RENEWAL FISHERY RESOURCE ABUNDANCE AND POVERTY ERADICATION FOR COASTAL FISHERMEN IN THAILAND

Ruangrai Tokrisna
Department of Agricultural and Resource Economics
Faculty of Economics. Kasetsart University
Bangkok, Thailand
OUTLINE

• Fisheries in Thai economy
• Sustainability of Thai fishery resources
• Relevant government policies
• The problems
• Poverty in Thai coastal fisheries
• Poverty eradication in Thai coastal fisheries
Fisheries in Thai economy

- 2% of total GDP
- 15% of agricultural GDP
- 10% of food consumption
- Fish catch volume 47% of total 3.3 mill. mt
- Shrimp catch value 55% of total US$2,987 mill.
Fishery exports

- Primary products
  - 2% of total export values
  - Decreasing trend
  - Half of the values were from shrimp

- Canned seafood and other processed seafood
  - 3% of total export values
  - Decreasing trend
  - Canned shrimp, canned tuna
Thai fishery export in the world trade

- Production Rank 9th Share 3%
- Export Quantity Rank 6th Share 4%
- Value Rank 23th Share 1%
Sustainability (1)

• 1925...Introduction of Chinese purse seine
• 1930...Develop purse seine, using Japanese engine, fishing pelagic species mainly Indo-Pacific mackerel
• 1959...Introduction of otter board trawl
• 1961...CPUE was 298 kg/hr.
• 1963...Rapid increase in trawlers and push netters
Sustainability (2)

- 1968...fishing vessels of 24 m long and over fished outside Thai waters, small vessels turned to squid fisheries
- 1972...Thailand was ranked as the top ten fishing countries for the first time, over fishing trawl fisheries, CPUE decreased to 63 kg/hr.
- 1973…Development of light luring and fish attractive device purse seines
- 1977...Catches reached more than 2 mill. ton, then decreased. Over fishing in main economic pelagic species
Sustainability (3)

• 1979-1981...EEZ
• 1982...Catches increased but fluctuating
• 1983...Catches increased to 2 mill. ton
• 1989...CPUE decreased to 20 kg/hr.
• 1996…Increasing fishing outside Thai waters
• 2005…CPUE decreased to 12 kg/hr.
Trend of fishery production

Quantity (th. ton)  Value (mill. US$

Marine  Coastal aq.  Inland  Freshwater aq.
Catch composition of Thai marine captures in 1982, 1992 and 2002 (th mt, %)

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Volume</td>
<td>%</td>
<td>Volume</td>
</tr>
<tr>
<td>Pelagic fish</td>
<td>396</td>
<td>20</td>
<td>841</td>
</tr>
<tr>
<td>Demersal fish</td>
<td>99</td>
<td>5</td>
<td>223</td>
</tr>
<tr>
<td>Food fish</td>
<td>85</td>
<td>4</td>
<td>165</td>
</tr>
<tr>
<td>Trash fish</td>
<td>813</td>
<td>41</td>
<td>1,001</td>
</tr>
<tr>
<td>Squid</td>
<td>117</td>
<td>6</td>
<td>150</td>
</tr>
<tr>
<td>Shrimp</td>
<td>189</td>
<td>9</td>
<td>302</td>
</tr>
<tr>
<td>Crab</td>
<td>30</td>
<td>2</td>
<td>45</td>
</tr>
<tr>
<td>Mollusc</td>
<td>157</td>
<td>8</td>
<td>135</td>
</tr>
<tr>
<td>Other</td>
<td>102</td>
<td>5</td>
<td>103</td>
</tr>
<tr>
<td>Total</td>
<td>1,987</td>
<td>100</td>
<td>2,966</td>
</tr>
</tbody>
</table>
Maximum sustainable yields in Thai fishing grounds and marine catches (th·ton)

