

# Shrimp farming as adaptation to salt intrusion in coastal Bangladesh

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*Main lesson:* Explore with people whether adaptation to an alternative livelihood is equitable and sustainable under climate change.



## Today

- ✧ Introduce myself & case study
- ✧ Research questions: adaptation of agricultural system under salt intrusion
- ✧ Main concept: adaptation pathways
- ✧ Results & Conclusions for adaptation

## **Making Acquaintance:**

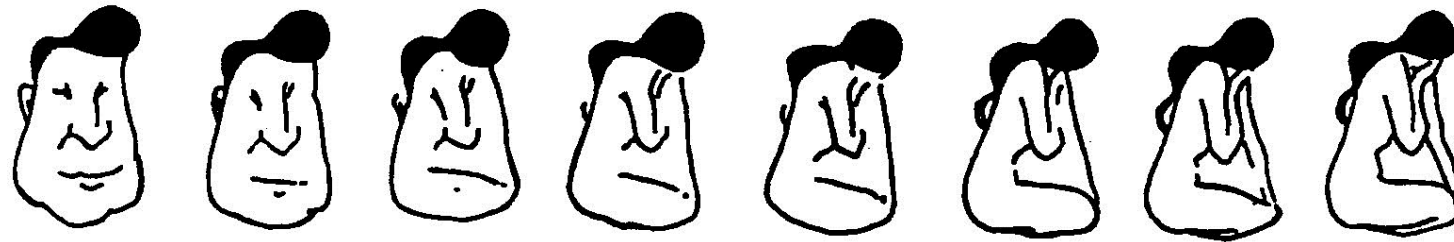
**Wageningen University and Research Centre**

