

# **BIMSTEC – Japan Cooperation in Fisheries Sector**

## Thailand Perspective

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and  
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# **Towards BIMSTEC-Japan Cooperation in Fisheries Sector: Thailand Perspective**

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**Wisarn Pupphavesa and Ruangrai Tokrisna\***

***Abstract :*** Thailand leads the Fisheries Sector Cooperation in BIMSTEC. BIMSTEC shares nearly 10 percent of the world fisheries export, and including Japan this share increased to 13 percent and even increased to 17 percent if we consider consumption of fisheries. Japan is a net importing country in fisheries sector and relies mostly on Thailand for its imports of fisheries. This paper indicates that there is high opportunity for other BIMSTEC countries to export to Japan in fisheries sector. However, BIMSTEC countries are increasingly facing non-tariff measures from developed countries in fisheries sector. This paper argues that greater regional collaboration could strengthen BIMSTEC's trade capacity in fisheries sector.

## **1. Significance of Fisheries in BIMSTEC**

Fisheries is one of the six sectors included for cooperation in BIMSTEC, where Thailand serves as the group leader of this sector. During 2002 – 2004, Thailand was the 3<sup>rd</sup> largest fisheries exporting country in the world, next to China and Norway. Their export values were US\$ 3,676 million, US\$ 3,906 million, and US\$ 4,034 million, respectively; sharing about 6 percent of total world fisheries export. While India shared about 2 percent, Bangladesh and Myanmar shared about 0.50 percent each. In general, BIMSTEC countries contribute

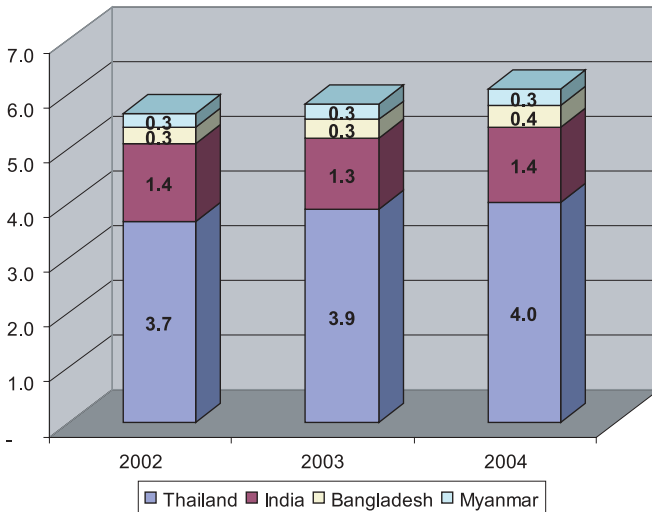
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\* Authors are with Thailand Development Research Institute (TDRI), Bangkok. An earlier version of the paper was presented at the 2<sup>nd</sup> International Conference on 'Towards BIMSTEC-Japan Comprehensive Economic Cooperation: Vision of a New BIMSTEC', held at Bangkok, Thailand on 7-8 December 2006, organized by TDRI, in association with Centre for Studies in International Relations and Development (CSIRD), Kolkata, supported by Sasawaka Peace Foundation (SPF), Tokyo. Views expressed by the authors are their personal and do not reflect the views or opinions of TDRI, CSIRD or SPF. Usual disclaimers apply.

nearly 10 percent of the total world fisheries export. In terms of import, with an import of US\$ 1,231 million in 2004, Thailand was the 17<sup>th</sup> largest world fisheries importing country, sharing 1.63 percent of total world fisheries import. Other BIMSTEC countries did not appear in the list of the top 50 importing countries.<sup>1</sup>

**Figure 1 Fishery export values of important BIMSTEC exporters**

(US\$ billion)



