PART II:

GENERAL TRENDS IN THE FISHERY SECTOR

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1. CONTRIBUTION OF THE FISHERY SECTOR TO NATIONAL ECONOMY

Thailand has a total population of 60 million, with Gross Domestic Product (GDP) of 2,941,183 million Baht (1 Baht = US$ 0.028, 3 October 1997) and Per Capita Income of 69,147 Baht in 1995. Fishery accounts for 1.7% of the country's GDP or 15.2% of the agricultural sector's GDP. Fishery in Thailand has developed rapidly during the last few years. It now contributes largely to the economic development of the country in various aspects. Fishery products is a major source of protein for the Thai people; the annual average consumption is approximately 27 kg per person.

The development of marine fishery leads to the establishment of several linkage industries. The marine product processing industry in Thailand, for example, has been developed before any other country in the region could develop theirs. The industry expanded so rapidly that domestic raw materials became inadequate and had to be imported from abroad. Recently, Thailand became the world's largest exporter of fishery products, accounting for 10% of the total export in 1995.

The 1995 Census of Marine Fishery revealed that the total number of fishery households and employees' households in the country was 109,635. This comprises 50,312 households exclusively engaged in capture fishery; 27,388 households engaged in coastal aquaculture; 3,001 engaged in both marine capture fishery and coastal aquaculture; and 28,934 households were fishery employees. On the whole, the total population in marine fishery was recorded at 535,210 persons.

The fishery census did not include inland fishery. So far, no data has been compiled from this sector, for reference. Thus, it is most difficult to estimate the labor force employed in inland fishery. As a matter of fact, most rice-growing farmers also catch fish, in other words they could also be considered as part-time fishermen. Many rice farmers catch freshwater fishes as a routine activity, for their own domestic consumption.

A survey on freshwater fishfarm production has been conducted since 1974, unfortunately the number of aquaculturists and employees were not recorded in the survey. The number of productive fishfarms however, were recorded, which showed a continuous increasing trend from 61,980 farms in 1990 to 161,504 farms in 1994. The data also indicated that at least 300,000 persons were engaged in freshwater aquaculture in 1994.

Fishing fleets are classified into three broad categories, namely, non-powered boat, outboard-powered boat, and inboard-powered boat. The inboard-powered boat is classified further by tonnage. Thus, the size of inboard-powered boats, classified by gross tonnage, are as follows: less than 5 G.T., 5-10 G.T., 10-20 G.T., 20-30 G.T., 30-50 G.T., 50-100 G.T., and 100 G.T. and over.

The 1995 Census of Marine Fishery also revealed that the total number of fishing boats was 54,715. Of this total, outboard-powered boats comprised the largest group with 36,634 or 67% of the total, followed by the inboard-powered boats, accounting for 14,965 or 27%. The third type of fishing boats, the non-powered boats accounted for 3,116 or 6%.

The production from fisheries in Thailand demonstrated remarkable growth over the last three decades. Thailand is now ranked among the top ten largest fishing nations of the world. Its fishery production exceeded 2 million mt for the first time in 1977. Thereafter it encountered some set backs but recovered to over 2 million mt in 1983 and increased to 3.5 million mt in 1994.

The country's marine fishing ground within its exclusive economic zone (EEZ) lies in part of the Andaman Sea, covers a total area of about 316,000 km^2 with a coastal line of 2,630 km. Before the 1977 proclamation of the EEZ of many countries, Thai fishing fleets operated in four fishing grounds: The Gulf of Thailand, the Andaman Sea, the South China Sea, and the Bay of Bengal. Thailand had lost over 300,000 km^2 of traditional fishing grounds, due to establishment of the EEZs.

In 1994, the total marine catch was 2.8 million mt, valued at 36,337 million Baht (Table 1). Compared with 1990 figures, it increased by 20% in volume and 75% in value. Of the total marine catch, about 70% is caught in the Thai waters and the rest in the waters of other countries. The major type of fishing gear used were otter board trawl, purse seine, and anchovy purse seine. All these accounted for 87% of the total volume of marine products caught in 1994 (Table 2).

