



# Statistical Summary

## An Overview of Fishery Sector for The South China Sea Area 1998

### 1. The Fisheries Sector

The contributions of fisheries sector to food security, social and economic development are recognized worldwide. The rapid growth in demand for fish production as being a low cost animal protein has increased manifold for the past decades. This has substantially contributed to the vast expansion of fisheries industries around the world particularly in the Southeast Asian region. The current decline in fish production and degradation of the aquatic environment is therefore becoming of grave concern to the Southeast Asian region. This has called for a need to investigate the current status of fisheries as well as ways and means to cope up with its sustainability and contribution to national development and food security for the generations to come. In this regard, fishery statistics is widely accepted to provide a basis and are crucial to the determination of national fisheries policy, the formulation of national management frameworks and actions or even as a basis for understanding the status and condition of the fishery resources.

In common with previous bulletins the fisheries of the region are reported as marine fisheries, inland fisheries and aquaculture; the marine fisheries are further defined into small-scale (coastal or near shore fisheries, however, definitions of this differ) and large-scale (also referred to as offshore and deep sea) fisheries. The figures are reported both in metric tons and in total value in US\$. In general, capture fisheries are either stable or in decline. Accordingly there will be an increasingly significant role for aquaculture in the region because of its less obscure environment and ease of management, aquaculture is assuming a greater importance in the drive toward sustainable protein from aquatic sources while marine fisheries focus upon coastal and resource management rather than fishing development *per se*. However, there is still heavy exploitation of marine resources in the region.

During 1998 a total quantity of 15,797,165 MT was taken valued at US\$ 9,272,425 million, which compared with 1997 represents an increase in quantity of approximately 2.8%, but a decrease in revenue. Marine fishery production in 1998 featured a modest increase of around 1,323,711 MT, and aquaculture also shows an increase both in quantity and value of 607,766 MT and US\$ 800,426, respectively, compared to 1997. Inland fisheries production for this reporting period shows an increase of 423,671 MT representing a decrease in revenue of US\$ 203,547 due to the unavailability of figures from Cambodia and Malaysia.

In common with previous years and reflecting the differing size of market demand, Indonesia returned the highest production figures at 4,642,209 MT with Thailand at 3,305,840 MT a close second in quantity. In descending order comes the Philippines with 2,786,335 MT, Vietnam pro-

duced 1,668,530 MT, followed by Malaysia with 1,353,196 MT. Myanmar with 1,011,000 MT, and Taiwan took 509,015 MT, Cambodia had 122,000 MT, with Hong Kong of 186,164 MT. The two countries with the lowest catch were Singapore with 11,519 MT and lastly Brunei Darussalam with 1,357 MT. Total production since 1994 shows only a very slowly increasing trend, the increase in 1998 from 1994 being 1,659,521 MT. The average yearly increase shows a figure of 331,904 MT.

In terms of value, figures are not available from Cambodia, Indonesia and Myanmar. With three countries not reporting, the regional picture is unclear, however, of those countries who reported and in common with previous years, Thailand led the way with  $2,995,346 \times 10^3$  US\$ followed by the Philippines with  $2,075,768 \times 10^3$  US\$. Again in descending order Taiwan earned  $1,385,716 \times 10^3$  US\$, Vietnam earned  $1,356,724 \times 10^3$  US\$, Malaysia reported  $1,140,691 \times 10^3$  US\$. Hong Kong reported  $293,351 \times 10^3$  US\$, Singapore earned  $20,865 \times 10^3$  US\$ and lastly Brunei Darussalam earned  $3,964 \times 10^3$  US\$. Three countries did not report their overall figures representing total value so the collective figures are distorted.

## **2. Marine Fisheries (in quantity and landed value)**

In 1998, marine fisheries contributed some 74% or 11,628,236 MT of total fisheries production. This represents an increase of 13% over 1997. The total value in relation to the total production value is 47% or  $4,369,485 \times 10^3$  US\$. Although individual countries have all reported production figures value figures for four countries are not available. Thus, in terms of production the picture is viable, but in terms of value the overall figures are distorted. In terms of production, Indonesia ranks first with 3,723,746 MT representing 32% of the total, no data is available for value. A close second was Thailand with 2,708,968 MT or 23% of total production, the value data for Thailand is  $1,163,559 \times 10^3$  US\$ or 27% of the whole. The Philippines was placed third with a production of 1,685,208 MT or 14% of the total. The value to the Philippines was  $1,378,628 \times 10^3$  US\$ representing 32% of the total. Malaysia landed 1,215,206 MT or 10%. The value to Malaysia was  $973,781 \times 10^3$  US\$ or 27% of the whole. Next in line was Vietnam with 1,060,660 MT or 9% of the total production. The value to Vietnam was not reported. Taiwan took 253,330 MT in marine fisheries, which is 2.2% of the whole. The reported value for Taiwan was  $565,293 \times 10^3$  US\$ being 13% of the overall total. Hong Kong was next with 180,000 MT or 1.5%, this had a value of  $271,143 \times 10^3$  US\$ at 6% of the total value. The Cambodian catch was 32,200 MT, which is 0.27% with no figures available for value. Singapore landed 7,733 MT or 0.07% was valued at  $14,129 \times 10^3$  US\$ or 0.32%. Last on the list is Brunei Darussalam landing 1,185 MT, 0.012% valued at  $2,962 \times 10^3$  US\$, which is 0.07% of the total reported value.

The period 1994 to 1998 saw an increase in production of 1,883,511 MT showing a decrease in landed value of  $782,787 \times 10^3$  US\$, or 15.2% of total value over the period. During the same period Indonesia increased production by 643,578 MT, which in value is not reported. The catch for Thailand in 1998 decreased from the 1994 figures by 95,458 MT, with the value decreased by  $270,427 \times 10^3$  US\$, this is a decrease of 18.9%. The Philippines data shows an increase of 39,033 MT in 1998 relative to 1994. The value decrease was  $250,523 \times 10^3$  US\$ or 15.4% in terms of 1998 value. Malaysia increased production in 1998 relative to 1994 by some 149,621 MT, the value

decreased by  $12,591 \times 10^3$  US\$ or 1.3% relative to 1994. Vietnam, while not reporting value, increased production by 19.2% over 1994 by landing 170,662 MT more. Taiwan decreased their catch in 1998 by 34,748 MT relative to 1994, the value also decreased by  $172,187 \times 10^3$  US\$ a percentage decrease of 23.3% relative to 1994. Hong Kong also decreased their catch by 31,010 MT in 1998 relative to 1994, the reported value also decreased by  $29,970 \times 10^3$  US\$ or 10% of that of 1994. Cambodia landed more catch in 1998 compared to 1994 by some 2,200 MT with no figures available for value. Singapore also recorded less catch in 1998 compared to 1994 by 3,546 MT. As also, the reported value decreased by  $9,731 \times 10^3$  US\$, a decrease over 1994 of 40.8%. The last reporting country Brunei Darussalam decreased both catch and value by 3,819 MT and by  $13,358 \times 10^3$  US\$. These are 76.3 and 81.9%, respectively in respect of the 1994 data.