<table>
<thead>
<tr>
<th>Item</th>
<th>Gulf of Thailand</th>
<th>Andaman Sea</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MSY</td>
<td>Catch</td>
</tr>
<tr>
<td>Pelagic fish</td>
<td>400</td>
<td>646</td>
</tr>
<tr>
<td>Indo-Pacific mackerel</td>
<td>&gt;62</td>
<td>116</td>
</tr>
<tr>
<td>Scad</td>
<td>110</td>
<td>71</td>
</tr>
<tr>
<td>Indian mackerel</td>
<td>32</td>
<td>17</td>
</tr>
<tr>
<td>Tuna</td>
<td>&gt;25</td>
<td>105</td>
</tr>
<tr>
<td>Trevellies</td>
<td>na</td>
<td>39</td>
</tr>
<tr>
<td>Sardinellas</td>
<td>150</td>
<td>108</td>
</tr>
<tr>
<td>Demersal fish</td>
<td>750</td>
<td>924</td>
</tr>
<tr>
<td>Squid</td>
<td>41</td>
<td>70</td>
</tr>
</tbody>
</table>
Government policy (1)

- 1962-1966: Increase production at 7.5% annually
- 1967-1971: Fish for export, increasing production at 16.6% annually
- 1972-1976: Increasing yield at 11.3% a year, development of shrimp culture and deep sea fisheries
- 1977-1981: Over fishing, shrimp culture, fishing outside Thai water
- 1982-1986: Joint venture fishing, shrimp culture, mangrove rehabilitation
Government (2)
• 1992-1996: Conservation measures, reducing loss, integrated fishery processing
• 1997-2001: Increasing export capacity, Thai Sea rehabilitation, trade and environment
• 2002-2006: Thai Sea rehabilitation, community participation
• Target
  • Thai fishing ground at least 1.7 mill. ton
  • Outside Thai water at least 1.2 mill. ton
  • Aquaculture, increase at 5% annually
  • Export industry at least 1 mill. ton at 75 bill. THB, increase 10% annually
  • Domestic consumption at least 30 kg/head/yr.
Government in fishery management

• Fishery resource management
  – Attempts on control number of vessels
  – Gear restriction
  – Season & area closure
  – CBFM/CM, strengthening local capacity

• Renewal fishery resource abundance
  – Environment control
  – Renewal fishing grounds

• Fishery occupation development
  – HRD for fishing efficiency and collective organization
Problems

• Fishery resource degradation
• Number of fishing vessels
• Illegal and destructive fishing
• Commercial VS coastal fisheries
• Fishing cost
## Number of vessels as reported by Marine Fishery Census

<table>
<thead>
<tr>
<th>Year</th>
<th>Total vessels</th>
<th>Inboard engine</th>
<th>Outboard engine</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>53,457</td>
<td>16,982</td>
<td>36,475</td>
</tr>
<tr>
<td>1995</td>
<td>54,538</td>
<td>15,282</td>
<td>39,256</td>
</tr>
<tr>
<td>2000</td>
<td>58,119</td>
<td>13,263</td>
<td>44,856</td>
</tr>
</tbody>
</table>
### Poverty(1)

#### Small scale fishing income, 2000 (US$/hh/yr)

<table>
<thead>
<tr>
<th>Type</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>total</td>
<td>1,898</td>
</tr>
<tr>
<td>shrimp gill net</td>
<td>1,855</td>
</tr>
<tr>
<td>crab gill net</td>
<td>1,849</td>
</tr>
<tr>
<td>mullet gill net</td>
<td>1,865</td>
</tr>
<tr>
<td>push net</td>
<td>2,485</td>
</tr>
<tr>
<td>poverty line</td>
<td>1,769</td>
</tr>
<tr>
<td>av h/h</td>
<td>2,575</td>
</tr>
</tbody>
</table>
Poverty (2)

Small scale fishing income, 2004 (US$/hh/yr)

<table>
<thead>
<tr>
<th></th>
<th>otter board</th>
<th>push net</th>
<th>poverty line</th>
<th>av h/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>income</td>
<td>1,449</td>
<td>3,126</td>
<td>1,917</td>
<td>4,281</td>
</tr>
</tbody>
</table>
Poverty eradication (1)

• Small scale fisheries
  – CBFM
  – Co-management
  – Community organization capacity
  – Fishing right: fishing ground, community (organization and members), fishing right, establishing community organization and management capacity, collaboration with relevant agencies
Poverty eradication (2)

• Commercial fisheries
  – Reducing number of vessels
  – Register outside Thai water vessels
  – Information for determination on optimum level of fishing
  – Collaboration from the fishermen
THANK YOU