



Challenges and adaptation in watershed management in Vietnam

Los Baños, Laguna, Philippines

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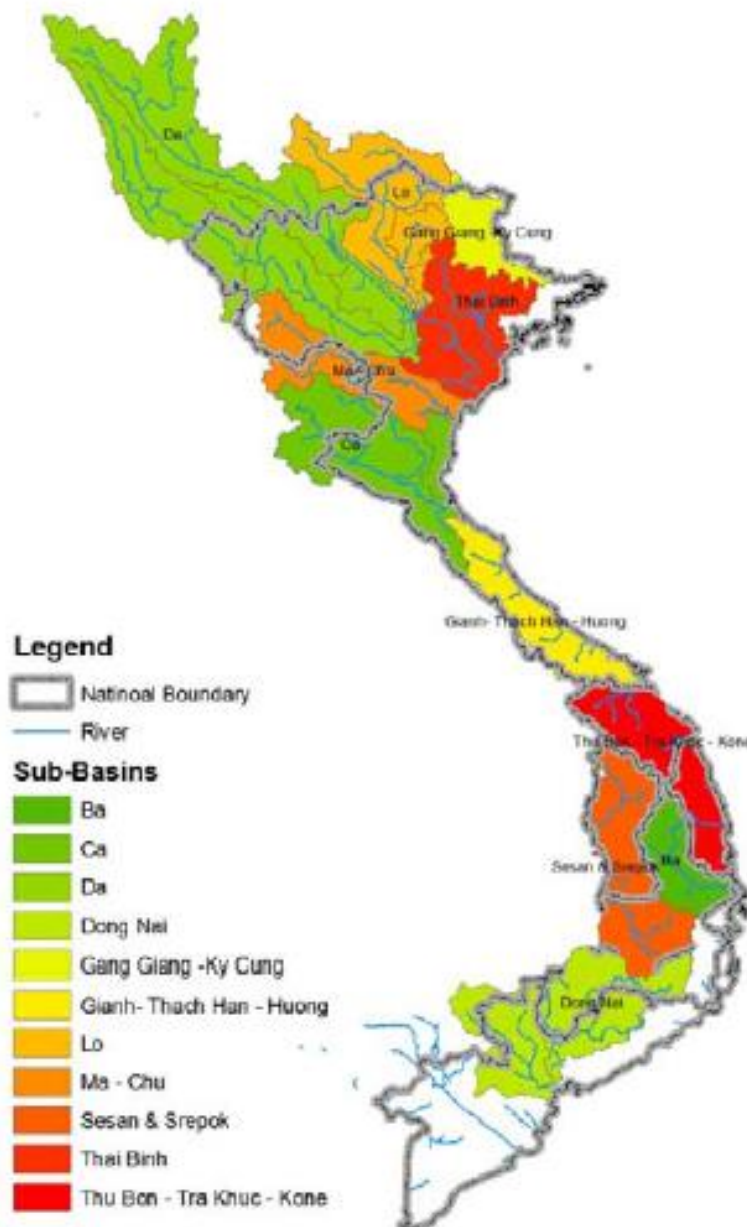
1. Distribution of River Basins in Vietnam
2. Challenges in watershed management
3. Current status of climate change
4. Two examples of challenges, impacts and adaption in watershed
 - Vu Gia watershed in the southern central
 - Downstream of Red River Basin in the north

1. Distribution of River Basins in Vietnam

Table 1: Climate regions and river basin and areas

Location	Catchments	Area (km ²)
Northern	Da	104,568
	Lo – Gam - Chay	34,423
	Thai Binh	27,323
	Ma - Chu	24,184
	Gang Giang -Ky Cung	11,849
	Others	8,034
	Subtotal	210,380
Central	Ca	37,718
	Gianh- Thach Han -	20,101
	Huong	
	Thu Bon - Tra Khuc -	26,233
	Kone	
	Subtotal	84,053
Southern	Ba	13,469
	Sesan & Srepok	30,143
	Dong Nai	42,215
	Others	19,474
	Subtotal	105,302
Total		399,735

Gebretsadik, 2012



2. Challenges in watershed management

- **Climate change**

- Land slide/erosion
- Flood/drought
- Abnormal rain
- Higher temperature
- More frequent of storms
- Salinity intrusion