In regional terms the total of species landings show that the Jacks, mullets and sauries group were most heavily fished at 1,356,764 MT (11.7% of the regional total of fish landed). Round scads formed the largest catch at 506,307 MT (37.3% of the group total) this is followed with 208,448 MT (15.4% of the group total) of Selar scads. The next most heavily fished categories are the Red fishes, basses and congers as a group featured with a total catch of 1,343,767 MT (11.6% of the regional total catch) with the Threadfin breems being the most heavily exploited at 284,932 (21.2% of the group). The next most heavily fished are Herrings, sardines and anchovies group at 1,201,731 MT (10.3% of the regional fish total). In this group, the most heavily caught fish were the Sardines at 634,240 MT (52.8% of the group total) followed by Anchovies at 507,282 MT (42.2% of the group). Tunas formed the next most heavily fished group with 1,141,036 MT (9.8% of the regional total fish) with the Eastern Little Tuna as the most heavily exploited at 360,187 MT (31.6% of the Tunas group). The Eastern little tuna was closely followed by the take of Skipjack at 228,543 MT (20% of the group). Another major group of species landed was the Mackerels with a regional total of 858,676 MT or 7.4% of the whole. Indian mackerels at 394,364 MT and Indo-pacific mackerel at 360,279 MT (being 45.9 and 42% of the group total, respectively). Trash fish formed 16% of the regional total catch at 1,863,393 MT. Miscellaneous fish was landed at 1,015,126 MT (8.3% of the regional total catch). In the Crustaceans group with landings of 617,213 MT, Other prawns formed the greatest total at 280,893 MT and Penaeid prawns at 149,233 MT were in the majority forming 45.5 and 24.2% of the group, respectively. Of the Crabs only the Swimming crabs featured to any extent at 122,282 MT (19.8% of the Crustaceans group).

The regional breakdown and analysis by value is not fully reported with Cambodia, Indonesia, Myanmar and Vietnam failing to report value figures. However, the indication is Other Prawns carried the highest value with Miscellaneous fish, Penaeid Prawn, Indo-Pacific mackerel, Squids, Jack and Cavalla, Threadfin breems, Round scads, and King Mackerel following.

From the breakdown on species, Indonesia led the way with a marine catch of 3,723,746 MT. This is 32% of the regional total of Tunas caught and represents 19% of the total Indonesian catch figures of all categories. Of the various species of Tunas, the Eastern Little Tuna formed the greatest proportion at 236,673 MT (33.5% of the total Tunas). The next greatest catch was Skipjack at 227,068 MT (32.1%) and thirdly, Frigate and Bullet tuna returned exactly similar figures at 168,122 MT (23.8%). For Jacks, mullets and sauries with Round scads catches were reported as

352,618 MT representing 50.1% of that species group with 128,459 MT of Selar scads (18.2%). Red fishes, basses and conger etc. the catch was 459,795 MT (34.2% of the regional total). The Herrings, sardines and anchovies group 4,7,097 MT (33.9% of the regional total) were led by the Sardines catch at 210,977 MT (51.8% of the species group total). Two other notable catch levels were Mackerels and Crustaceans at 264,663 MT (30.8% of the regional catch total) and 243,889 MT (39.5% of the region s total). The major proportion of crustaceans were Penaeid prawns at 102,909 MT (42.2% of the national total) and other shrimp species at 87,200 MT (35.8%). Miscellaneous marine fish accounted for landings of 456,546 MT (7.8% of the total fish catch for Indonesia). Indonesia also harvested by far the greatest quantity of Miscellaneous aquatic plants (Seaweeds) at 47,515 MT, which is 99.9% of the reported regional total.

The nation with the next highest catch was Thailand at 2,708,968 MT (23.3% of the regional total catch) with the Herrings, sardines and anchovies group making up the greatest proportion at 355,444 MT (13.1% of the total national catch). In this group Sardines led at 185,858 MT (52.3% of the group national total) next were Anchovies 157,214 MT (44.2% of the national total). By far the greatest catch of all was trash fish at 764,991 MT, which is 28.2% of the overall national catch. Thailand led the region in the landing of Molluscs with 257,001 MT representing 35.7% of the regional total. Mackerel at 213,401 MT with Indo-pacific Mackerel forming by far the greatest proportion at 151,010 MT (70.8% of the group national catch). In Thailand, Red fishes, basses and congers represented a total catch of 327,529 MT (24.4% of the regional total) of these species the greatest proportion were Lizard fish at 76,467 MT, or 23.3% of the national catch of these species.

The third most productive nation was the Philippines with a total production of 1,685,208 MT (14.5% of the whole).

### 3. Inland Fisheries

With only eight countries reporting their inland fisheries data and only three reporting their value data, the total figures under this section are distorted. Where individual countries have reported both sets of data more reliance may be placed on the resulting figure.

During this 5-year reporting period, other than for Vietnam over 1996 and 1997, Indonesia led with consistently higher figures than any other reporting country, however, the figures for 1998 are lower than for any other year in the period at 288,666 MT, but still represent 27.8% of the reported total. Myanmar reported 251,000 MT or 24.2% of the total in 1998. Cambodia reported data of 75,700 MT with reasonable steady returns over the reporting period. The data from Thailand for 1998 was 202,300 or 19.5% of the whole, until 1996 the Thai figures had steadily increased, reducing in 1997 by 1.63% and increasing in 1998 by 10.4%. The Philippines reports 146,471 MT in 1998 which is the last figure in a steadily reducing sequence since 1994 when 205,731 MT was recorded. Malaysia reported 4,344 MT, which is 0.4% of the total. The last of the reporting countries is Taiwan with 467 MT, 0.04% of the total.