The major fishing grounds of Thailand include:

a) Natural water bodies, i.e. rivers, canals, swamps, and lake etc.;

b) Man-made water bodies, i.e. reservoirs, and fish ponds, the area of these two fishing grounds in 1994 totaled 455,924 hectare; and

c) Inland culture area, which spread all over the country. The number of freshwater fish farms in 1994 was 161,504 with a total area of 72,491 ha.

The total production from both capture and culture in 1994 was 373,000 mt, valued at 9.7 million Baht (Table 1). Of this total production, the former contributed about 202,600 mt while the latter, about 170,400 mt. It should be noted that the total production based on the statistical records, may be low because the number of individuals who fish for domestic consumption and for supplementary income, were not officially recorded.

The total area for shrimp culture in 1994 was 74,077 ha, increasing from that of 1990 by 13.4%. The Department of Fisheries (DOF) has a policy to limit the total culture area which should not exceed 76,000 ha in order to maintain an environmental balance. The development of this fishery emphasized on technology improvement and increase in productivity, rather than on area expansion.

The production from shrimp culture in 1994 was 263,446 mt, valued at 39,845 million Baht (Table 3), increasing by 123% in volume and 177% in value from those in 1990. The rapid development of the intensive culture system resulted in increased productivity from 1,809 kg per ha in 1990 to over 3,557 kg per ha in 1994.

On the other hand, grouper and sea bass are the main species cultured in ponds and in cages. In 1994, the production of grouper was 710 mt, valued at 202 million Baht (Table 4), increasing by 69% in volume and 274% in value from those in 1990. The production of sea bass was 2,503 mt, valued at 238 million Baht (Table 4), increasing by 106% in volume and 164% in value compared to those in 1990.

Blood cockle, green mussel, oyster and horse mussel are the main shellfish species cultured. In 1994, the number of farms and culture area were as follows: 558 farm, 2000 ha for blood cockle; 754 farm, 341 ha for green mussel; 2,413 farm, 1324 ha for oysters; and 61 farm, 74 ha for horse mussel. The production and volume of these species during 1990-1994 are shown in Table 5. Only blood cockle showed a decreasing trend while production of oysters and green mussels substantially increased during the same period.

Recently, fishery industries in Thailand have become more and more important to the national economy. In 1994, the disposition of freshwater fish fresh for local consumption was (79.8%), salted and dried (10.9%), steamed or smoked (3.5%) fish sauce and fermented (5.8%) (Table 6). For marine catch, fresh consumption was 15.6%, fresh chilled and frozen (26.0%), canned (15.4%), fish sauce and shrimp paste (3.4%), salted and dried (6.9%), steamed and smoked (0.3%), and fish meal (32.2%), as shown in Table 6.

Fish processing industry has grown rapidly in the last two decades especially the cold storage and canning plants. In 1994, the number of cold storage, canning plants, fish sauce, fishmeal plants were 129, 52, 104 and 115, respectively. In addition, there were other 2,396 small traditional processing plants.

Thailand has had a positive trade balance in fishery products, both in volume and value. The growth of fishing exports and imports during 1990-1996 has been remarkable. In 1996, the volume and value of fishery products exported was 1,146,946 mt valued at 110,781 million Baht (Table 7), 1.7 times more in volume and 3.4 times in value than in 1990. The most important components of the export products were shrimps, canned tuna, squid and cuttlefish. Shrimps were mainly exported to Japan and USA, while canned tuna were exported to the for EU and also to the USA. Furthermore, squid and cuttlefish were for Japan and Italy, and fresh or frozen fish were shipped mainly to Malaysia and Singapore.

Meanwhile, Thailand is also the top importer of fresh/chilled/frozen tuna in the world. In 1996, the total volume and value of imports was 797,386 mt valued at 22,425 million Baht (Table 8), respectively 3.5 times and 3.2 times in volume and value, respectively, compared to the data in 1990.

2. FISHERY CENSUS

The marine fishery census was conducted in 1967, 1985, and 1995 by NSO and DOF. The objectives of the 1995 census are to:

a) Collect data on basic economic structure of marine capture fishery and coastal aquaculture;

b) Collect data on socio-economic characteristics of fishery establishment, fishery employees' households and demographic characteristics of fishermen; and

c) Provide data to be used as a sampling frame for related surveys.