- **Hydropower**

- Land slide/erosion
- Flood/drought

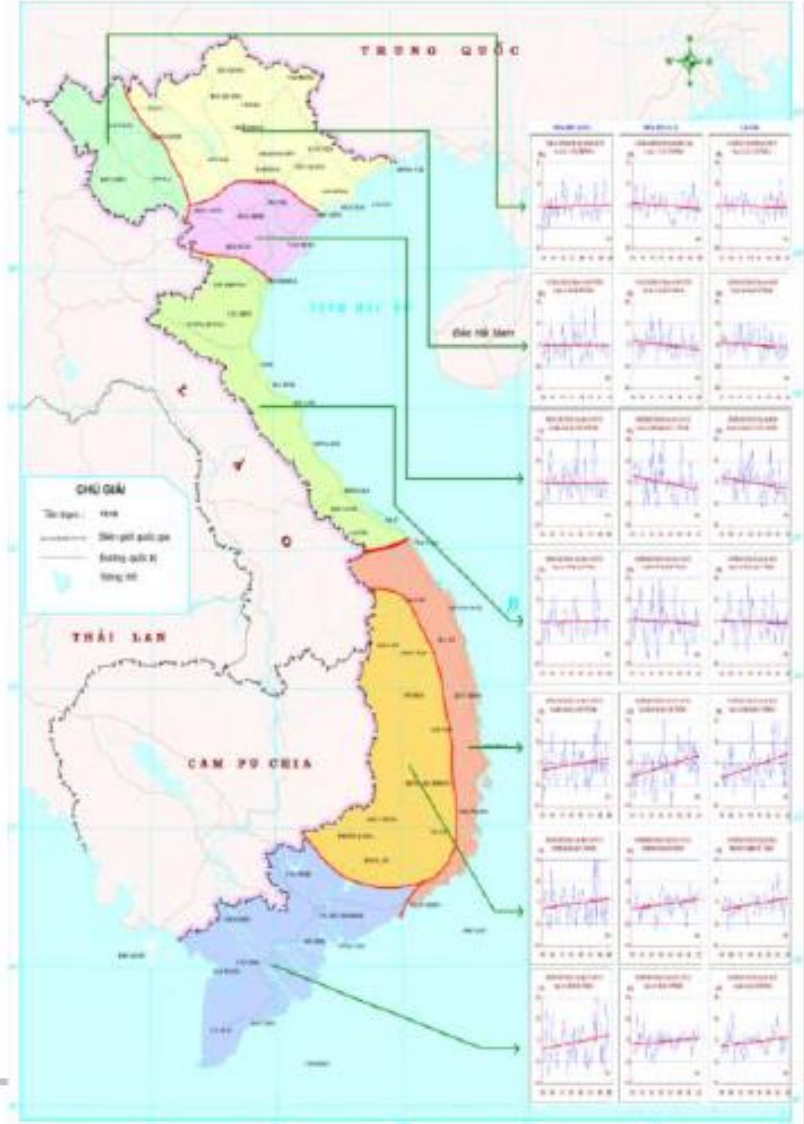
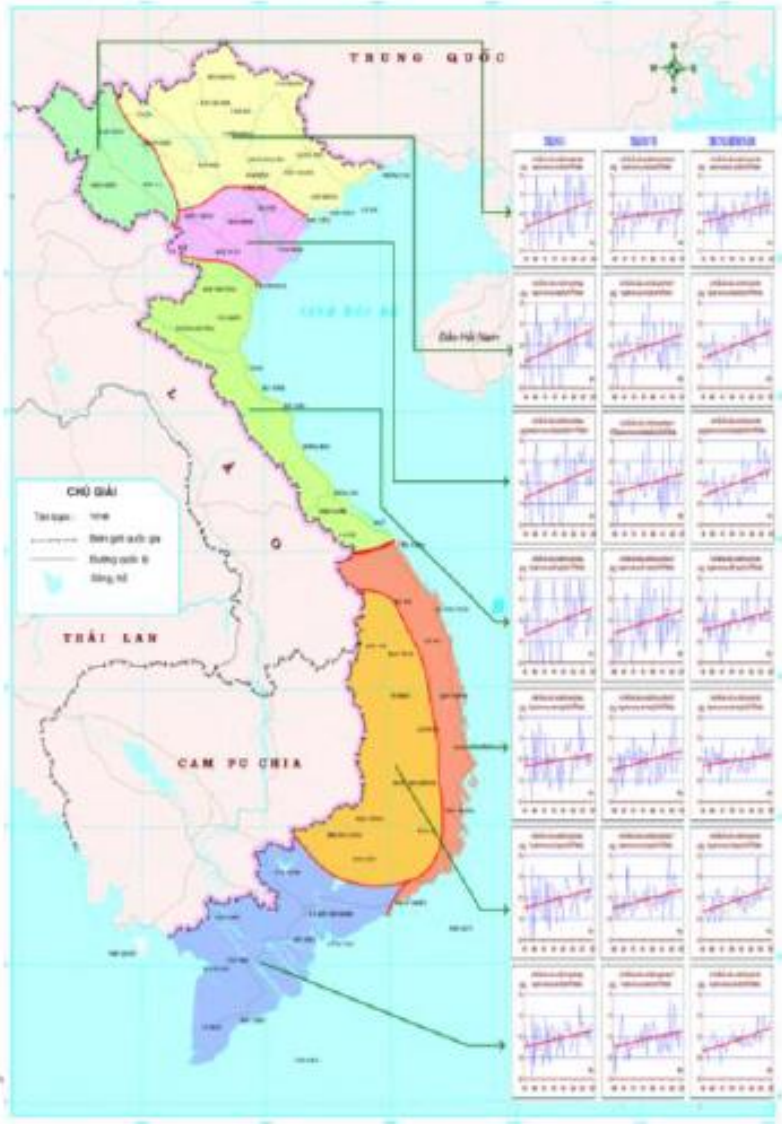
- **Mining**

