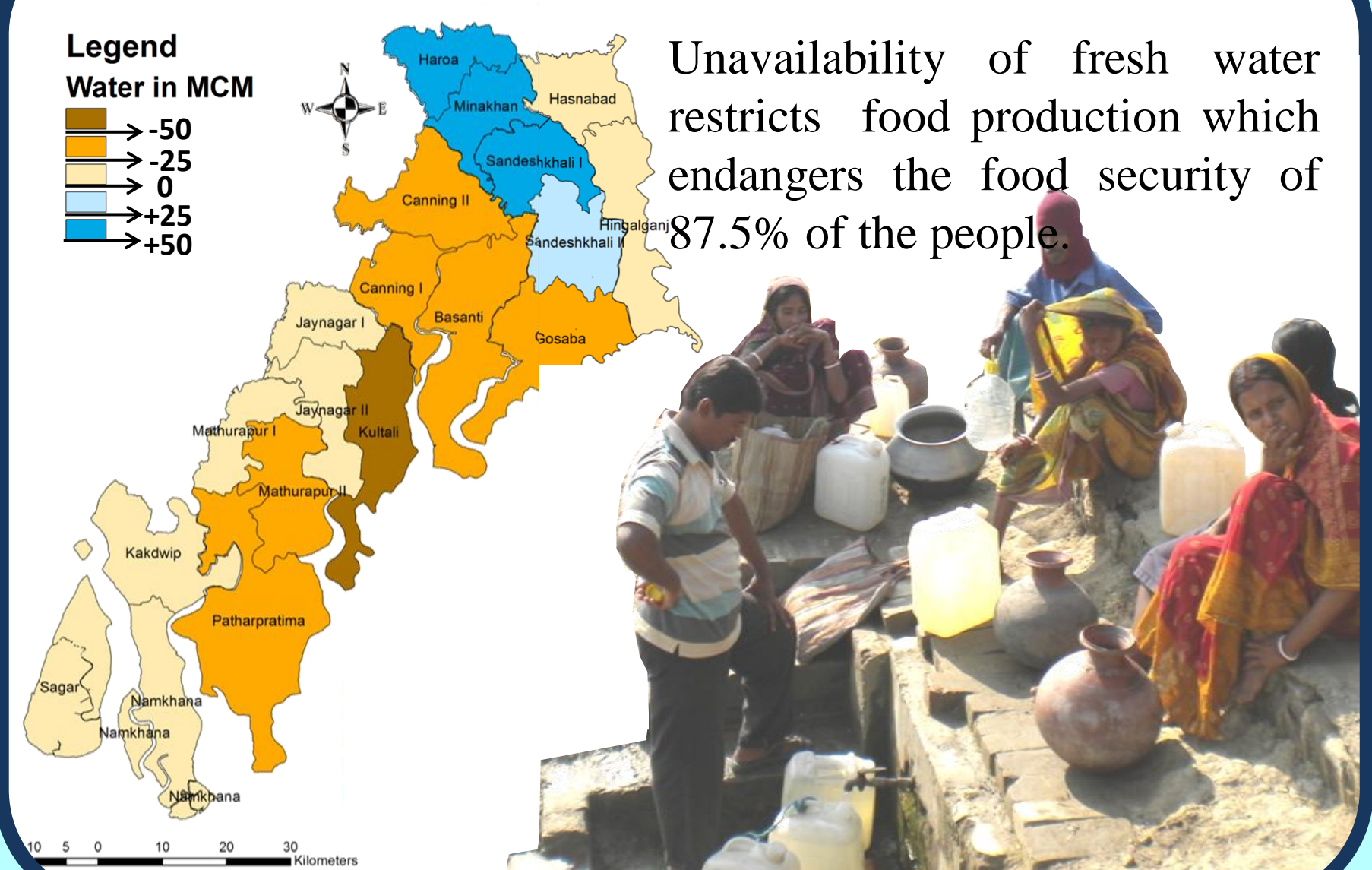
❖ The annual drinking & domestic water demand in Sundarban blocks are 8.08 mcm and 105.1 mcm.

❖ The water requirement for the Winter & Summer cultivation is 641.25 mcm, whereas 2141.58 mcm for Monsoon cultivation.