The 1995 Marine Fishery Census covers all marine capture fishery and coastal aquaculture establishments as well as fishery employees' households which are located in the 24 coastal provinces in the central and the southern parts of the country. Complete enumeration by interview method is applied in the census.

All census data are processed using a main frame computer at the NSO Head Office. For the preliminary reports, data are processed using micro-computers (PCs) at the local level. The Fishery Statistics Sub-division under the Fishery Economic Division, DOF, is responsible for the development of the fishery statistical collection system, computerization and publication of fishery statistical yearbook and other statistical reports. In order to compile and compute fishery data, PCs are also used at the Head Office. There is a plan to have these computers connected on-line from the Central Office to the local levels in order to expedite the computation and compilation of fishery statistics. Results of the 1995 census were published in two volumes. A preliminary report presenting the data in list form and the final report of two series showing statistics covering the coastal zone and statistics covering the whole Kingdom, comprising 24 provinces.

Production data from marine fisheries in Thailand has been estimated by the Fisheries Statistics Sub-division from the results of the Marine Fishery Production Survey. The Survey is classified into four sections, as follows:

a) Production from major fishing methods of fishing gear;

b) Production from fishing gear used by fishing communities other than the major fishing methods;

c) Production from coastal aquaculture; and

d) Production from particular fishing methods other than the first three aforementioned sections.

Using the results from the 1967 Marine Fisheries Census, a new marine fishery production survey was designed and a sample survey was launched in 1969. The commencement of the new survey was considerably delayed due to certain difficulties including sourcing of the budget as well as in recruiting and training of field personnel.

The main objective of the production survey is to secure the data necessary for fishery administration and fish stock assessment by providing catch data by species and fishing efforts for each type of fishing gear. The survey commenced in May 1969 and covered catch from marine fishery leaving out the coastal culture. Unfortunately, the new survey in 1970 again encountered shortage in budget, thus, the survey covering the entire calendar year 1970 was not fully implemented until 1971. The survey is being conducted utilizing the DOF field setup with about 70 enumerators. The survey covers all types of marine fishery including mariculture and brackishwater culture.

Marine fisheries in Thailand is broadly classified into:

a) Large scale or off-shore fishery where the number of fishing units is relatively limited by productivity per fishing unit is quite high;

b) Small-scale or coastal fishery which are scattered along the entire coast of the country but productivity is generally low;

c) Coastal culture in certain limited areas; and

d) Specialized fishery e.g., collecting shellfish, sea cucumber, etc.

Four types of marine production surveys are being implemented, as follows:

a) Logbook Survey which covers otter-board trawl, pair trawl, beam trawl, Thai purse seine, Chinese purse seine, anchovy purse seine, luring purse seine, king mackerel gill nets, mackerel encircling gill nets, and push nets;

b) Fishing community survey which covers all types of fishing methods not covered by the Log book survey;

c) Coastal Culture Survey; and

d) Specialized Survey.

The Coastal Culture Survey covers shrimp culture, blood cockle culture, sea mussel culture, and horse mussel culture. On the other hand, the Specialized Survey includes data from the collection shellfishes, seaweeds, sea cucumber, jellyfishes, surf clam, and turtle eggs.

3. LOG BOOK SURVEY

This survey is applied to all major types of fishing methods. In 1971, the country's estimated catch recorded through the Log Book Survey was about 70% of the total catch. When the survey was commenced in 1969, it covered only otter-board trawl, Thai purse seine, Chinese purse seine, and bamboo stake trap. However, after 1983, the number of fishing methods was increased to eleven. In the future, the coverage of the Log Book Survey may be expanded to include some of the fishery which are currently being covered by the Fishing Community Survey. The reasons for this expansion are: (a) compared with the Fishing Community Survey, the Log Book Survey provides estimates with greater accuracy; and (b) for the estimation of the fishing effort, the Log Book Survey is much easier to use than the Fishing Community Survey.

