The Food Water Nexus in south Asia

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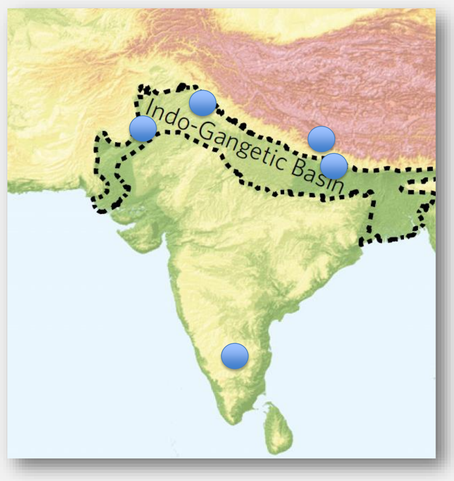
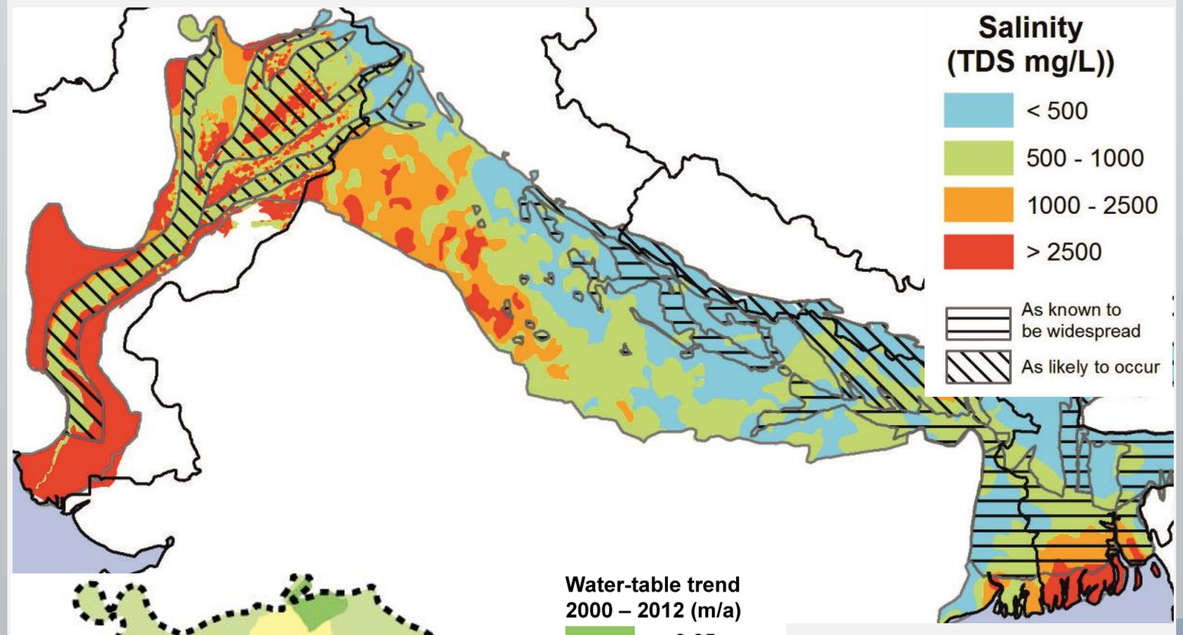
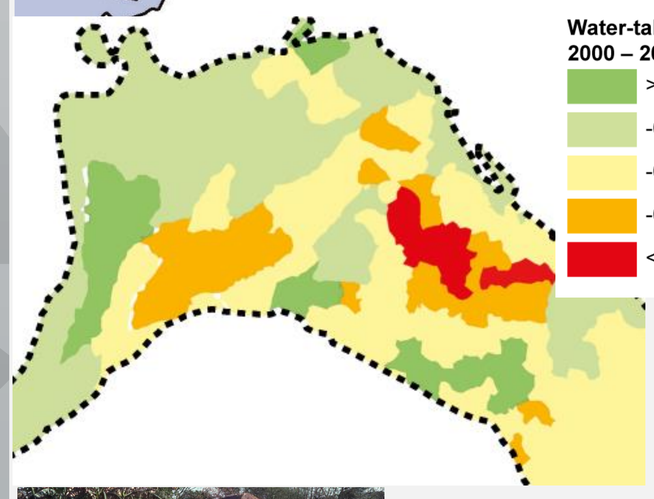
Population growth and prosperity increases demand for food, but is there enough water and energy to sustain this?