**Teaching, research + consulting for governments**

**Interest: how to adapt to climate change in water management**



# Experiment

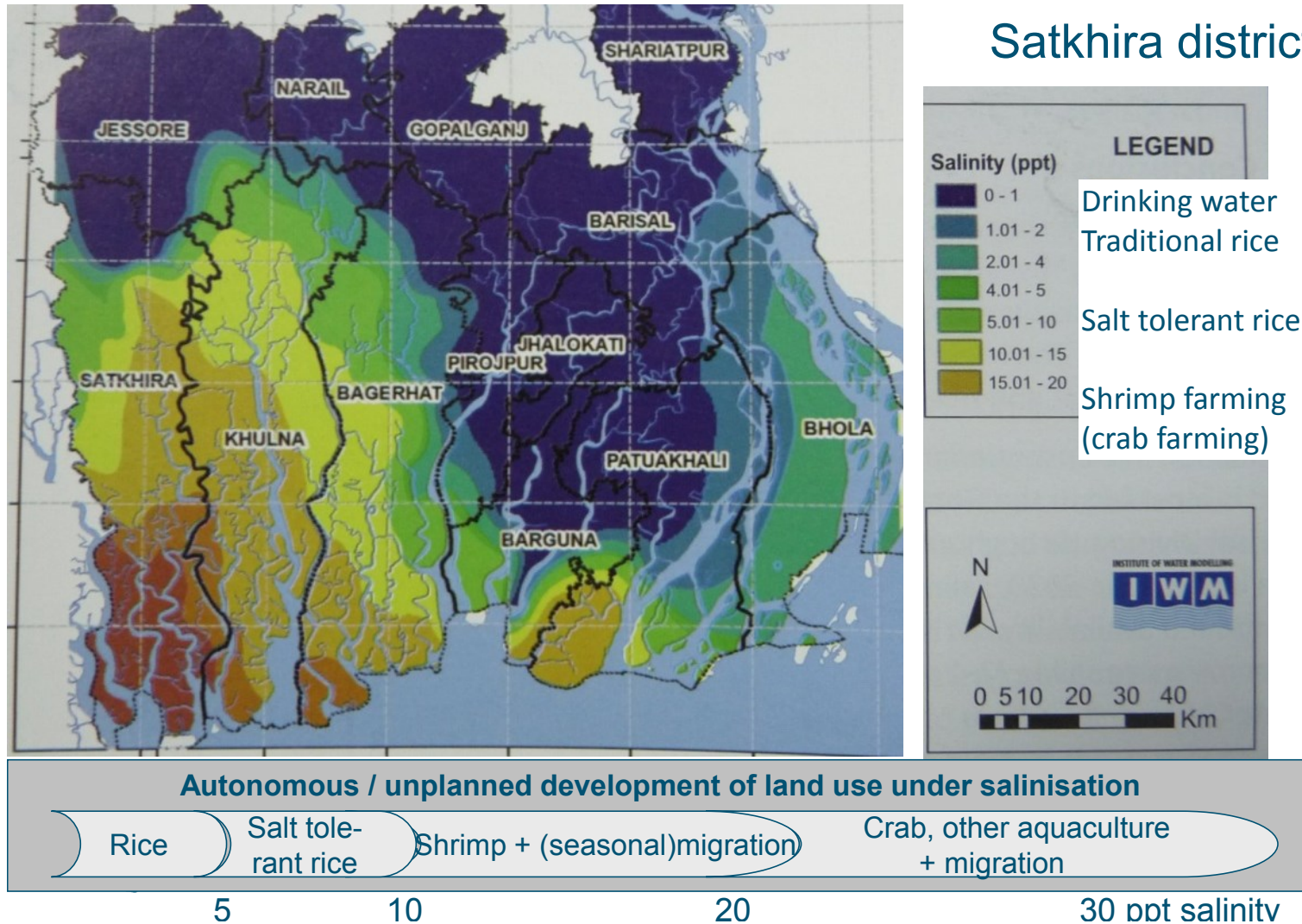




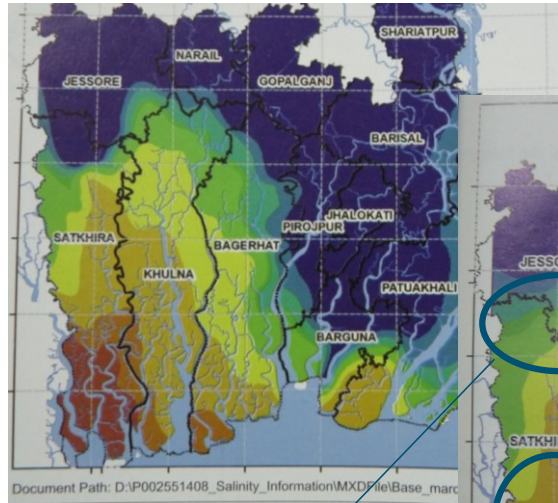


## Coastal Bangladesh

### Satkhira district



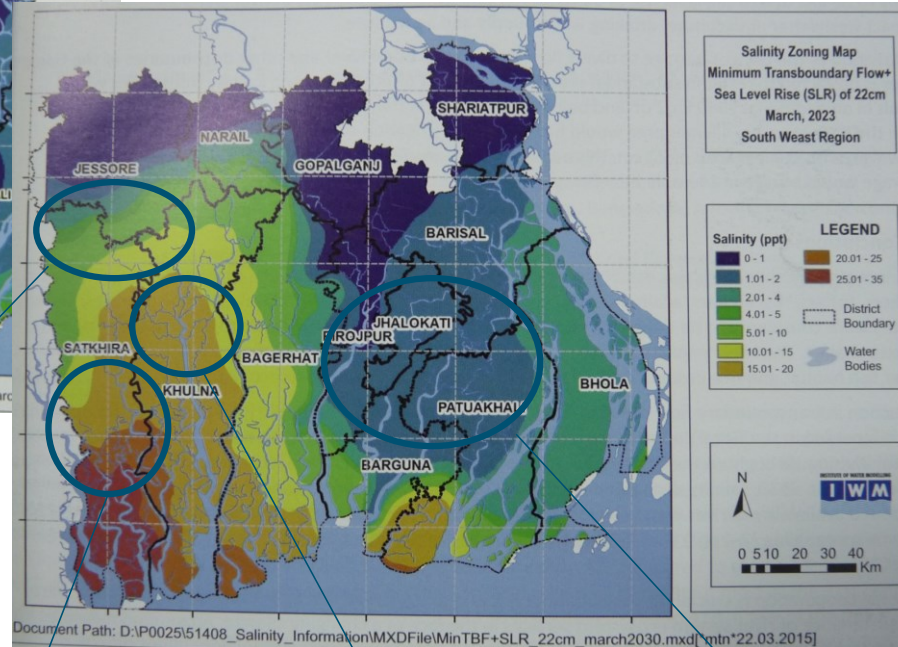
# Coastal Bangladesh / South West



2012

Tipping point rice production

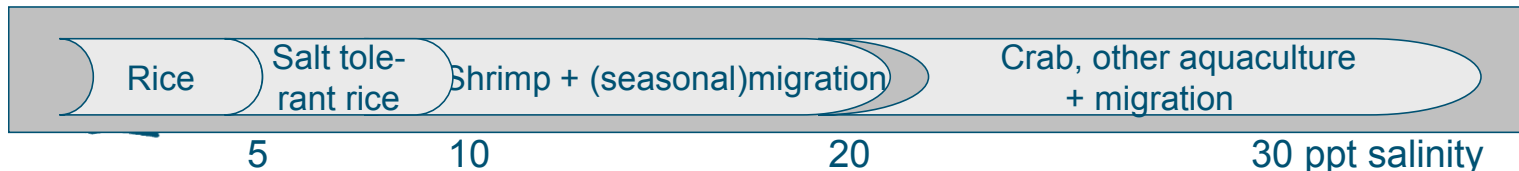
Beyond tipping point rice and sundarban biodiversity



2030:  
Sea level  
rise  
22cm

Tipping point shrimp