In the Log Book Survey, a fishing unit is regarded as a sampling unit. A fishing unit is defined as a technical unit for a fishing operation normally consisting of boats, gear and crew. In the case of pair trawl, two boats form one fishing unit. As for the Chinese purse seine, one mechanized boat and two non-powered boats are regarded as a fishing unit. On the other hand, each set of bamboo stake trap is considered as a fishing unit.

The operator of a sample unit is requested to keep a record of catch and fishing efforts for each trip by means of a log book. Such record is verified by an enumerator using the invoice of fish transactions maintained by the operators. However, in the case of beam trawl and push net fishing, where the operators do not always keep the invoice of fish transactions, a sample operator is asked to provide the number of fishing days and average catch per day in a previous month. The catch is then estimated from the information provided by the operators.

Four types of questionnaires are used for the Log Book Survey, in order to fix the operational conditions of each fishery. These are for: otter-board trawl and pair trawl; Thai purse seine, Chinese purse seine, anchovy purse seine, mackerel encircling gill net, king mackerel gill net, and luring purse seine; bamboo stake traps; and beam trawl and push nets.

4. FISHING COMMUNITY SURVEY

This survey is applied to small-scale fisheries employing a variety of small fishing gear. A fishing community, identified during the 1967 and 1985 Marine Fisheries Census, is used as a sampling unit. For purposes of fishery statistics, the entire coasts of Thailand is divided into five regions as described previously in the survey of fishery inventory items. Within each region, fishing communities are stratified into A and B in terms of the weighted number of boats. The enumeration for each sample fishing community is done only once a year in January in order to estimate catch by gear and by species in the previous year by using the following steps.

a) A complete list of the fishing households in the previous year is prepared with the help of the chief of the community or of fishermen who are acquainted with the fishery status of the community;

b) For each fishing household, the type of fishing method employed in the previous year is recorded;

c) Based on the results of the listing survey, at least five fishing households are selected at random from each type of fishing method;

d) An enumerator visits the sample fishing households and records the data from such survey items as fishing season, the total number of months in operation, the average monthly catch and species composition in terms of percent of the total; and finally

e) Using this information, an annual catch by species for each sample fishing household, is estimated.

5. COASTAL CULTURE SURVEY

The coastal culture survey is done in order to estimate the total annual production of each type of culture, e.g., shrimp farming, sea mussel farming, blood cockle farming, horse mussel farming; and to estimate the yield per unit area (per rai) for each type of culture. Collection of data is done through listing and sampling surveys.

The list of types of culture from the previous year is prepared at the Central Office. The enumerator brings the list to the chief of a "tambon" where it is reviewed and revised. In case the complete list is not available from the chief of a "tambon", a new list is prepared with the help of the owner of the coastal culture farming or someone who is acquainted with the coastal culture farming in a "tambon."

A sample survey is undertaken simultaneously with the listing survey by interviewing a sample farmer on their yield during the previous year. The sample farmer is systematically selected for each "tambon." The estimate for the total yield gives the total annual production of culture farm by type and yield per unit area (per rai) for each type of culture farm.

6. SPECIALIZED SURVEY

This survey is undertaken in order to estimate the annual production from shellfish collection together with other coastal culture, e.g., seaweed, sea cucumber, jellyfish, turtle eggs. The staff of the Fisheries Statistics Section visit the fishing villages identified every January and collect the respective production data from the previous year. No specific questionnaire is used for the survey. However, in order to avoid any unreasonable error, the enumerators are urged to contact as many local people as possible including fishermen. From them, the catch data is collected and the total annual production of shellfish, jellyfishes, sea cucumber, seaweed, turtle eggs are reported.

7. INLAND FISHERY PRODUCTION SURVEY

Two types of inland fishery survey are being implemented, namely, the freshwater culture survey and inland capture fisheries survey. The freshwater culture survey aims to estimate the total annual production of each species and type of culture, e.g. pond culture, paddy field culture, ditch culture and pen or cage culture; and to estimate the yield per unit area for each type of culture. Collection of data is done through listing and sample surveys.

The list of type of culture from previous year is prepared at the Central Office. The enumerator bring the list to survey areas where it is reviewed and revised. A sample survey is undertaken simultaneously with the listing survey by interviewing a sample farmer on their yield during the previous year. The sample farmer is systematically selected for each survey area. The estimate for the total yield gives the total annual production of culture farm by type and yield per unit area for each type of culture farm.

