PRODUCTION AND MARKETING ADAPTATION FOR SURVIVAL: THE CASE OF THAI SHRIMP CULTURE

Ruangrai Tokrisna
Department of Agricultural and Resource Economics
Faculty of Economics, Kasetsart University
Bangkok, Thailand
ruangrai.t@ku.ac.th
Outline

• Introduction
• Development in Thai shrimp culture
• SWOT
• Problems and solutions
• Roles of government
• Adaptation
• Shrimp strategies
Introduction

• Thailand – one of the main shrimp exporters for more than a decade
• Top shrimp exporter in 2001
• Production beyond carrying capacity
  – Environmental degradation
  – Disease infection
  – Lower yield
• Recent competition from new producers
Development of Thai shrimp culture

- Before 1970s: Extensive, 8-16 ha, inner Gulf of Thailand, wild seed
- 1973: Black tiger shrimp hatcheries
- Spread to the East and Upper South
- 1983: Taiwanese investors, turning to intensive culture
- Development in shrimp agribusiness sector
- 1991: 1st Peak cultured area 75 th.ha
- 1992: Beginning of environmental degradation along the coastal areas
- Closed system operation
- Shrimp farming in freshwater area – banned in 1998
- Expansion to the West Coast in the South
- 2000s – Introduction of new species-white shrimp, adoption of shrimp farmers associations, traders' associations
**Thai shrimp export volume 1999 - 2006 (ton)**

- Prepared/preserved: 3,774, 66, 23, 9, 9, 12, 54
- In airtight container: 101,388, 5,313, 5,111, 7,446, 6,436, 5,355, 4,260, 448,7
- Salt/dried/smoked: 1,113, 1,018, 986, 393, 464, 654, 698, 182,5

**Thai shrimp export value 2000 - 2006 (mill.Baht)**

- Prepared/preserved: 1,114, 21, 11, 4, 4, 5, 13
- Not in airtight container: 40,301, 42,234, 37,266, 34,205, 33,268, 32,463, 41,826
- In airtight container: 1,658, 1,338, 2,161, 1,549, 1,349, 1,097, 1,155
- Salt/dried/smoked: 363, 381, 103, 129, 156, 158, 459
- Frozen: 59,840, 55,038, 34,792, 35,919, 32,536, 37,826, 42,827

**Unit value of Thai shrimp export 2000 - 2006 (Baht/kg)**

- Frozen: 420, 379, 348, 322, 302, 266, 239, 240
- Salt/dried/smoked: 396, 386, 261, 277, 256, 226, 265, 251
- In airtight container: 312, 262, 250, 241, 252, 257, 257
- Not in airtight container: 489, 402, 396, 316, 296, 278, 275
- Prepared/preserved: 295, 324, 480, 411, 410, 425, 248
Export growth rate and share of fresh/chilled crustaceans HS0306 among important exporters in world market in 2005

<table>
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<th>Country</th>
<th>2005 %Share</th>
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Cost and return from shrimp culture (US$/kg)

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<td>Opp. Cost</td>
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<td>Others VC</td>
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<td>Labor</td>
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**SWOT**

- **Strength**
  - Resource abundance
  - Hatchery success
  - Knowledge base and Technology transfer
  - Shrimp agribusiness

- **Weakness**
  - Environmental management
  - Limited brood stock
  - Development beyond carrying capacity
  - Increasing cost of production
  - Inadequate R&D on value added products

- **Opportunity**
  - International market demand
  - Network of shrimp industry development supervised by Department of Fisheries

- **Threat**
  - Competition in international market
  - Shrimp disease infection
  - NTM and private importer standard requirement
**Problems and solutions**

- **Production**
  - High cost $\rightarrow$ appropriate technology, QC, pond management, development of value added products

- **Marketing**
  - Market concentration among buyers $\rightarrow$ farmers group
  - Specific quality requirement from importers $\rightarrow$ trade negotiation
  - QC $\rightarrow$ coordination among gov’t agencies, central lab
  - FTA $\rightarrow$ collaboration among gov’t agencies, packers and farmers
Roles of the government

- CoC and GAP
- QC
- Shrimp breeding program
- Sea irrigation
- Provision of low cost fuel
- Farm price support
Adaptation

• Farmers’ responses
  – Turning from black tiger shrimp (*Panaeus monodon*) to white shrimp (*Litopenaeus vannamei*)
  – Adoption of closed water system
  – Adoption of organic shrimp culture
• Large scale commercial producers tried shifting cultivation to the neighboring countries.
• Shrimp packers developed value added shrimp products.
• Stronger competition in the international markets
• Problems in trade measures especially in the markets where the share of Thai shrimp were high.
• Need
  – improving capacity and efficiency of Thai shrimp farmers as well as Thai shrimp traders in order to maintain the status of Thai shrimp in the international markets
Adaptation (2)

- Problems and recommended solution for government action via participatory approach among Thai shrimp farmers and traders.
- Adaptation on production as well as marketing processes in an attempt to maintain the share of Thai shrimp in the international markets.
- Development by carrying capacity
  - Command and control
  - Economic instruments: PPP, tradable permits, bond and deposit refund system, liability system, fiscal instrument
Shrimp strategies 2006 -2008

- **Increasing potential**
  - Culture area
  - Pond management system
  - Farm input QC
  - Improvement of brood stock

- **Value creation**
  - Improvement in post harvest and logistics
  - Processing control
  - Product development on market demand

- **Increasing production**
  - M & C on environment
  - Development of standard farm practice
  - Development of lower cost technology

- **Increasing market potential**
  - Promotion on domestic market
  - Pro-active marketing
  - Trade negotiation
  - Value added product development
Shrimp strategies 2009 - 2010

• Increasing potential
  – Zoning, GIS, environment control, infrastructure, improvement on brood stock and QC on hatcheries

• Production by international standard
  – M & C on environment, disease control, standard culture practice, energy efficiency

• Value added for post harvest
  – Logistics, processing, QC, value creation

• Market potential
  – Shrimp organization – KM & LO, market promotion, traceability, brand name, reducing NTM

• R & D
  – Brood stock, feed, value creation, marketing
THANK YOU