In terms of value only three countries reported data. Thailand, at  $184,885 \times 10^3$  US\$, the Philippines at  $57,027 \times 10^3$  US\$ and Taiwan at  $719 \times 10^3$  US\$ was the last reporting country. The percentages have not been calculated because the lack of data renders any conclusion unreliable.

During 1998 Indonesia reported the greatest production of 288,666 MT with the Miscellaneous group leading with 101,274 MT, however, as in previous analyses, no value was reported. In terms of named species, Indonesia produced 42,643 MT in the Carps and barbels group, 17,865 MT in the Tilapia group, 33,944 MT in the Catfish group. Other Indonesian figures of note were the Gouramis at 37,534 MT and Snakeheads at 34,361 MT. The production of Freshwater molluscs does not figure highly in any country's reported data except in the Philippines with a production of 90,154 MT, but other than the production of Tilapia at 23,477 MT the freshwater production data from the Philippines is unremarkable. The second country in this league is Myanmar with a reported total of 251,000 MT, however, there are no species breakdown reports, the same to Cambodia, the fifth rank of 233,000 MT. Third in the regional countries is Thailand with 202,300 MT, the predominant data being the Miscellaneous fish group at 68,067 MT followed by the Carps and barbels group at 55,900 MT with the Tilapia group third in the list of 40,200 MT and Snakehead fourth at 16,700 MT. In terms of reported value the following countries did not report Brunei Darussalam, Cambodia, Hong Kong, Indonesia, Malaysia, Myanmar, Singapore and Viet Nam. Thus any conclusions drawn from the reported data is unreliable. From those countries that submitted reports, Thailand leads the way with  $184,885 \times 10^3$  US\$ with the Miscellaneous group of fish contributing the most at  $54,382 \times 10^3$  US\$. The Carps and barbels group contribution was the next highest value at  $40,765 \times 10^3$  US\$ and the Tilapia group next at  $31,938 \times 10^3$  US\$, the Snakehead following at  $24,143 \times 10^3$  US\$ and the Catfishes at  $19,122 \times 10^3$  US\$.

#### 4. Aquaculture

Under Aquaculture, the data included Mariculture, Brackishwater culture and Freshwater culture. For 1998, the Philippines is the lead country in terms of production quantities at 954,656 MT, with reported value of  $640,122 \times 10^3$  US\$. Thailand is the lead country in terms of value with  $1,646,902 \times 10^3$  US\$ (35.3% of the regional total). Aquaculture production of Indonesia in 1998 was 629,797 MT but there are no reported value figures. There are no reported data during the five-years from 1993 to 1997 for Indonesia and Myanmar.

The Philippines figures for 1998 show a small decline over the previous year, but there was a steady increase from 1994 to 1996. In 1998 the Philippines recorded 954,656 MT which is 30.5% of the total. Indonesia reported 629,797 MT or 26.1% of the whole while Thailand reported 499,900 MT or 19.9%. Taiwan reported 594,572 MT or 19%, Cambodia reported 14,100 MT or 0.5%, Hong Kong reported 6,164 MT, 0.2%, Singapore had 3,786 MT, 0.12% and Brunei Darussalam reported 172 MT, a negligible percentage.

Aquaculture value figures in 1998 for the reporting countries show an increase over 1994 of  $61,757 \times 10^3$  US\$ representing a percentage increase of 1.3 in total. Thailand led the field in 1998 with a

reported figure of  $1,646,902 \times 10^3$  US\$, which is 35.5% of the whole. Next in line is Vietnam with  $1,356,724 \times 10^3$  US\$, 29.1%, Taiwan reported values of  $819,705 \times 10^3$  US\$, 17.6% followed by the Philippines at  $640,122 \times 10^3$  US\$ or 13.7%, Malaysia at  $166,910 \times 10^3$  US\$ or 3.6%, Hong Kong at  $22,208 \times 10^3$  US\$ or 0.5%, Singapore at  $6,736 \times 10^3$  US\$ or 0.1%. The last of the reporting countries is Brunei Darussalam with  $1,002 \times 10^3$ , again a negligible percentage. No data is reported for Cambodia, Indonesia, and Myanmar.

#### 4.1 Mariculture

In this sphere of activity, the culturing of Blood cockles at 170,017 MT with a value of  $16,096 \times 10^3$  US\$ shows the greatest production as coming from Malaysia at 81,7175 MT. Among other Molluscs, Sea Mussels predominate at 82,646 MT (9.2% of the regional total) followed by which is 48.1% of the region's figures. Flat Oysters at 44,936 MT (5%), however, the value figures are reversed with Cupped Oysters showing the greater value. Taiwan led the field in Cupped Oyster production at  $101,426 \times 10^3$  US\$ (98.7% of the regional total). The value figures are Cupped Oysters at 102,769 ( $44.2\%$  of the regional total) with a production of  $19,588 \times 10^3$  MT, or, 2.2% of the region's total figures.

The culturing of fish is not so prevalent in the region except for Taiwan who produced 889 MT of Breems with a value of  $7,051 \times 10^3$  US\$.

#### 4.2 Brackishwater culture

Out of a total yield of 873,737 MT and a total value of  $2,350,206 \times 10^3$  US\$, Tiger prawn is the most valuable regional species both in quantity and value at 336,865 MT with an overall value of  $115,461 \times 10^3$  US\$, in national terms Thailand was the leading producer with 247,458 MT and a market value of  $44,377 \times 10^3$  US\$ (38.4% of the regional value), when compared with the total brackishwater production yield in Thailand, this is 94.6%. In terms of the largest producer, Indonesia leads with 353,750 MT, but no value figures are reported. Of this figure the largest component is Milkfish at 158,666 MT, or 44.9% of the national total. Indonesia also cultured 74,824 MT of Tiger prawns, however, no value figures are reported.