The inland capture fishery survey aims to estimate the annual production of each type and size of water bodies, e.g. reservoir, lake, swamp and communities pond. Collection of data is done through listing and production surveys, where nationwide water body listing is carried out every five years. Production survey by means of random sampling survey by type and size of water bodies, is also carried out.

Table 1. Fisheries production of Thailand by sub-sectors, 1990-1994.

Year	Total		Marine Fishery				Inland Fishery			
			Capture		Coastal Aquaculture		Capture		Culture	
	Quantity (1000 tons)	Value (mil. baht)	Quantity (1000 tons)	Value (mil. baht)	Quantity (1000 tons)	Value (mil. baht)	Quantity (1000 tons)	Value (mil. baht)	Quantity (1000 tons)	Value (mil. baht)
1990	2,786	41,396	2,362	20,738	193	14,754	127	3,302	104	2,602
1991	2,968	53,026	2,479	26,404	230	20,362	136	2,391	123	2,969
1992	3,240	65,545	2,736	32,833	229	26,235	132	2,999	142	3,478
1993	3,385	78,407	2,753	36,224	296	33,603	175	4,490	162	4,090
1994	3,523	87,001	2,804	36,337	346	40,962	203	4,806	170	4,897

Source: Fisheries Economics Division, Department of Fisheries.

Table 2. Catch of marine fishery by types of fishing gear, 1990-1994.

Fishing Gear	1990		1991		1992		1993		1994	
	(tons)	*%*	*(tons)*	*%*	*(tons)*	*%*	*(tons)*	*%*	*(tons)*	*%*
Otter board trawl	1,092,394	46.2	1,204,913	48.6	1,256,724	45.9	1,352,033	49.1	1,300,008	46.4
Pair trawl	175,683	7.4	193,294	7.8	230,166	8.4	252,552	9.2	212,613	7.6
Beam trawl	242	0.0	347	0.0	225	0.0	323	0.0	1,285	0.0
Purse seine	611,831	25.9	617,303	24.9	675,262	24.7	701,630	25.5	769,509	27.4
Anchovy purse seine	145,681	6.2	120,508	4.9	161,544	5.9	152,850	5.6	155,405	5.5
King mackerel drift gill net	17,317	0.7	14,935	0.6	21,985	0.8	19,377	0.7	15,225	0.5
Mackerel encircling gill net	17,207	0.7	14,413	0.6	12,828	0.5	10,663	0.4	18,323	0.7
Other gill net	57,462	2.4	52,260	2.1	53,949	2.0	55,082	2.0	52,517	1.9
Push net	14,176	0.6	22,094	0.9	20,974	0.8	21,146	0.8	24,821	0.9
Other mobilnet	30,588	1.3	40,445	1.6	40,222	1.5	39,815	1.4	42,172	1.5
Squid light luring	25,845	1.1	25,730	1.0	24,040	0.9	25,974	0.9	26,174	0.9
Hook	6,884	0.3	6,630	0.3	6,249	0.2	5,689	0.2	5,279	0.2
Stationary gear	35,161	1.5	35,569	1.4	34,411	1.3	32,295	1.2	36,870	1.3
Others	131,747	5.6	130,166	5.3	197,773	7.2	83,057	3.0	144,225	5.1
Total	**2,362,218**	**100.0**	**2,478,607**	**100.0**	**2,736,352**	**100.0**	**2,752,486**	**100.0**	**2,804,426**	**100.0**

Source: Fisheries Economics Division, Department of Fisheries

Table 3. Production of marine shrimp culture, 1990-1994

Year	Area (hectare)	Production (tons)	Value (mil. baht)
1990	65,338	118,227	14,365
1991	76,185	162,070	19,834
1992	73,621	184,884	25,500
1993	72,701	225,514	32,425
1994	74,077	263,446	39,845

