TRENDS, NATURAL DISASTERS, AND POTENTIAL IMPACTS OF CLIMATE CHANGE ON AQUACULTURE SECTOR OF SOC TRANG PROVINCE

Soc Trang, November 2009

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1/ Saline intrusion trend in Soc Trang

* Salinity (1) (at Dai Ngai)
- 1980-1989: Max= 8,60/00 ; Average Max = 5,80/00
- 1990-1999: Max= 14,60/00 ; Average Max= 9,10/00
- 2000-2009: Max= 13,10/00 ; Average Max= 9,50/00

1/ Saline intrusion trend in Soc Trang

* Water levels in dry season(2) (at Dai Ngai)
- 1980-1989: Average Hmin = -2,06 m
- 1990-1999: Average Hmin = -1,93 m
- 2000-2009: Average Hmin = -1,90 m

The figures of Average Max Salinity and Average Water Level show that Sea Water Level has been on the rise and Salinity has increased in 1980-2000, measured at Dai Ngai station.

2/ Planned area for aquaculture to 2020

90.000 ha, of which:

- Salt water aquaculture: 2 main areas including the entire Vinh Chau dist, Thanh My of My Xuyen district, and some other small areas in Long Phu and Cu Lao Dung. Total area: 53,500 ha (50,000 for shrimp, 3,500 for crab, artemia, clam)
- Fresh water aquaculture: northern districts such as Ke Sach, My Tu, Long Phu, Chau Thanh, Nga Nam. Total area: 36,500 (4,000 for cat fish)

Yield in 2020: 500,000 tons, of which 108,000 tons of shrimps, 320,000 tons of cat fish)

3/ Damages in the recent years

Year	2002	2003	2004	2005	2006	2007	2008	2009
Area (ha)	16.201	16.285	17.327	5.288	3.626	3.071	13.854	2.566

Other aquatic products: 72.000 tons

- Production outcomes in 2009:
  + Area: 66.000 ha

Of which: * Shrimp: 46.500 ha

* Other aquatic products: 14.000 ha

+ Yield: 130.500 tons

Of which: * Shrimp: 58.000 tons

* Other aquatic products: 72.500 tons

- Most damage is in Vinh Chau and My Xuyen districts
  + Causes of damage:

- Epidemics (quality of seeds and during raising process)
- Unreliable weather: temperature, rain, storm, changing water environment
- Unreliable market prices, lack of care from farmers
- Limited skills and knowledge of farmers
- High prices of inputs and insufficient investments from farmers

4/ Potential impacts on aquaculture

- Storm and sea level rise impact aquaculture: direct threat on the entire area because protection structures are simple and incomplete (dykes, sluice gates)

- Salinity intrudes far into land: narrowing area for fresh water aquaculture, the shrimp-rice model may be damaged due to lack of fresh water

- Changing temperature and water environment and pollution cause increasing damages to aquaculture

+ Provide technical support to farmers
+ Policy to provide sufficient capital support
+ Good management of young shrimp sources
+ Stabilize market prices to enable farmers to produce sustainably through facilitating operation of associations
+ Government needs to manage prices of feeds and chemicals to enable farmers to make profit

- **Other impacts:**

  Costs of inputs increase, long-lasting damages make it difficult for farmers to develop aquaculture sustainably (esp. the poor and short of capital) while market prices are unreliable.
- Experience for development of aquaculture sector in Soc Trang

+ Area for aquaculture must be clearly planned
+ Limit unplanned aquaculture

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