#### 4.3 Freshwater culture

During 1998 Indonesia led the field with 281,047 MT the predominant species being the Carps and barbels group with 215,316 MT, but there are no figures for value reported. The next major producer is Thailand with 226,932 MT, here the predominant species is the Tilapia group. The majority production in the region in 1998 was the Carp and barbels group with a reported total of 215,316 MT, but the Tilapia group follows closely with 161,083 MT. In terms of value the Tilapia contributed  $46,132 \times 10^3$  US\$ to the regional total, however, Taiwan shows the highest total value in the region with  $414,428 \times 10^3$  US\$ composed of eels (Anguillidae, the only country producing them) represented by 17,126 MT of production. In order of regional reported value contribution, Taiwan led with  $414,428 \times 10^3$  US\$ followed by Thailand  $167,193 \times 10^3$  US\$, Myanmar  $105,227 \times$

10<sup>3</sup> US\$, Malaysia with 49,817 x 10<sup>3</sup> US\$, Hong Kong with 10,641 x 10<sup>3</sup> US\$, Singapore reported 1,988 x 10<sup>3</sup> US\$ and lastly, Brunei Darussalam with 97 x 10<sup>3</sup> US\$. There are no reported figures for both production and value of the Philippines. The collective total for the region is 749,391 x 10<sup>3</sup> US\$.

## 5. Fishing gear analysis

An analysis of the types of fishing gear used in the region shows that the most prevalent is hook and line with 266,315 in use, or 23.6% of the whole. The Gill Net use shows 225,369. This is 20% of all types of gear used. The total of the different types of gear used in the region is 1,129,228. In terms of fishing effort and population density, Indonesia is leading fishing gear user 247,905 using hook and line, this is 93.09% of the regional total for this gear, similarly, Indonesia reports the use of 188,603 Gill Nets, or 83.69% of the regional figures. The regional total of Purse seine Nets is 42,696 with Indonesia reporting the use of 41,651, or 97.6%.

The figures for gear used are not conclusive as several countries including the Philippines, the third largest fishing nation, Myanmar, Cambodia and Vietnam did not report the types of gear used.

The order of precedence of fishing gear use and preference, is Hook and Line (266,315), Gill Nets (225,369), Lift Nets (106,755), Traps (75,015), Seine Nets (42,696), Surrounding Nets (13,812), Trawls (13,445) and Push Nets (1,747).

## 6. Number of Fishing Boats by Type and Tonnage

The figures included in this section are only the boats that are registered in each nation. Myanmar, the Philippines and Vietnam have not reported their fishing boat numbers for 1998. Indonesia reports by far the greatest number of boats at 412,702 of which 225,428 were non-powered vessels. Of the 187,274 powered boats 100,344 are outboard powered while in the number of inboard powered vessels those of less than 5 tons are in the majority. By comparison with Indonesia the next highest is Malaysia with 32,846 and the majority is out-board of 29,990. The range in other regional nations is from 26,313 in Taiwan, 18,439 in Thailand to 211 in Singapore.

## 7. Number of Fishermen by Working Status

Myanmar, the Philippines and Vietnam have not reported their fishermen numbers for 1998. The number of Indonesian fishermen in 1998 was 2,273,364 of which 1,152,656 or 50.7 % are full-time fishermen. Taiwan reported 278,404 fishermen of which 172,024 or 61.8 % are full-time fishermen. Thailand recorded 157,377 fishermen of which 123,512 or 78.5 % are full-time fishermen. For Malaysia, their fishermen numbers were 81,547 all of whom are full-time fishermen, the same is true for Hong Kong, Cambodia and Singapore who reported the number of fishermen as 12,900; 10,508 and 289, respectively. The number of Brunei fishermen in 1998 was 809 and 350 and 459 are full-time fishermen and part-time fishermen (Partly engaged in fishing), respectively.