- Land slide/erosion
- Pollution

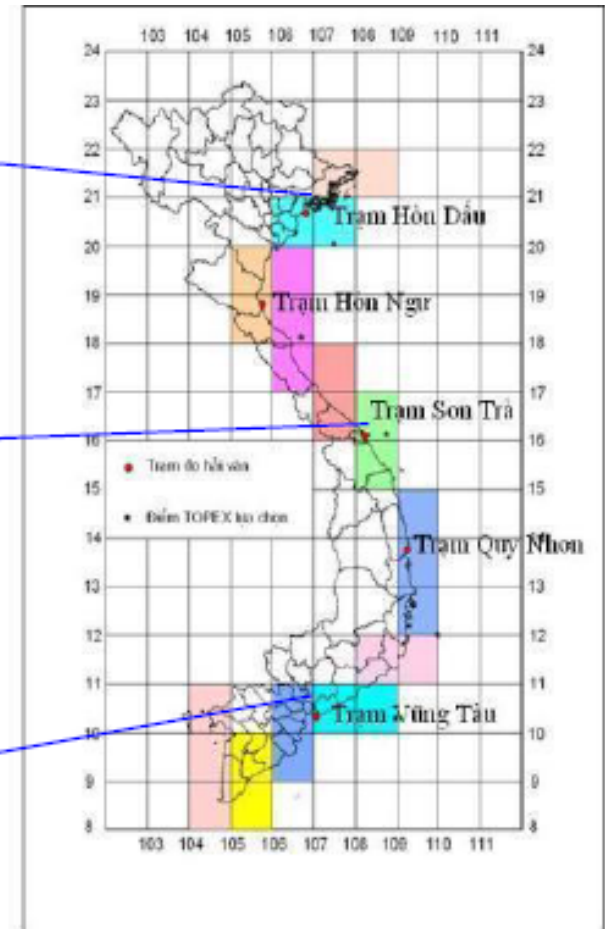
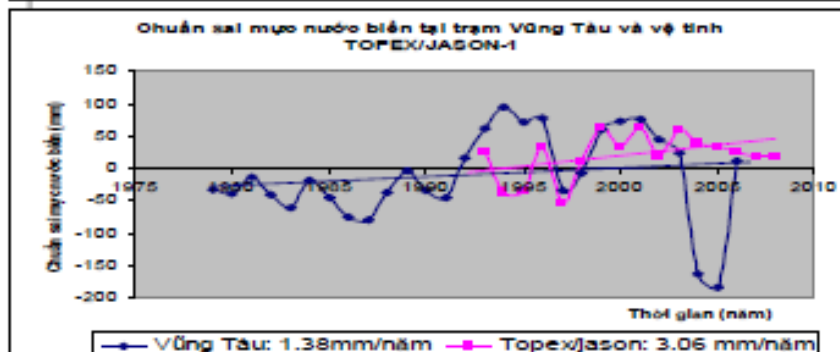
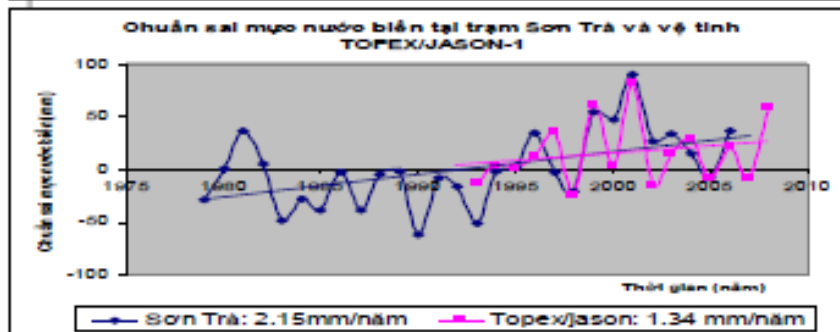
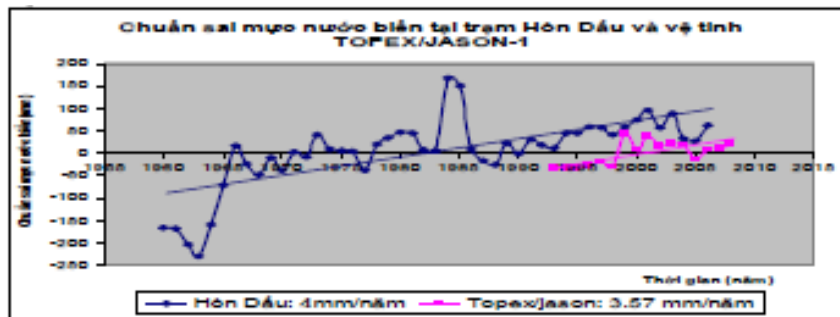
- **Deforestation**