Source: Fisheries Economics Division, Department of Fisheries

Table 4. Production of brackishwater fish culture, 1990-1994

Year	Grouper		Sea bass	
	Volume (tons)	Value (mil. baht)	Volume (tons)	Value (mil. baht)
1990	421	54	1,214	90
1991	366	99	1,650	132
1992	965	317	2,591	186
1993	756	214	2,747	178
1994	710	202	2,503	238

Source: Fisheries Economics Division, Department of Fisheries

Table 5. Production of shellfish culture, 1990-1994

Year	Bloody cockle		Green mussel		Oyster		Horse mussel	
	Volume (tons)	Value (mil. baht)	Volume (tons)	Value (mil. baht)	Volume (tons)	Value (mil. baht)	Volume (tons)	Value (mil. baht)
1990	12,299	79	58,380	36	1,370	25	933	2
1991	26,442	157	34,455	88	3,311	49	1,092	2
1992	18,804	120	14,032	44	3,774	54	4,003	8
1993	20,577	124	24,391	74	17,810	576	3,572	7
1994	11,324	83	43,082	150	19,273	523	4,836	11

Source: Fisheries Economics Division, Department of Fisheries

Table 6. Fish utilization by disposition channel, 1994.

Disposition	Percentage of fish utilization	
	Marine fish (%)	Freshwater fish (%)
1. Human consumption	**67.8**	**100.0**
- Fresh	15.6	79.8
- Fresh chill & frozen	26.0	-
- Canning	15.4	-
- Steamed or Smoked	0.3	3.6
- Fish sauce, fermented & shrimp paste	3.4	5.8
- Salted & dried	6.9	10.9
- Others	0.2	-
2. Fish meals & Animal stuff	**32.2**	-
Total	**100.0**	**100.0**

Source: Fisheries Economics Division, Department of Fisheries

Table 7. Export of fishery products by commodity, 1990-1996.

Quantity: Ton
Value: Million baht

Commodities	1990		1991		1992		1993		1994		1995		1996	
	Quantiity	Value	Quantiity	Value	Quantiity	Value	Quantiity	Value	Quantiity	Value	Quantiity	Value	Quantiity	Value
Total	**904,978**	**61,070**	**1,087,395**	**78,463**	**1,006,141**	**82,469**	**1,115,078**	**91,018**	**1,214,946**	**110,285**	**1,192,560**	**110,781**	**1,146,946**	**110,781**
1. Aquatic Animal Live	**1,928**	**162**	**1,947**	**164**	**3,841**	**286**	**5,895**	**367**	**6,207**	**395**	**6,592**	**662**	**8,974**	**662**
- Fish	1,928	162	1,947	164	3,275	263	4,073	294	4,602	320	4,881	486	5,877	486
- Others	-	-	-	-	566	23	1,822	73	1,605	75	1,711	177	3,097	177
2. Fresh and Frozen	**338,995**	**29,569**	**421,088**	**40,368**	**386,877**	**45,535**	**489,840**	**52,010**	**535,705**	**64,843**	**541,989**	**60,120**	**526,707**	**60,120**
- Fish	191,990	4,540	237,007	8,141	191,918	8,073	281,584	8,196	286,388	8,454	309,746	9,574	306,833	9,574
- Shrimps	84,724	20,454	121,241	26,681	130,519	31,696	148,887	37,842	187,069	49,156	175,091	43,402	161,462	43,402
- Crabs	289	21	380	38	1,036	115	1,113	111	2,005	177	1,907	185	1,660	185
- Squids	61,992	4,554	62,460	5,508	63,404	5,652	58,256	5,862	60,243	7,056	55,245	6,958	56,752	6,958
3. Salted Dried and Smoked	**27,216**	**1,980**	**28,289**	**2,071**	**25,238**	**2,199**	**24,861**	**2,604**	**20,412**	**1,805**	**22,646**	**1,734**	**21,823**	**1,734**
- Fish	20,542	515	22,553	669	19,426	668	18,952	921	15,925	597	18,235	801	18,858	801
- Shrimps	2,605	411	2,748	554	2,251	445	3,320	778	2,945	690	3,181	574	2,084	574
- Crabs	135	17	223	31	159	26	159	25	100	20	155	20	66	20
- Squids	3,934	1,037	2,765	816	3,402	1,060	2,430	879	1,442	498	1,075	339	815	339
4. Fresh, Frozen and Salted	**10,574**	**552**	**17,338**	**952**	**11,660**	**759**	**8,556**	**720**	**13,809**	**896**	**9,844**	**1,106**	**15,702**	**1,106**
- Molluscs	863	52	723	67	817	67	792	68	1,253	144	773	144	1,005	144
- Others	9,711	500	16,615	885	10,843	692	7,764	653	12,556	752	9,071	962	14,697	962
5. In Airtight Containers	**329,097**	**22,351**	**391,611**	**26,917**	**366,486**	**25,918**	**373,928**	**27,470**	**426,173**	**34,463**	**404,272**	**37,597**	**364,871**	**37,597**
- Sardine	13,688	419	28,090	867	25,853	800	33,387	1,022	33,339	1,033	41,667	1,215	35,707	1,215
- Tuna	232,972	13,717	272,800	16,131	243,591	13,438	229,906	13,063	268,974	15,620	221,244	12,383	188,434	12,383
- Other fish	28,779	1,435	36,455	1,840	40,531	2,035	54,648	2,571	60,712	3,159	69,825	3,941	62,421	3,941
- Shrimps	29,107	4,791	35,582	6,388	39,316	7,825	42,650	9,378	50,666	13,302	58,755	18,707	67,248	18,707
- Crabs	10,041	1,313	9,827	1,176	9,713	1,337	8,779	1,151	6,903	992	8,008	1,023	6,157	1,023
- Squids	4,818	286	4,471	310	2,470	168	1,135	78	365	38	108	59	670	59
- Asari	9,692	390	4,386	205	5,012	315	3,423	207	5,214	320	4,655	268	4,234	268