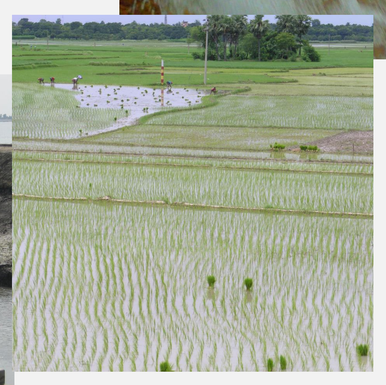
- More than 90% of the water abstracted in South Asia is used for irrigation
- The availability of cheap water has been a spring board for agriculture
- Water in many areas is becoming contaminated or affected by salinization
- Increasing irrigation efficiency is not necessarily the answer



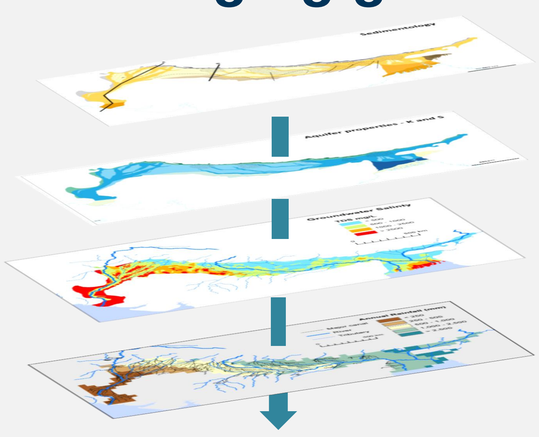
Current BGS projects examining water and food in South Asia



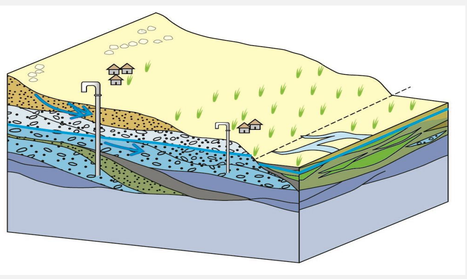


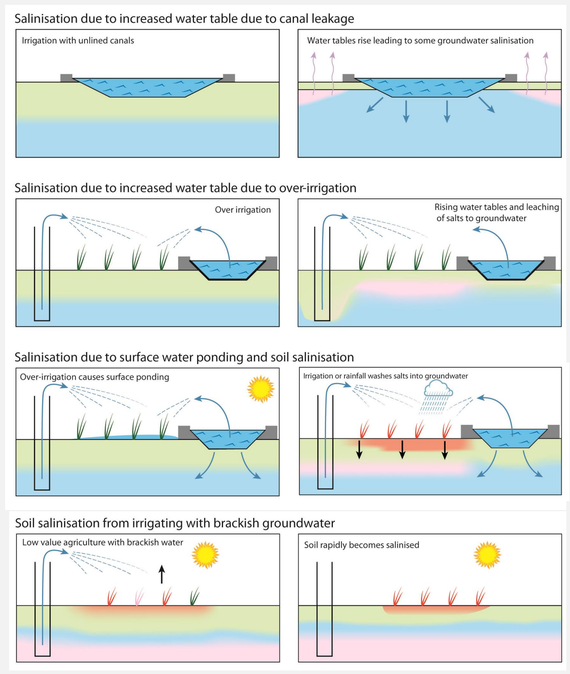


Managing groundwater irrigation



Developing aquifer typologies which each respond in a unique way to pressures are a first step to targeting management solutions





Mechanisms of salinity from canal irrigation in the Indus Basin

Bonsor et al 2016. Hydrogeology Journal;
MacDonald et al.2015 British Geological Survey, (OR/15/047) 2015.

The maps above, developed by BGS, show groundwater contamination and water-table changes in North India, Pakistan and Bangladesh

Increased salinity reduces the types of crops that can be grown; declining groundwater levels increases pumping costs, energy requirements and makes shallow wells fail

MacDonald et al 2016. *Nature Geoscience* 10.1038/ngeo2791

Ongoing projects:

UPSCAPE – Cauvery Basin

CHANSE - Middle Ganges

IGB Groundwater– Indian Punjab

Indus, Nepal Highlands

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