- Land slide/erosion
- Flood/drought

3. Current status of Climate Change in Vietnam



3. Current status of CC in Vietnam (Cont')

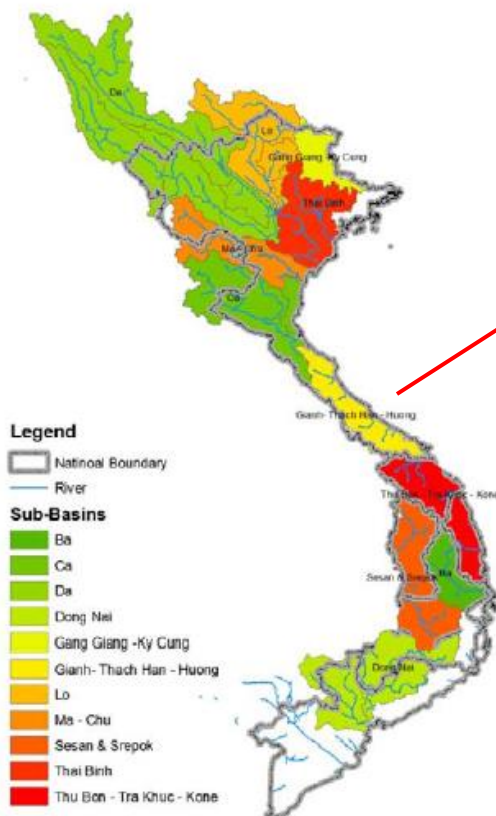


Rate of change 3mm/yr

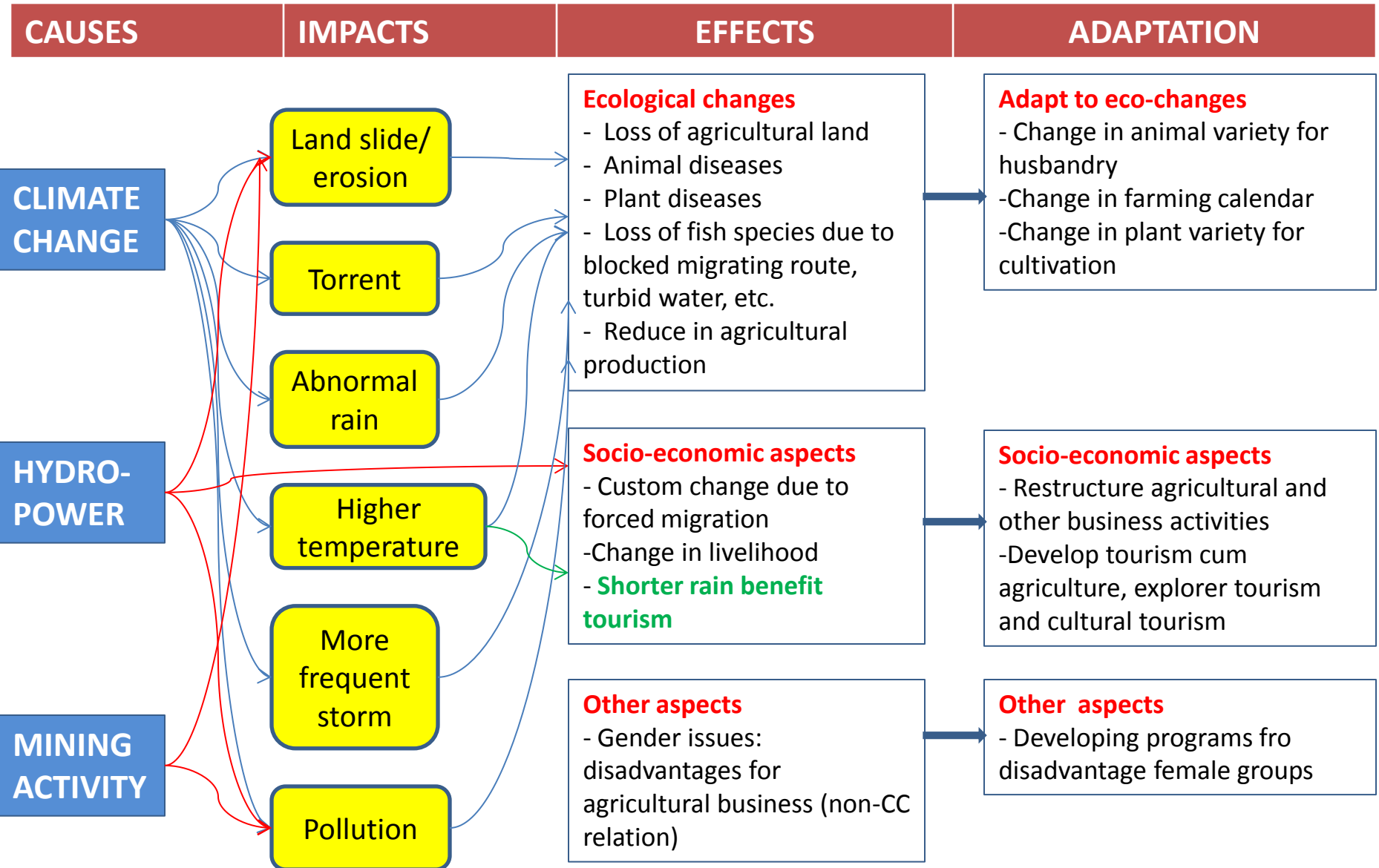
4. Two example of challenges, impacts and adaptation