Table 7. Export of fishery products by commodity, 1990-1996 (cont'n)

Quantity: Ton
Value: Million baht

Commodities	1990		1991		1992		1993		1994		1995		1996	
	Quantiity	Value	Quantiity	Value	Quantiity	Value	Quantiity	Value	Quantiity	Value	Quantiity	Value	Quantiity	Value
6. Not in Airtight Containers	**31,741**	**2,667**	**37,659**	**2,960**	**39,115**	**2,608**	**32,338**	**2,395**	**26,329**	**2,078**	**25,061**	**2,134**	**25.544**	**2,134**
- Sardine	110	8	243	24	142	17	347	31	691	40	394	17	437	17
- Tuna	25,430	1,922	32,477	2,285	35,482	2,113	28,580	1,866	22,880	1,626	20,921	1,683	21,863	1,683
- Squids	4,327	630	4,025	586	2,692	412	3,020	462	2,306	365	3,312	374	2,725	374
- Asari	1,874	106	914	65	799	66	391	37	452	47	434	60	519	60
7. Prepared or Preserved	**3,287**	**203**	**4,796**	**447**	**6,614**	**695**	**5,435**	**623**	**7,645**	**906**	**7,842**	**1,101**	**9,254**	**1,101**
- Lobster	-		22	4	14	4	2	1	5	1	45	24	68	24
- Awabi	-	0	35	8	45	4	45	6	19	2	40	0	1	0
- Others	3,287	203	4,739	435	6,555	687	5,388	617	7,621	940	7,757	1,077	9,185	1,077
8. Fish Meal	**13,051**	**137**	**8,127**	**80**	**1,502**	**16**	**2,045**	**23**	**1,678**	**26**	**1,068**	**8**	**601**	**8**
9. Fish Sauce	**16,002**	**288**	**17,152**	**309**	**18,968**	**346**	**18,321**	**343**	**20,826**	**383**	**25,242**	**466**	**24,061**	**466**
10. Fish Oil	-	-		-		-		-	**83**	**2**	**47**	**0**	**8**	**0**
11. Oyster Sauce	-	-		-		-		-	**512**	**24**	**554**	**34**	**644**	**34**
12. Seaweed & Agar-agar	**137**	**34**	**101**	**33**	**103**	**33**	**103**	**35**	**112**	**44**	**130**	**48**	**109**	**48**
13. Others	**132,950**	**3,127**	**159,287**	**4,163**	**145,737**	**4,075**	**153,756**	**4,428**	**155,455**	**4,419**	**147,273**	**5,770**	**148,648**	**5,770**