*Source:* FAO Fisheries Statistics

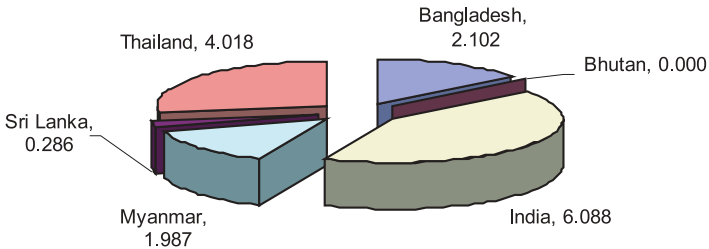
Nevertheless in term of production, India is the largest country in the world in 2004 sharing about 2.59 percent of world fisheries production (3.81 percent share in world capture and 1.76 percent share in world culture volume). Second largest producer in BIMSTEC is Thailand sharing 1.71 percent in world fisheries production (2.99 percent share in world capture and 0.83 percent share in world culture volume). The third largest producer in BIMSTEC is Bangladesh, sharing about 0.89 percent share in world production (1.25 percent share in world capture and 0.65 percent share in world culture volume). The fourth one in BIMSTEC is Myanmar, having 0.84 percent share in world production (1.67 percent share in world capture and 0.29



percent share in world culture volume). Sri Lanka contributes only 0.12 percent of world fisheries production, and the same for Bhutan is negligible. There was no significant report from Nepal.<sup>2</sup>

**Figure 2 Primary fishery production (capture and culture) in BIMSTEC in 2004**

(million ton)



Source: FAO Fishery Statistics

## 2. Thailand's Fisheries Sector Status

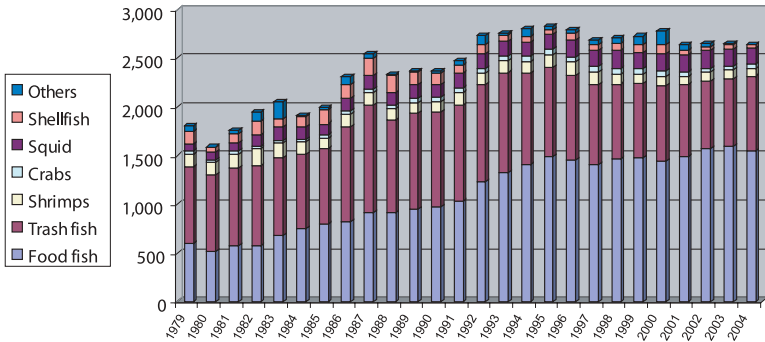
Total primary fishery production in Thailand in 2004 was 4,100 thousand metric tons of which 2,636 metric tons or 64 percent was from marine capture fisheries, followed by brackish water culture 736 thousand metric tone (18 percent), fresh water culture 524 thousand metric tons (13 percent) and the rest 204 thousand metric tons (5 percent) was from inland fisheries.<sup>3</sup>

### 2.1 Marine Capture Fisheries

In 2004, Thai marine capture was 2,6536 metric tons of which 58 percent were food fish, followed by 29 percent trash fish, 6 percent squid and cuttlefish, 3 percent shrimps, 2 percent crabs, 1 percent shellfish and the rest was mainly jelly fish and others. The catches reached its peak in 1995 and slightly decreased and stagnant around 2,600 metric tons since then. The recent increase in food fish could be explained by outside Thai water fisheries. Due to low returns from fish meal, trash fish landing decreased. Shrimp, crabs and squid landings did not vary much through recent years indicating their reaching the ceiling catches. Shellfish captures had been decreasing indicating the less abundant in coastal resources.

**Figure 3 Thai Marine Capture Catch  
Composition: 1979 – 2004**

(Thousand metric ton)



*Source:* Thai Fishery Statistics, Department of Fisheries

Thai marine capture fisheries had been over exploited. As reported by Department of Fisheries catch per unit effort in the Thai Gulf decreased from over 300 kg/hr in 1962 to 173 kg/hr in 1966, further to 75 kg/hr in 1976 and 18 kg/hr in 1998.