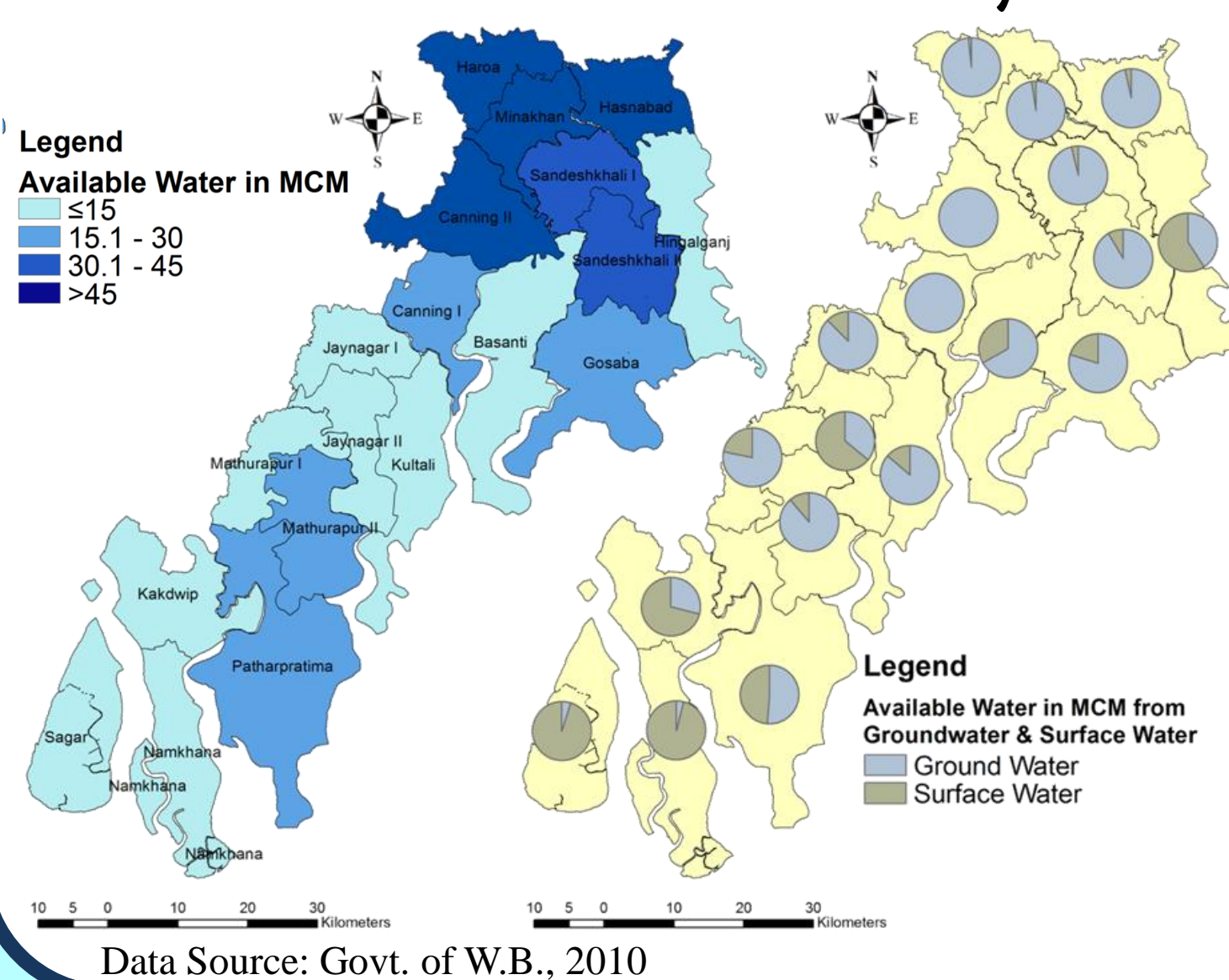
❖ The water demand for agriculture is highest in July (902 mcm) and lowest in April (1.22 mcm).

❖ The total annual water demand in the 19 blocks of Sundarban is 2895.92 mcm.

Excess/deficit water for Winter & Summer cultivation



Annual Water Availability



❖ Available water from Deep Tube Well (DTW) in Sundarban is 8.08 mcm that is used to meet the drinking water demand.

❖ Over 70000 freshwater tanks and around 8000 Shallow Tube Wells (STW) are the major sources of irrigation in Sundarban.

❖ The STWs have a potential to supply 386.59mcm water during Rabi and summer cultivation whereas 43.02 mcm and 9.21 mcm water are available from tanks and canals.

Rainwater Harvesting Potential in Sundarban