Tipping point freshwater



## Research Question

- What are the main challenges for the (future of) coast
- How do actor propose to overcome these challenges?
- (with a focus on livelihoods. For the case study area:  
how do actors propose to adapt to increasing salinity?



# Research Concept: Adaptation Pathways

## Different approaches for adaptation

**Options**  
What to do now?

**A**

*OR*

**B**

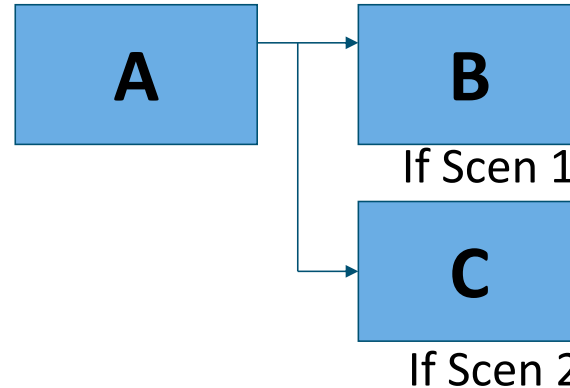
*OR*

**C**

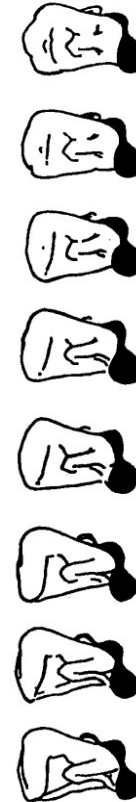
*now*

Classical decision making

What to  
do *when*?