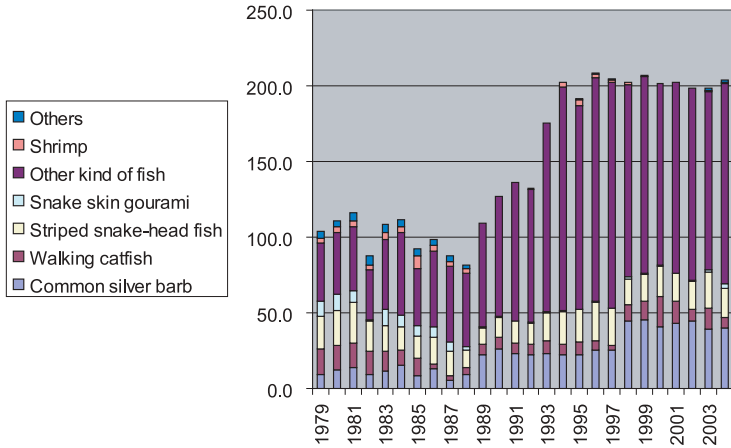
## 2.2 Inland Capture Fisheries

Inland capture fisheries were less than 10 percent of the marine capture, being 204 metric tons in 2004. Catches fluctuated around this level in the recent years, depending on the environmental conditions. Main catch was common silver barb, followed by striped snake-head, walking catfish, and snake skin gourami. Freshwater capture fisheries were various. Catches increased rapidly in 1993 due to catches from water reservoirs and main rivers, especially Mae Kong River.

## 2.3 Aquaculture

In 2004, brackish water culture production was 736 thousand metric tons, less than one-third of marine capture production. Nearly half (49 percent) of this production was shrimp, followed by 36 percent green mussel. Shrimp had been the important production since late 1980s, reached the first peak in 1995 after which decreased due to environmental degradation. Shrimp production rose again in 1998,

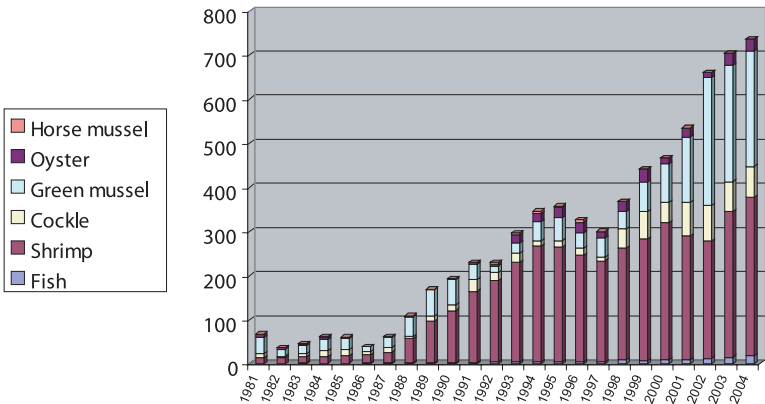
**Figure 4: Thai Inland Capture Catch Composition 1979 – 2004**  
(Thousand metric tons)



*Source:* Thai Fishery Statistics, Department of Fisheries.

shifting from black tiger to white shrimp. Green mussel culture increased significantly since 2000. Other important culture included cockle and oyster. Fish culture, mainly sea bass and grouper, accounted for only 2 percent of total brackish water culture.

**Figure 5: Thai Brackish Water culture Composition: 1981 – 2004**  
(Thousand metric tons)

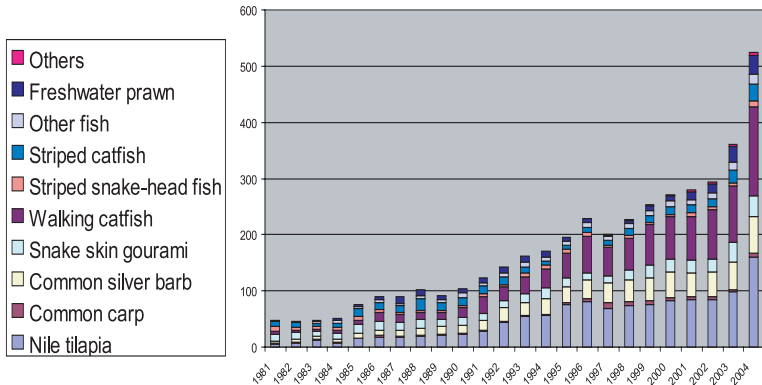


*Source:* Thai Fishery Statistics, Department of Fisheries.

Freshwater aquaculture has long been practiced in Thailand; in 2004, production was 524 thousand tons. Main culture species were Nile tilapia and walking catfish, each sharing nearly one-third of the total production from freshwater culture. Production from this source increased rapidly through the years, with a 31 percent increase in 2004. Recent production was twice as much as those before 2000. There were nearly 30 species cultured. The popular ones included Nile tilapia, walking catfish, common silver barb, snake skin gourami, freshwater prawn, striped catfish, striped snakehead, and common carp.

**Figure 6: Thai Fresh Water Culture Composition  
1981 – 2004**

(Thousand metric tons)



*Source:* Thai Fishery Statistics, Department of Fisheries.