4.1. Vu Gia watershed, southern central of Vietnam Nguyen Kim Loi (2010)

- Identification of challenges and adoptions using PRA method



4.1. Challenges and adaptation in Vu Gia watershed



4.2. Challenges in the lower Red River Basin

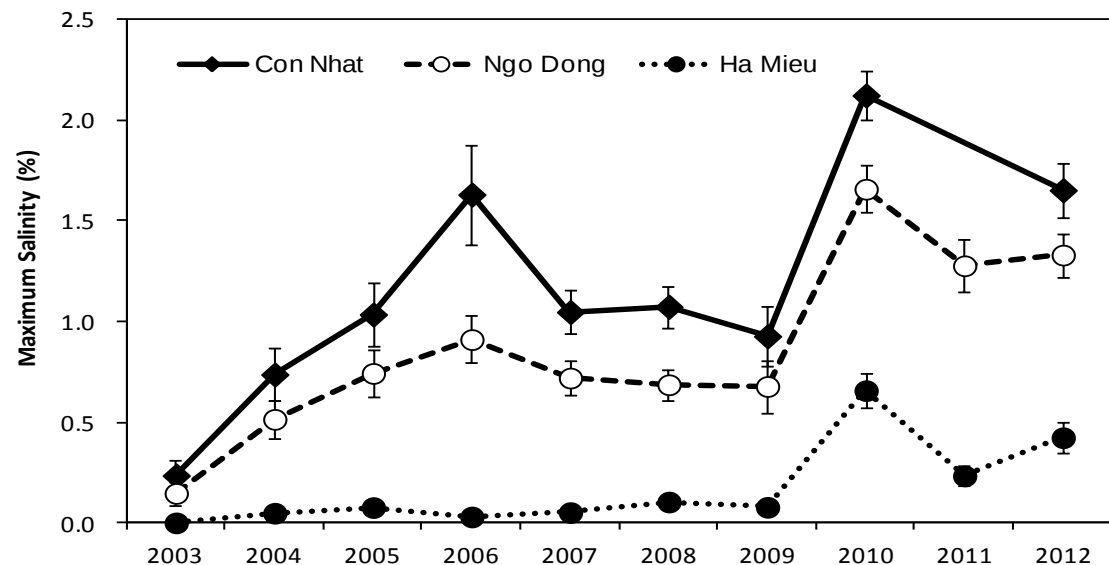
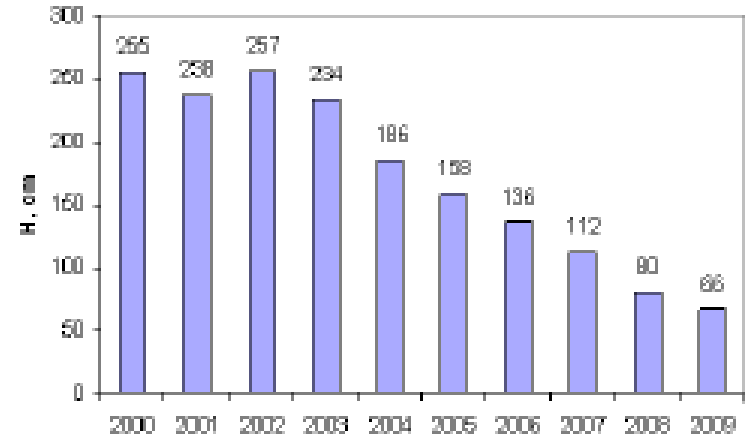
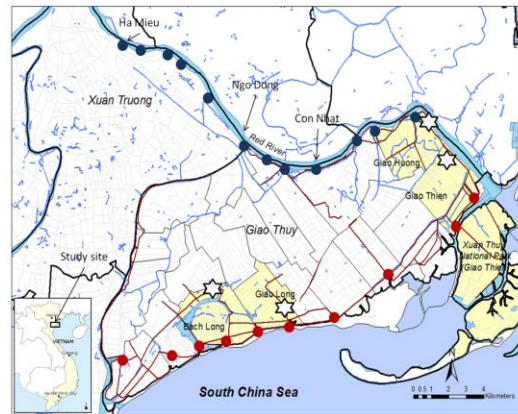
Decrease in
water level in
Red River due
to the decrease
in rainfall and
dam

construction

+

sea level rise

→ intensifying
drought and
salinity
intrusion



4. 2. Adaptations to salinity intrusion in the Lower Red River Basin

- Formal interventions:
 - Balance with water use between hydropower and agricultural sectors;
 - Constructing canal along the river and coastal dikes to protect paddy area from leakage of saltwater;
 - Closing of irrigation gate where salt concentration in the river water is over the limit for agricultural production and shift to upstream gates for irrigation intakes.
- Farmers' adaptation
 - Application of salt tolerance varieties (hybrid rice and Nep cao – a traditional variety.