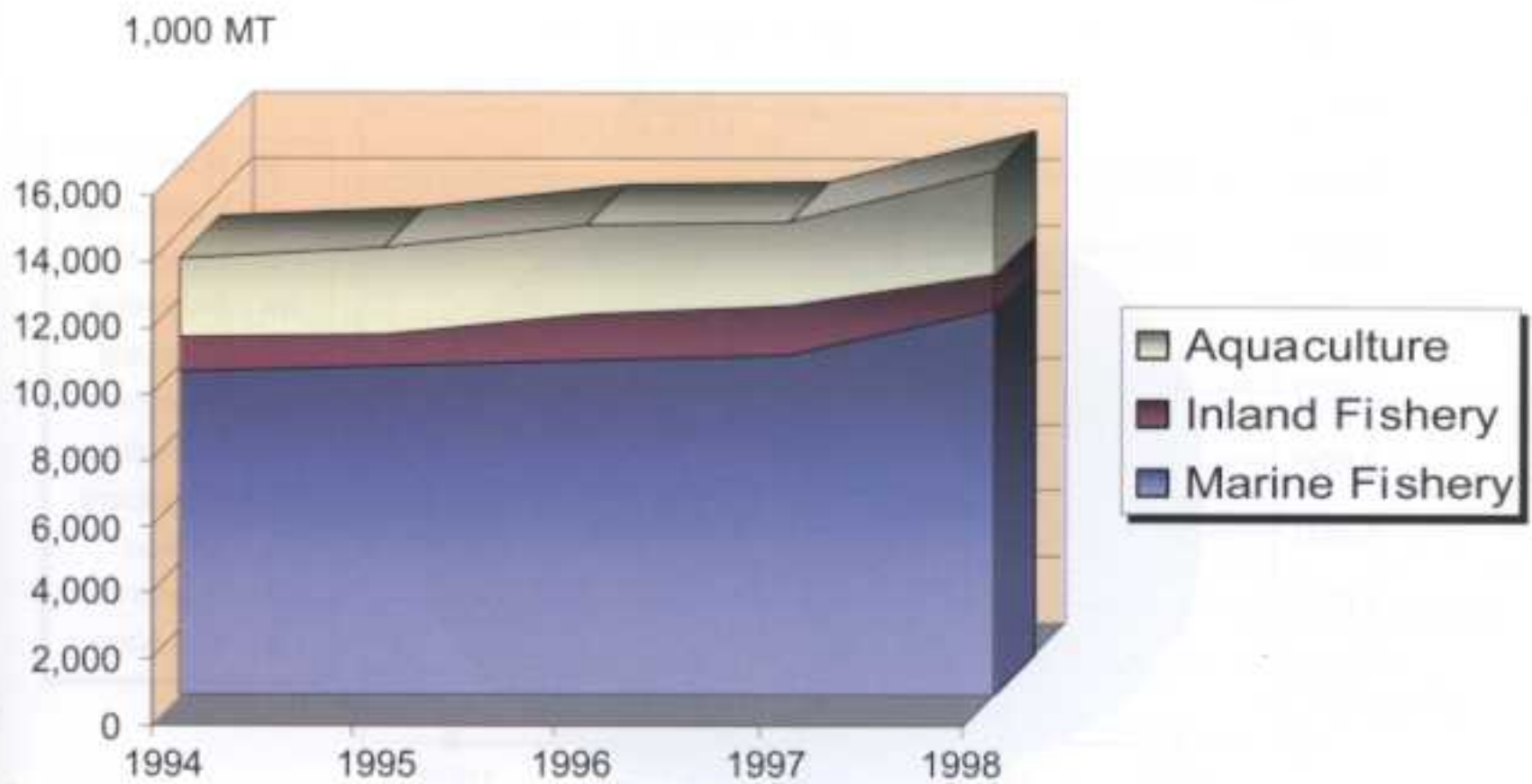


## 8. Number of Fishing Establishments by Types and Sizes of Management

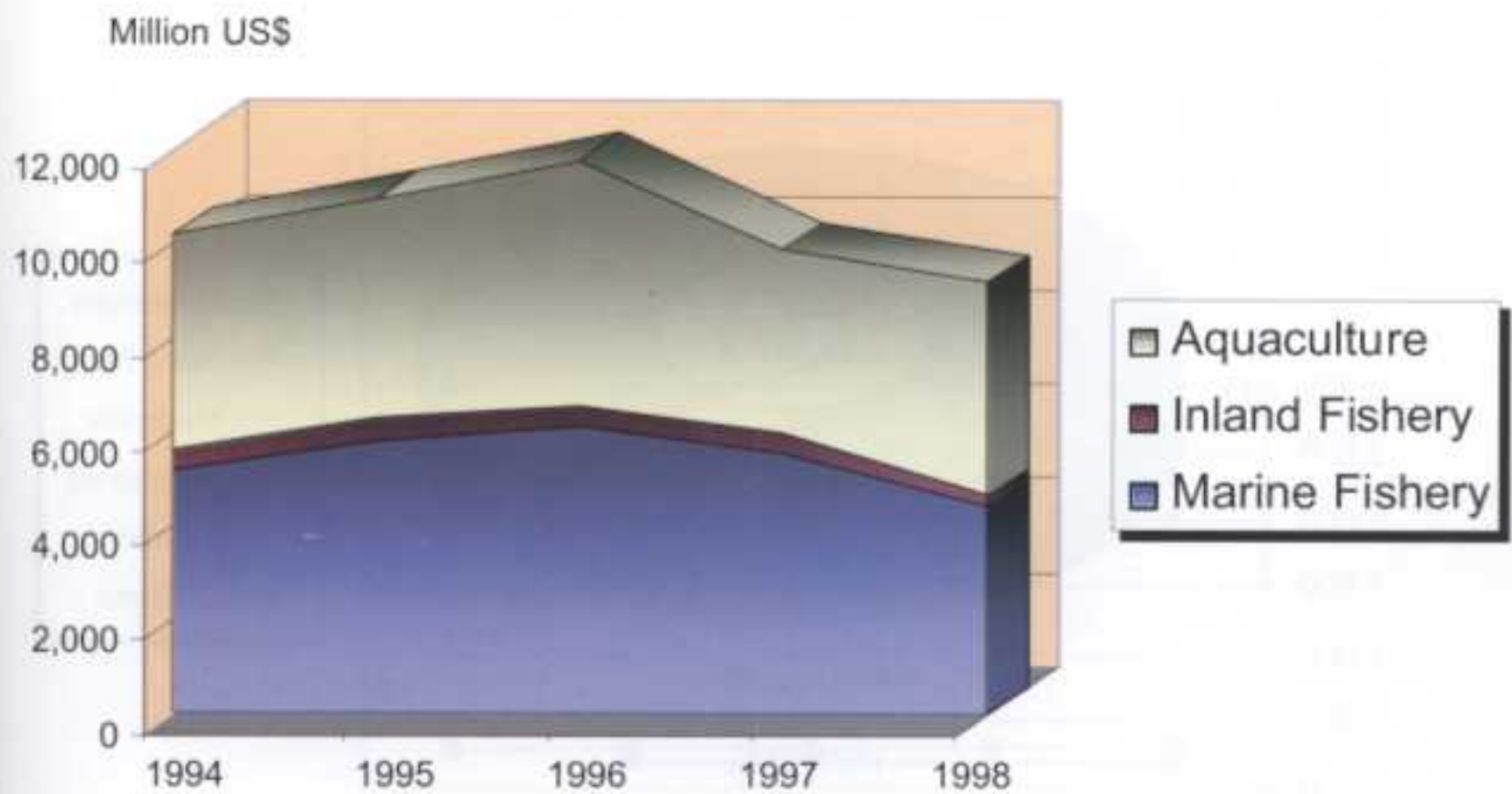
The number of Indonesian fishing establishments in 1998 was 453,333 of which 220,427 or 48.6% are non-powered boats. Of the 181,530 powered boats 98,257 (54.1%) are outboard driven. The greatest proportion of inboard powered boats 56,900 or 68.3% is less than 5 tons. Indonesia did not report the types of management. Of those countries who did report Thailand show a total figure of 53,112 establishments of which 51,668 (97.3%) are individually managed. Taiwan reports 776 private companies operating and 112 in Brunei Darussalam while there are only 24 companies operating in Thailand. Thailand reports their number of fishing establishments by size of management as 53,112. Of the 47,486 powered boats 35,613 (75%) are outboard powered boat and the major proportion of inboard powered boats 3,628 or 30.6% is less than 5 tons. Seven countries failed to report their fishing establishments.