Rapid development in Thai fisheries in early 1960s, mainly due to the introduction of otter board trawl, led to over fishing and soon degraded fishery resources especially in the Gulf of Thailand, as observed from the decreasing catch per unit effort. Due to low returns a number of trawlers shifted to anchovy fisheries while relatively larger trawlers fished outside Thai waters. Degraded coastal fishery resources were burdens on coastal poors who had to rely on fishing as their only source of income. There had been an attempt on developing community-based fishery management/co-management in coastal fishing villages. The community, provided strong community

organization and capable community leaders, could effectively set up effective community fishery management scheme for sustainable fishing. Since early 1980s there had been a number of NGOs working closely with coastal fishermen in an attempt to strengthen local community capacity in fishery management. Department of Fisheries also put an effort on developing co-management in coastal fisheries.

Degraded resource abundant in marine capture fisheries was partially offset by rapid development in coastal shrimp culture which had led Thailand to be one of the largest aquatic product exporters. Nevertheless the first peak of black tiger shrimp culture was in 1996, after which production decreased due to coastal environmental degradation. In late 1990s – early 2000s there was a switch from black tiger shrimp to white shrimp. production.

Inland capture and culture were mainly for domestic consumption and had a tendency to increase through the years.

### **3. Thailand's Fisheries Policies**

With the increasing production from inland and their being small share in Thai fisheries, problems in Thai fisheries were more on marine capture and coastal aquaculture, particularly shrimp culture. Main problems were on degradation both in fishery resources and coastal environment. Five main problems in Thai marine fisheries were fishery resource degradation, lack of effective control on fishing effort, illegal and destructive fishing gears, conflicts between commercial and small scale fisheries, and high cost of fishing, especially high fuel cost.<sup>4</sup>

Thai fisheries policies, recently, put the attempts on sustainable fisheries. During the late 1990s efforts were on Thai sea rehabilitation and development of environmental friendly coastal aquaculture. There were three main targets in National Fisheries Development Plan: fishery resource management, renewal fishery resource abundance, and development of fishery occupation. For fishery resource management, emphases were on effort control via controls on number of fishing vessels, gear restriction, season and area closure, enhancing capability in community-based fisheries management/co-management

for small scale coastal fisheries, and strengthening local capacity in fishery resource management. Renewal fishery resources included environmental control with the emphases on water quality control, renewal resource abundance in fishing grounds, and stock enhancement. Development of fishery occupation was targeted on human resource development via increasing their efficiency and strengthening collective organization. Department of Fisheries in search of more abundant fishing grounds put the effort on enhancing capacity and technology in overseas fishing. There were also initiatives on increasing the production from inland captures and culture as well.

Thailand had been one of the top fishery exporters in the world. Frozen fishery products, especially shrimp and squid, had dominate a large market share in Japan and the United States while canned fishery product from Thailand had a large market share in the United States. Thailand had been the leading exporter for frozen shrimp and canned tuna. To maintain the leading exporter status, Thailand should move toward better quality fishery produces as well as value added fishery products. One of the recent fisheries policies, then, was to produce quality fishery products, for food safety as well as higher foreign exchange earnings. Due to limited quantity of primary fishery products, tariff rates in many importing countries had been reduced, being zero in a number of large importing developed countries. Nevertheless, problem on tariff escalation was often found. Thailand's attempts were on trade liberalization, both on bilateral and regional FTA.

#### **4. Thailand's Involvement in International Cooperation in Fisheries**

Large commercial scale fisheries from Thailand, mostly trawlers, had been fishing outside Thai waters. A number of them had joint venture fisheries in Bangladesh and India, as well as fishing in Myanmar waters. Besides, Thai fishermen also had joint ventures in other countries including Indonesia, Malaysia, Myanmar, Somalia, and Madagascar. For these joint ventures, there had been an agreement on share of local crew on board as well as share of landing in coastal states. There had been an exchange in access to fisheries resources and enhancing fishing crew capacity.

There are regional economic cooperation in fisheries including those in APEC, BIMSTEC, IMT-GT, and IOR-ARC (Indian Ocean Rim Association for Regional Cooperation) which could contribute to regional sustainable fisheries development. For technical cooperation, Thailand has been taking active roles in collaboration with FAO, SEAFDEC (South East Asian Fisheries Development Center), and NACA (network for Aquaculture Center in Asia). Regional offices of these international agencies are located in Bangkok. Department of Fisheries has been working closely with in agencies.