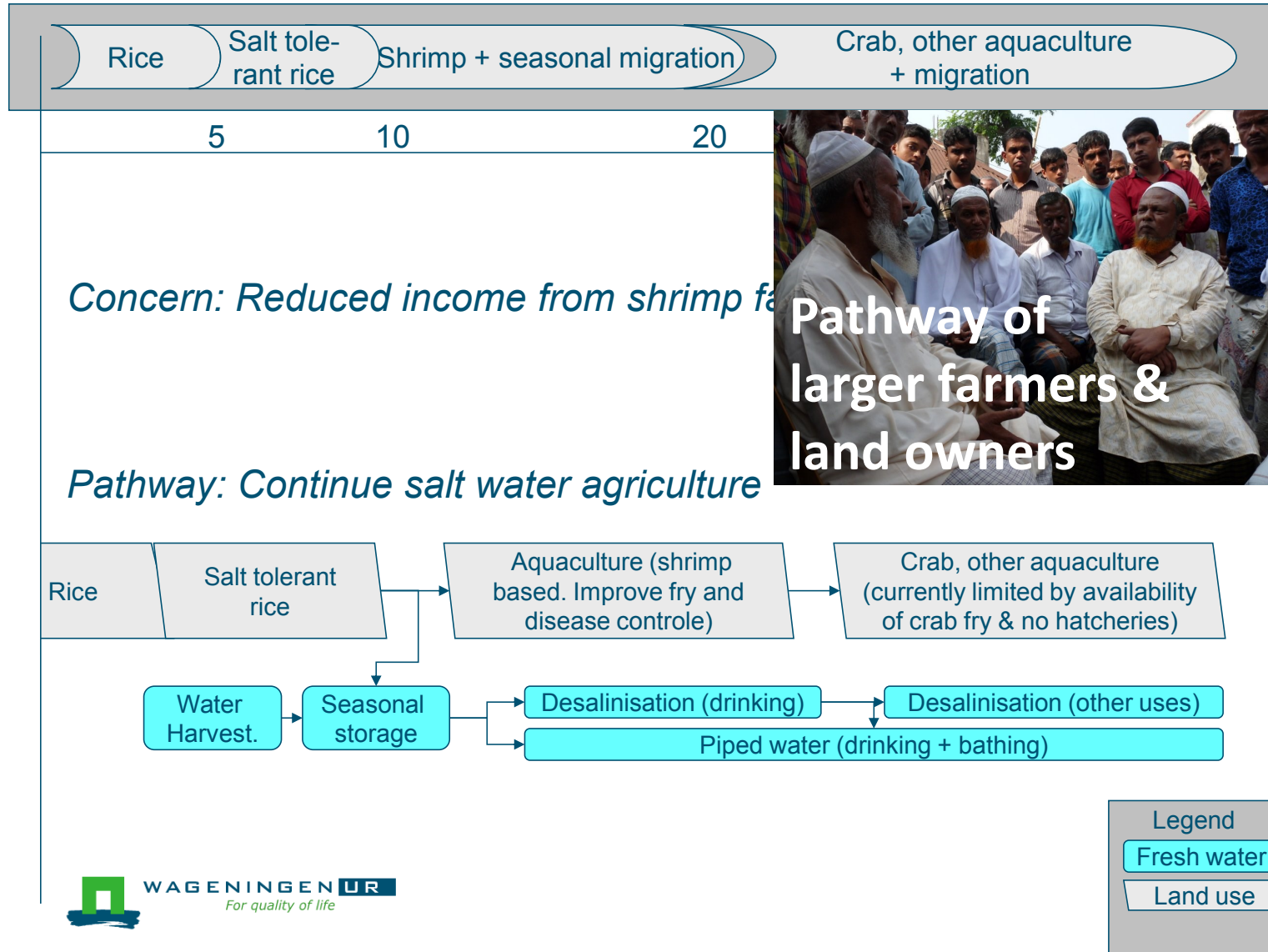


Adaptive Planning /  
Adaptation Pathways



## Research Method: Survey, interview, focus group

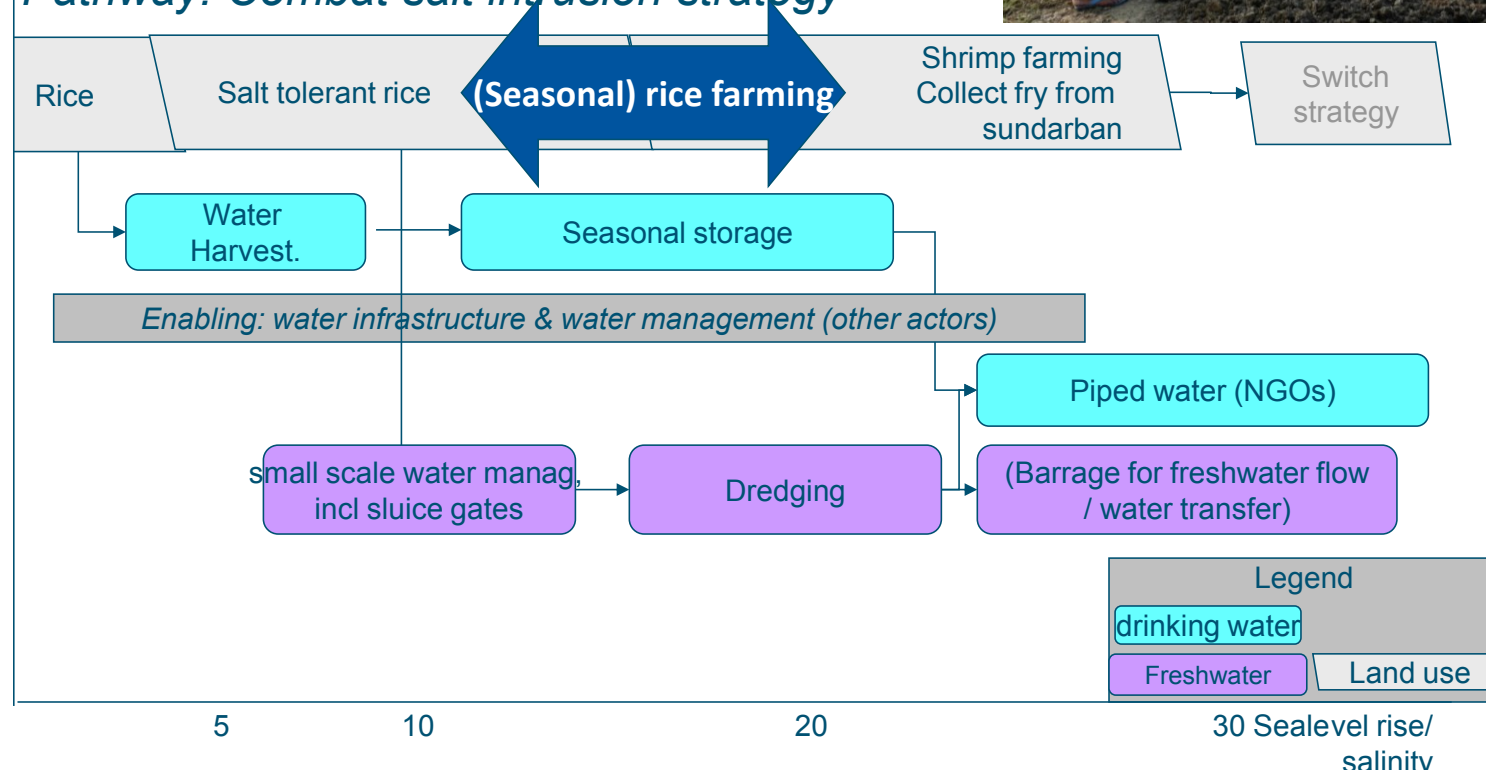




## Pathway Small (lease) farmer

Concern: Food security & drinking water