# 1. Fishery Production 1994-1998

(1) In quantity



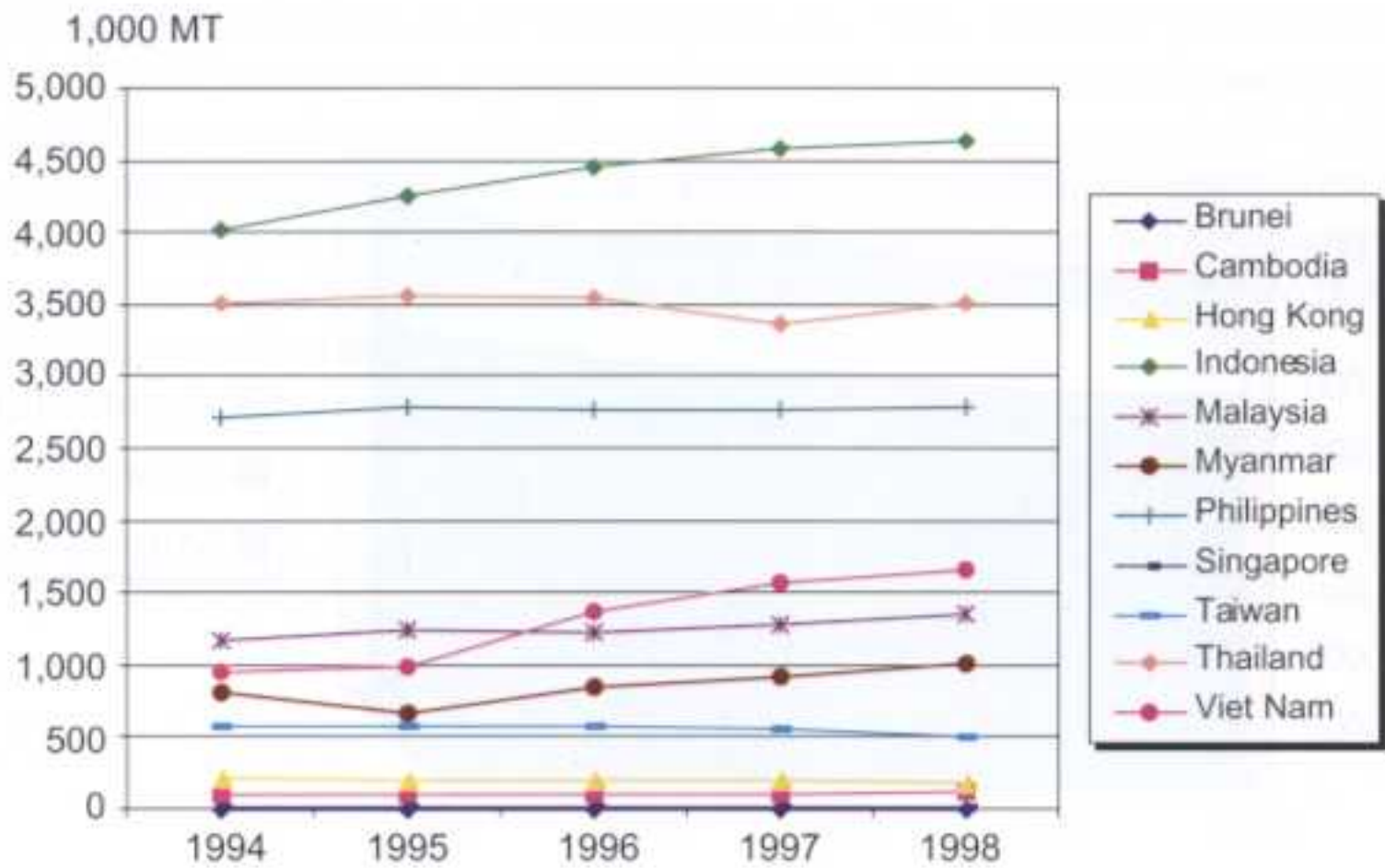
(2) In value



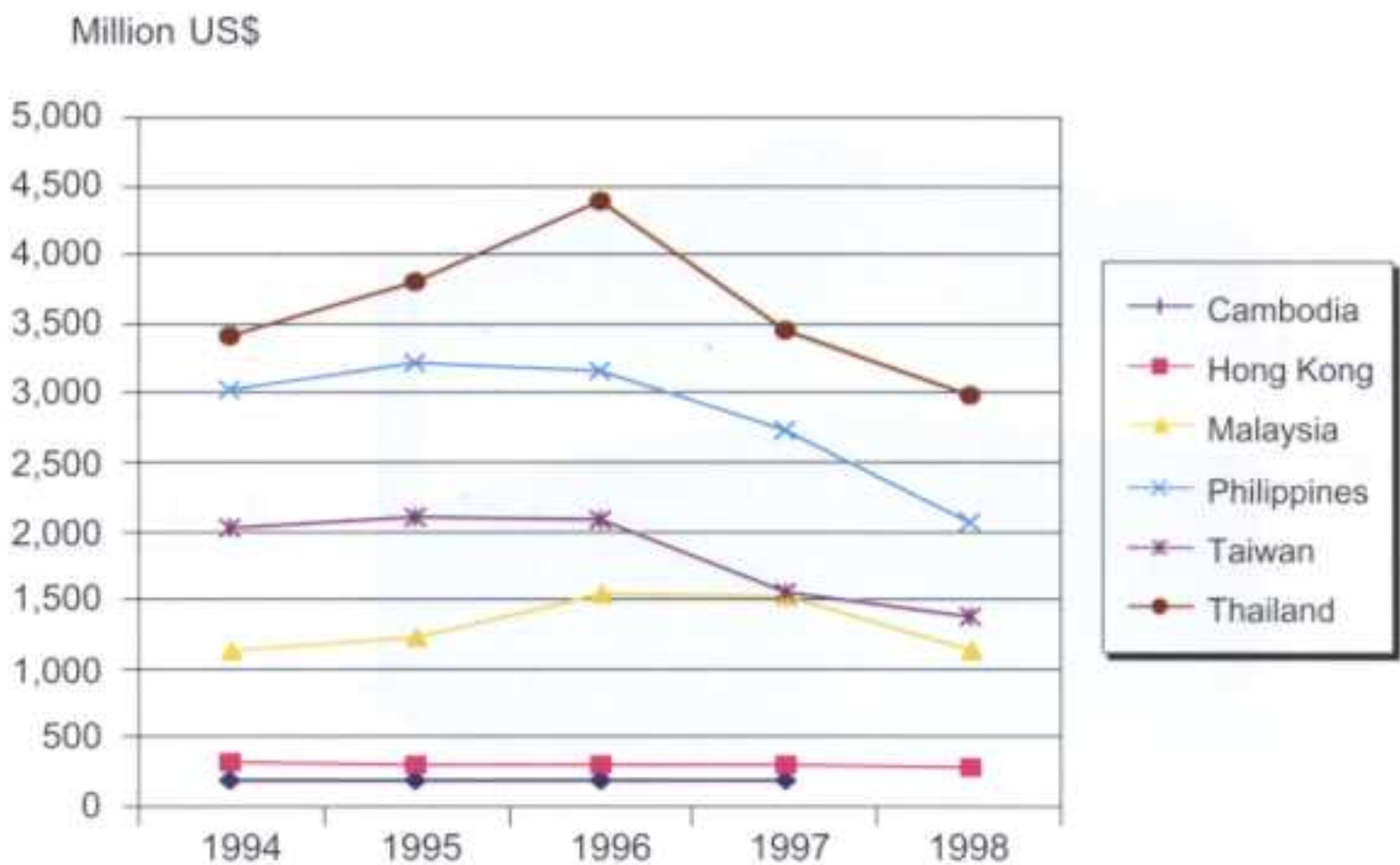
Note : Data in value of Indonesia are not available from 1987