Beside, Thailand has bilateral technical cooperation with developed countries including France, Norway, the United States, Korea, China, and Canada as well as developing countries such as South Africa and Malaysia.

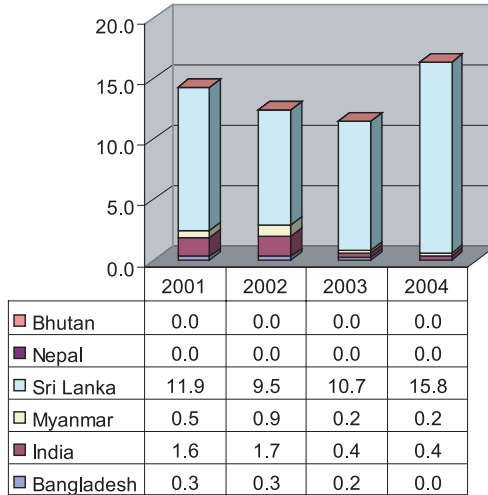
## **5. Relevance of Japan to BIMSTEC Cooperation in Fisheries**

Share of BIMSTEC in world fisheries is less than 10 percent, and including Japan this share is increased to 13 percent. In terms of fisheries consumption, BIMSTEC's share is about the same as production share, while including Japan the consumption share is increased to 17 percent, thereby indicating Japan is a net importing country. Nevertheless Japan has been an important importing country for Thai fishery exports.

Within BIMSTEC Thailand is the net importer. Main fishery imports to Thailand are fresh and frozen fish products (shrimp, squid and fish), which could be re-exported to other countries. While the export from Thailand to other BIMSTEC is around US\$15 million, the import has been increasing to over US\$100 million.

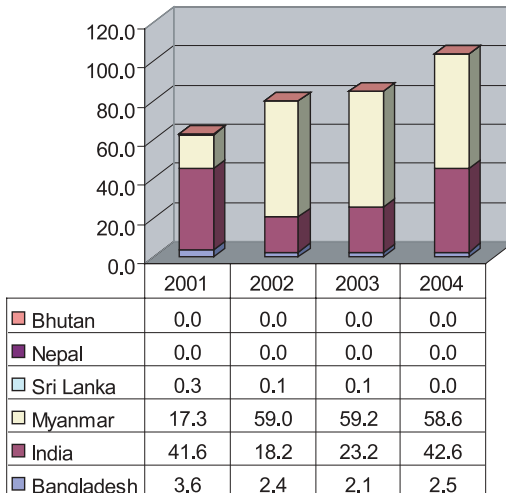
Another important BIMSTEC importing country is Sri Lanka. Main import is dried fish. Next to Sri Lanka is India, importing mainly canned seafood (mostly sardine followed by tuna) and some frozen shrimp from Thailand. Third important Thai importing country is Myanmar, importing canned sardine, dried shrimp, dried fish, and some frozen shrimp and crab.

**Figure 7: BIMSTEC's Fishery Imports from Thailand, 2001-2004**  
(US\$ million)



*Source:* Calculated from the data, reported by Ministry of Commerce, Thai Government

**Figure 8: BIMSTEC's Fishery Exports to Thailand, 2001-2004**  
(US\$ million)



*Source:* Calculated from the data, reported by Ministry of Commerce, Thai Government



Bangladesh used to import live fish from Thailand including those fries and fingerling for aquaculture. Nepal and Bhutan did not have any significant import from Thailand.

Regarding Thai fishery imports from BIMSTEC, Myanmar is the important exporting country, followed by India and Bangladesh. Main imports to Thailand from these countries are mainly frozen shrimp and frozen fish, which are captures from joint venture fishing. Nepal and Bhutan did not have any significant export to Thailand.

## **6. Problems in Fisheries Sector of BIMSTEC Countries**

Increasing demand for fishery products in the international market had led to rapid development in the fishing sector in BIMSTEC. Due to lack of scientific information on fish stock assessment, it is difficult for the governments to effectively manage their fisheries, especially in commercial fisheries. High export earnings, both from the better price, larger catches at lower fishing cost when resources are abundant induced rapid increase in fishing effort which soon led to over exploitation and fishery resource degradation. Coastal small scale fishermen suffered from such depleting fishery resources, due to their limited alternative sources of income. Large scale fishermen could shift to better fishing grounds. Some of large scale fishermen had earned high income during the period of resource abundance, thus had an access to investment in for non-fishing occupations.