Pathway: Combat salt intrusion strategy

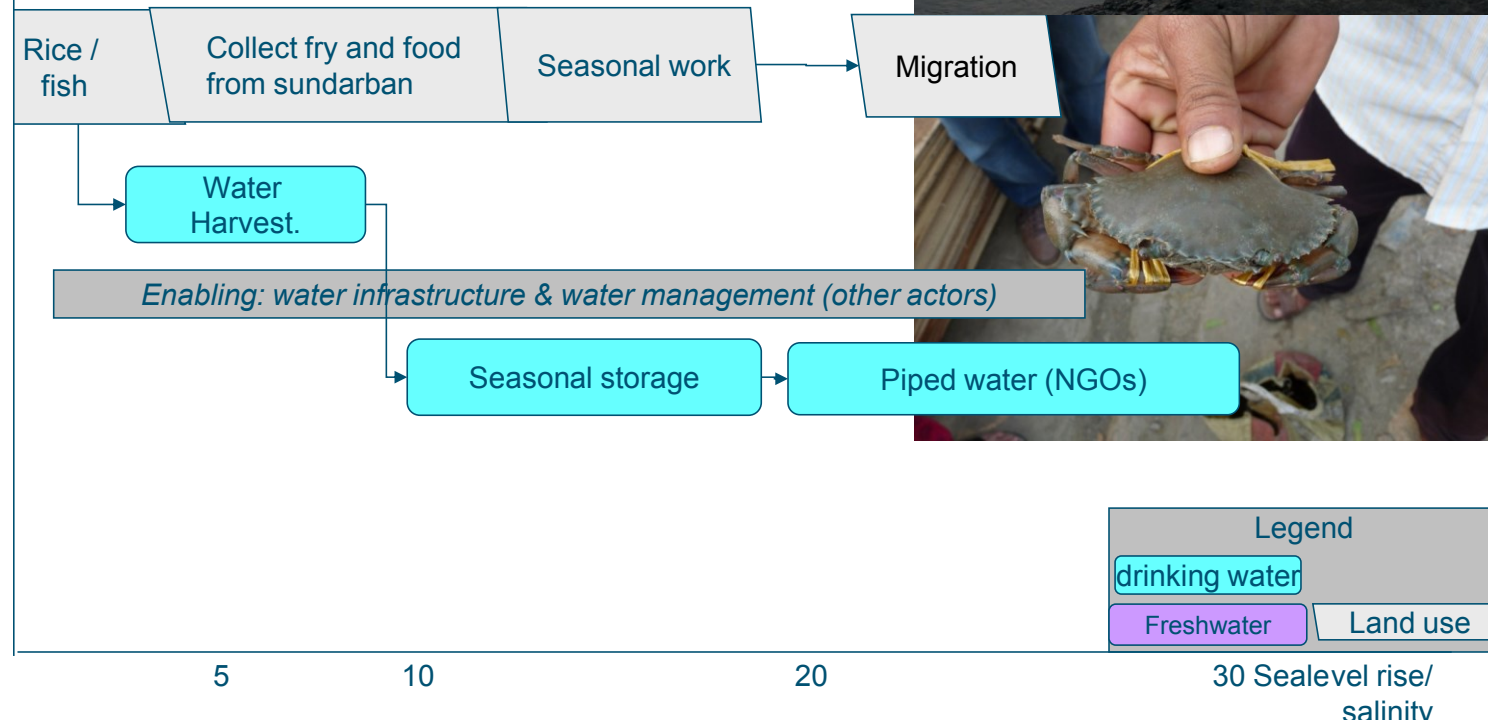




## Pathway landless

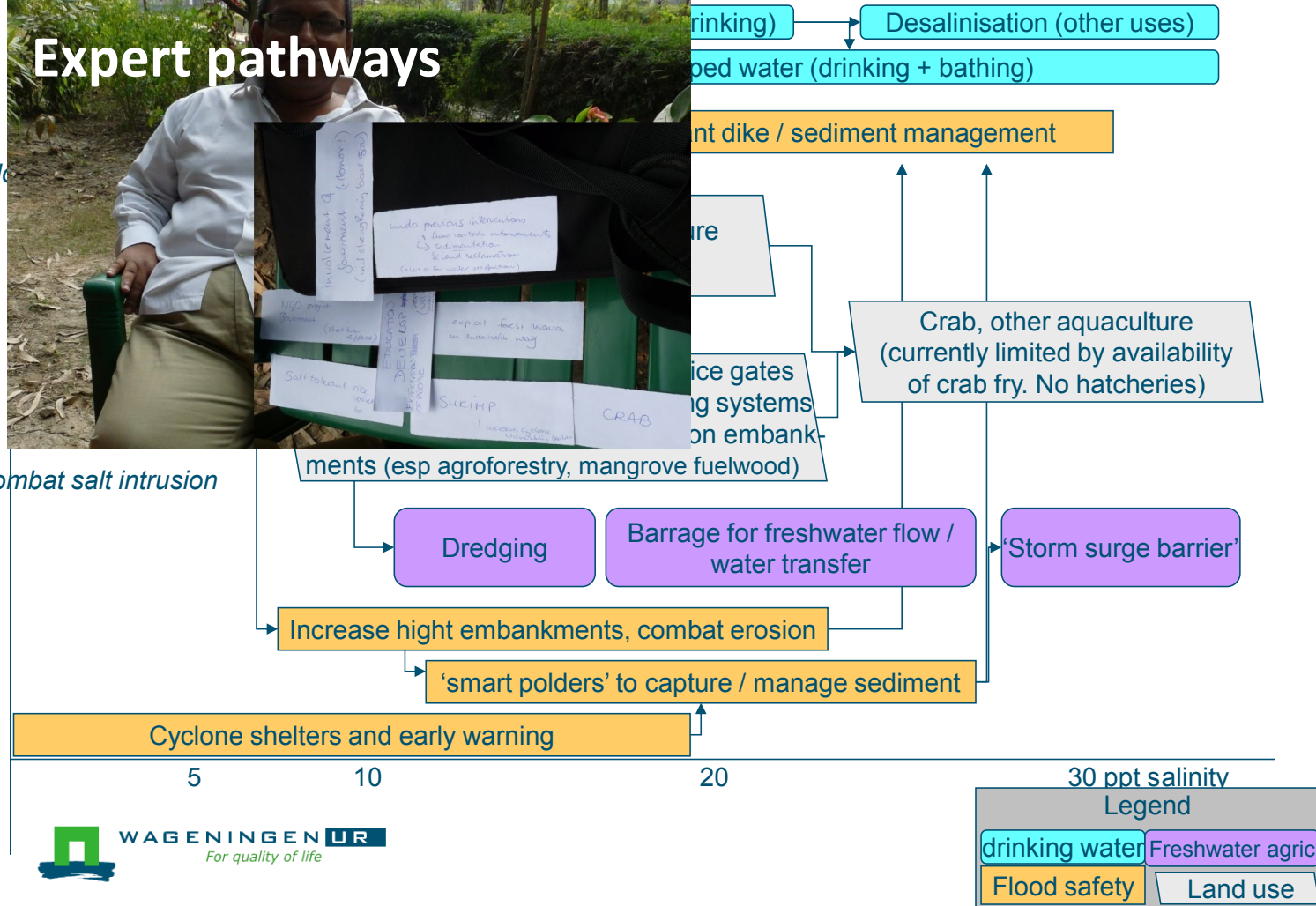
Concern: Food security & drinking water

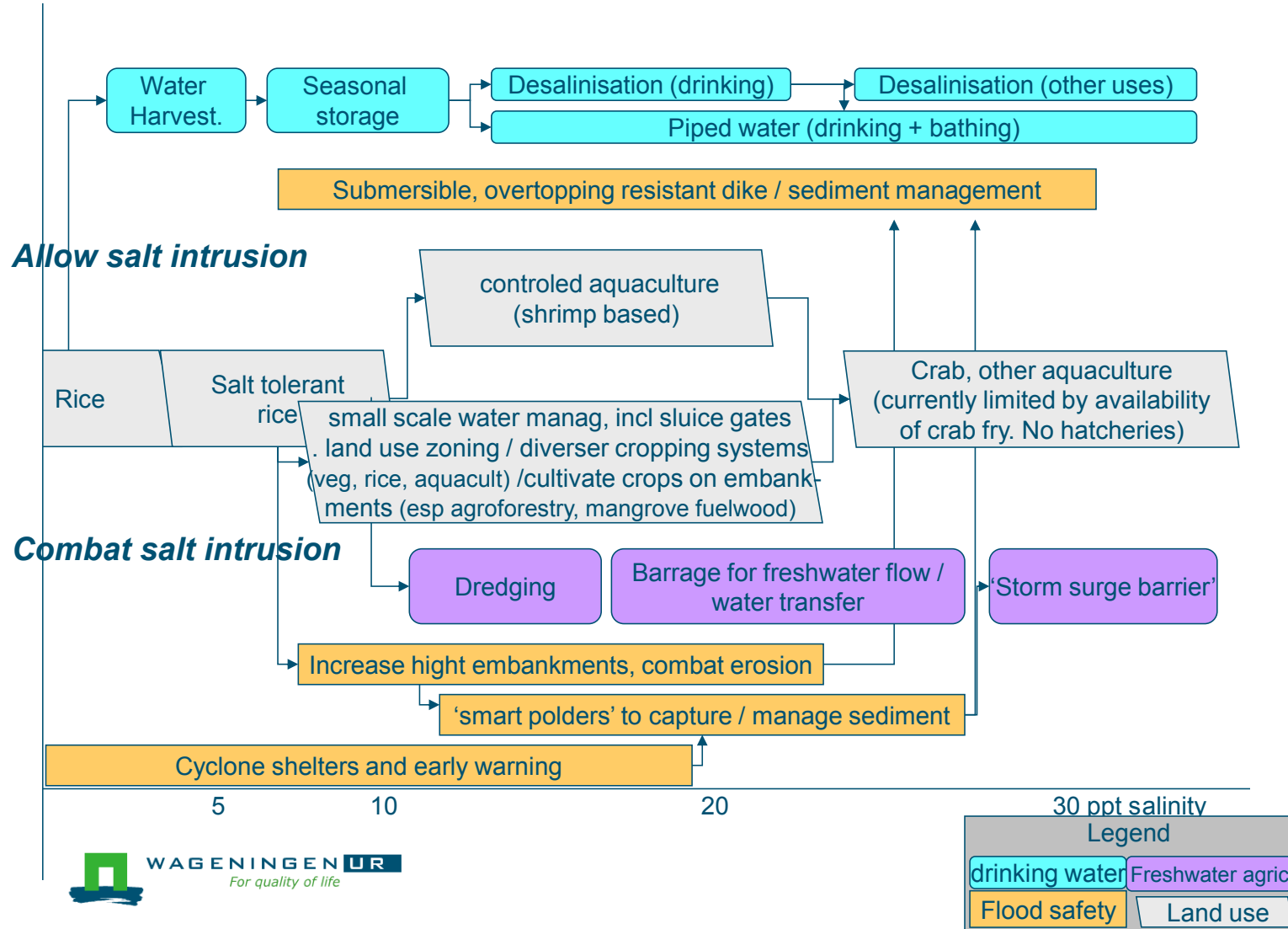
Pathway: Migration



## Allc

## Combat salt intrusion





## Conclusion / Experience

### **Methodological**

- Adaptation pathways as a concept for mapping the perspective of different actors (communities)
- Time aspect is needed in adaptation. Pathways help to discuss short, medium, long term adaptation

### **Adaptation in food systems:**

- Be aware of lock-in when planning adaptation to alternative food systems ('social tipping point')
- Consider who are beneficiaries of adaptation (both autonomous and planned)



Thank you!

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- Contact: [Saskia.werners@wur.nl](mailto:Saskia.werners@wur.nl)
- Discussion / questions / feed-back?