## 2. Fishery Production by Country 1994-1998

(1) In quantity

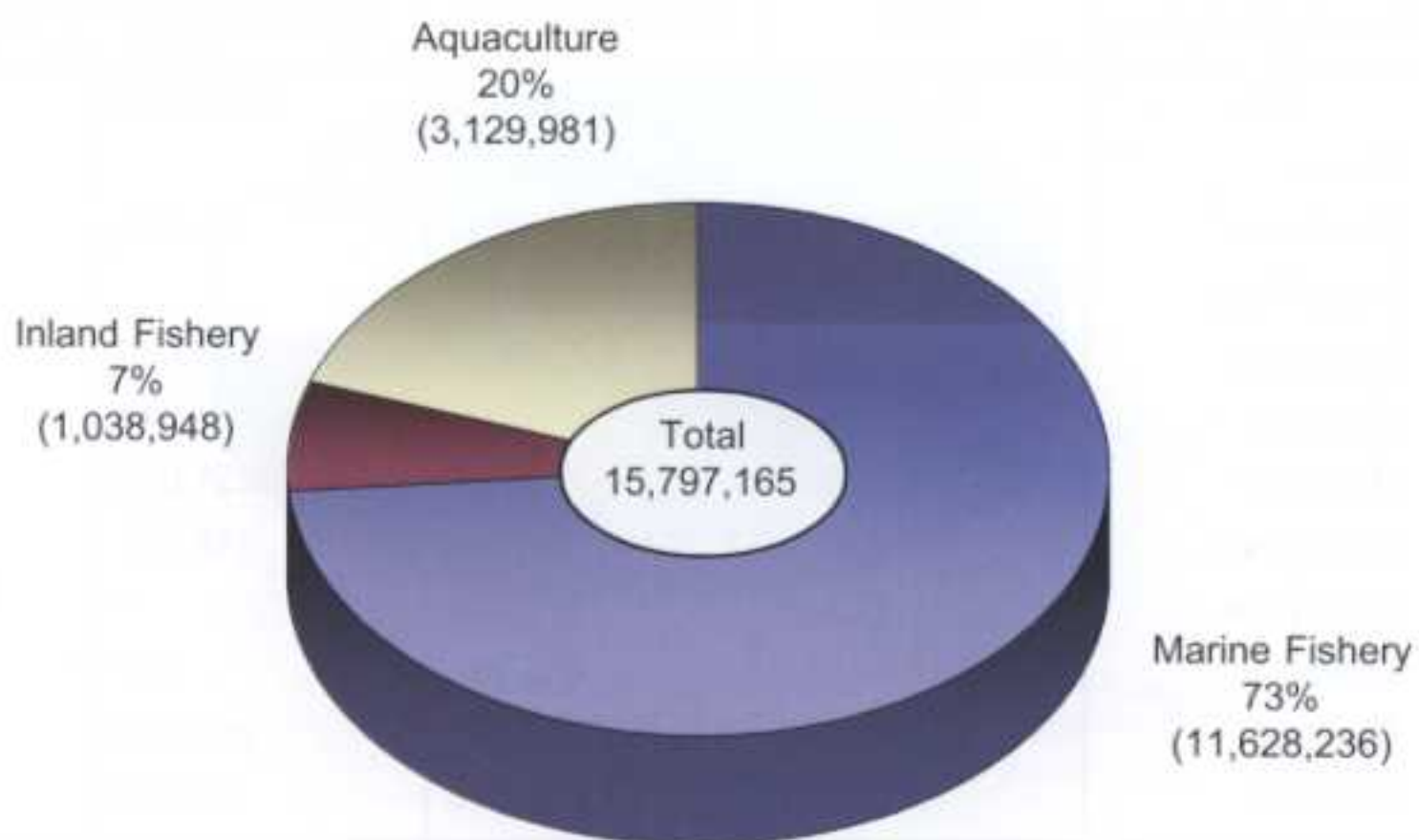


(2) In value

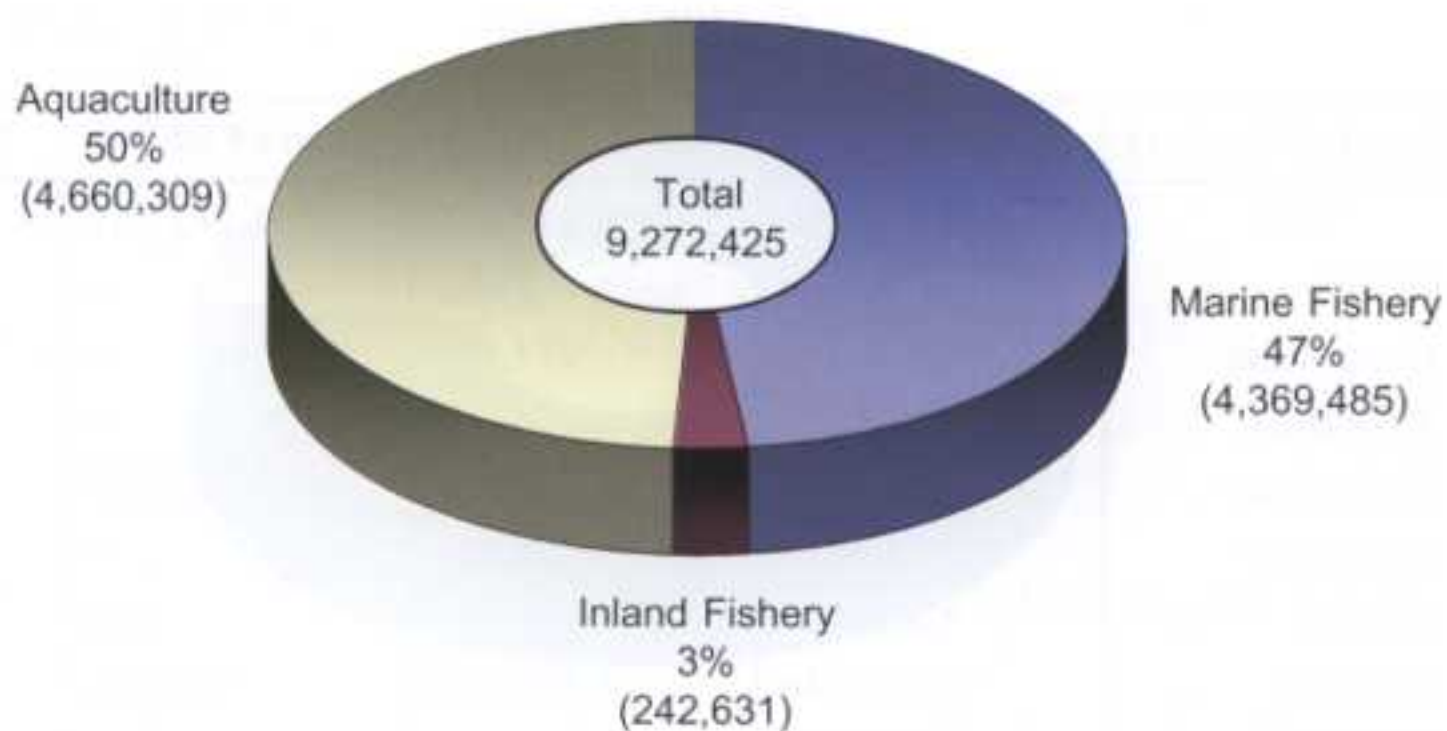


### 3. Fishery Production by Sub-sector : 1998

(1) In quantity (MT)



(2) In value (US\$ 1,000)



Notes : Data in value of Indonesia is not available.

#### 4. Production by Sub-sector and by Country : 1998

(1) In quantity

MT

Country/Territory	Total	Marine Fishery	Inland Fishery	Aquaculture
Total	15,797,165	11,628,232	1,038,948	3,129,981