Rapid development in coastal shrimp culture could lead to coastal resource degradation in lack of appropriate control on negative environmental impact from shrimp farming. This negative externality is the social cost. It had not been taken into account by shrimp farmers who had been lured by high private return from farming. There is a need for control and correction on this coastal resource degradation. On the other hand, development in coastal areas could lead to coastal environmental degradation, thus decreasing yield from coastal aquaculture.

Due to strong demand for primary fishery products, developed countries had reduced tariff rates on fresh/chilled/frozen products. They were nil in many importing countries in need of raw inputs. Nevertheless, problems of tariff escalation still prevailed. Tariff rates on processed seafood were relatively high which was difficult for exporting countries, mainly less developed countries, to earn foreign exchanges from value added products.

Once import share of less developed countries has been increasing in developed countries, there is a tendency on non-tariff measures against import from developing countries. Often found were the measures on sanitary and phytosanitary as allowed by WTO, rules of origin, ecolabelling, and anti-dumping and countervailing duties. WTO provisions offered channels for reconciliation on trade dispute on these non-tariff measures. Nevertheless developing countries need a better capability in such trade negotiation. Regional collaboration on trade negotiation could strengthen such capacity. Human resource development in trade negotiation could be a benefit, and could be improved through regional collaboration.<sup>5</sup>

## **7. BIMSTEC Cooperation in Fisheries: Policy Options**

### ***7.1 Terms of Reference***

Collaborative development in BIMSTEC could be on the following.

- Human resource development
- Fisheries technical development
- Fisheries and coastal resources sustainable development, and
- Economic development

Human resource development could be in fishing capacity, fisheries management, fish trade and trade negotiation, and capacity in developing community-based fishery management/co-management. Fisheries technical development could be in sustainable fishing techniques as well as fish processing to earn more from value added products. Fisheries and coastal resources sustainable development could be developed from collaborative effort on stock assessment for

a better management planning, scientific data collection on a regional basis, assessment on fisheries and coastal resources valuation, and planning on sustainable development. Economic development could be from a better income for the fishing sector, commercial as well as small scale coastal fishermen.<sup>6</sup>

## 7.2 Activities

Collaborative efforts could be as follows.

- Exchanging technicians and experts in fisheries and aquaculture
- Exchanging information
- Collaborative fisheries resources survey for sustainable stock management
- Compilation of information on fisheries and fisheries related companies
- Compilation of relevant law, import/export laws and regulation among BIMSTEC countries for enhancing fisheries economic cooperation
- Studies of offshore oil and gas drilling on marine fisheries resources in Bay of Bengal
- Fisheries stock assessment, management and development of fisheries in Bay of Bengal
- Nepal to chair sub-sector on inland fisheries
- Workshop of fisheries cooperation for
  - TOR improvement and 3 years action plan formulation
  - Technical consultation on operation plan for ecosystem/integrated coastal zone management in Bay of Bengal Project
  - Coordinating consultation among BIMSTEC countries between Thailand and Nepal

## 8. What a New BIMSTEC should do

Collaboration in BIMSTEC could improve capacity in fisheries sector. Some suggestions are as follow.

- Strengthening fisheries management capacities among member countries both in commercial and small scale coastal fisheries as well as aquaculture and inland fisheries
- Capacity building in use of WTO provision and further negotiation
- Better resource utilization through followings

- o Reduction of post harvest losses
- o Quality control
- o Human resource development
- o Increasing value added from fisheries catches
- o Collaboration for trade negotiations on
  - Tariff rate
  - Non-tariff measures
  - Use of subsidies

## Endnotes

- <sup>1</sup> As calculated from FAO Fisheries Statistics.
- <sup>2</sup> As calculated from FAO Fisheries Statistics.
- <sup>3</sup> Details are also in Ruangrai Tokrisna (2006a)
- <sup>4</sup> Details in Ruangrai Tokrisna (2006 b).
- <sup>5</sup> Details in Ruangrai Tokrisna (2005)
- <sup>6</sup> See also Sebastian Mathew (2003) and Ruangrai Tokrisna (2003 a and b)

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