Source: Fisheries Economics Division, Department of Fisheries

Table 8. Import of fishery products by commodity, 1990-1996

Quantity: Ton
Value: Million Baht

Commodities	1990		1991		1992		1993		1994		1995		1996	
	Quantiity	Value	Quantiity	Value	Quantiity	Value	Quantiity	Value	Quantiity	Value	Quantiity	Value	Quantiity	Value
Total	**507,737**	**20,653**	**724,668**	**27,353**	**713,967**	**24,569**	**760,919**	**21,629**	**893,588**	**21,329**	**872,828**	**21,925**	**797,386**	**22,425**
1. Fresh and Frozen	**431,403**	**19,053**	**611,036**	**25,271**	**580,372**	**21,945**	**560,040**	**17,818**	**615,275**	**16,525**	**603,395**	**16,699**	**553,616**	**6,819**
- Fish	426,973	18,770	598,419	24,538	563,886	20,720	539,366	16,294	568,944	13,967	560,297	12,444	510,385	12,670
- Shrimps	1,361	175	6,010	349	3,495	437	4,824	717	7,367	853	9,954	1,652	9,344	1,561
- Crabs	607	63	969	165	2,711	445	1,831	235	2,063	217	2,772	555	2,629	540
- Squids	2,462	45	5,638	218	10,280	344	14,019	571	36,901	1,487	30,372	2,048	31,258	2,048
2. Salted, Dried and Smoked	**1,981**	**167**	**3,286**	**214**	**3,935**	**198**	**7,121**	**383**	**4,241**	**213**	**3,592**	**106**	**2,169**	**95**
- Fish	363	26	38	11	567	33	1,361	50	2,648	76	3,072	79	1,514	64
- Shrimps	94	6	10	1	1	1		-	2	3	61	4	-	0
- Crabss	149	12	314	39	3	0	53	6	34	5	56	9	37	7
- Squids	1,375	124	2,924	162	3,364	163	5,707	327	1,538	129	403	14	618	23
3. Fresh, Frozen and Salted	**32,634**	**132**	**36,925**	**149**	**43,178**	**222**	**36,674**	**179**	**42,965**	**256**	**43,227**	**247**	**28,641**	**197**
- Molluscs	32,388	125	36,808	144	43,123	217	36,163	172	41,404	228	42,142	185	28,097	137
- Others	246	6	117	5	55	6	511	7	1,561	29	1,085	62	544	60
4. In Airtight Containers	**8,045**	**204**	**10,667**	**136**	**7,943**	**151**	**6,252**	**176**	**10,684**	**242**	**7,883**	**202**	**6,820**	**191**
- Fish	1,279	82	57	10	138	13	264	21	299	25	157	16	462	28
- Shrimps	5,813	30	9,761	48	6,948	55	4,981	58	9,035	79	6,711	83	5,461	65
- Crabs	951	91	788	75	638	72	947	93	1,348	138	983	102	864	95
- Others	2	0	61	3	219	11	60	4	2	1	32	1	33	3
5. Fish meal	-	-		-		-	**124,130**	**2,015**	**189,964**	**2,791**	**171,467**	**2,627**	**160,554**	**2,815**
6. Fish oil	**4,429**	**80**	**5,304**	**73**	**4,021**	**62**	**4,113**	**74**	**5,880**	**103**	**8,785**	**149**	**8,181**	**139**
7. Oyster Sauce	**237**	**7**	**190**	**5**	**233**	**8**	**277**	**11**	**336**	**12**	**359**	**12**	**373**	**14**
8. Seaweed & Agar-agar	**434**	**225**	**433**	**227**	**582**	**304**	**684**	**330**	**899**	**463**	**914**	**424**	**1,226**	**567**
9. Other	**28,574**	**785**	**56,827**	**1,277**	**73,703**	**1,680**	**21,628**	**644**	**23,339**	**722**	**33,188**	**1,457**	**35,791**	**1,587**

Source: Fisheries Economics Division, Department of Fisheries