Brunei	1,357	1,185	-	172
Cambodia	122,000	32,200	75,700	14,100
Hong Kong	186,164	180,000	-	6,164
Indonesia	4,642,209	3,723,746	288,666	629,797
Malaysia	1,353,196	1,215,206	4,344	133,646
Myanmar	1,011,000	760,000	251,000	-
Philippines	2,786,335	1,685,208	146,471	954,656
Singapore	11,519	7,733	-	3,786
Taiwan	509,015	253,330	467	255,218
Thailand	3,505,840	2,708,968	202,300	594,572
Vietnam	1,668,530	1,060,660	70,000	537,870

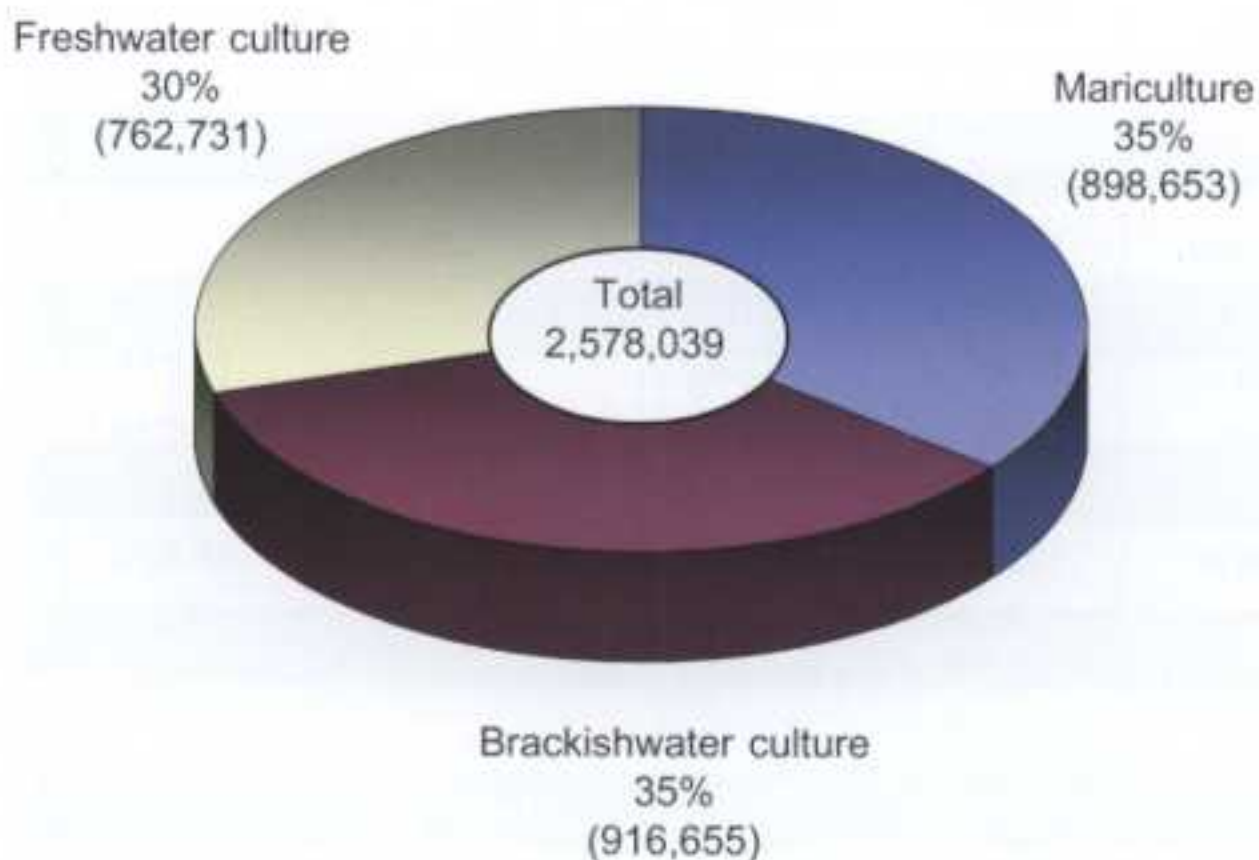
(2) In value

US\$ 1,000

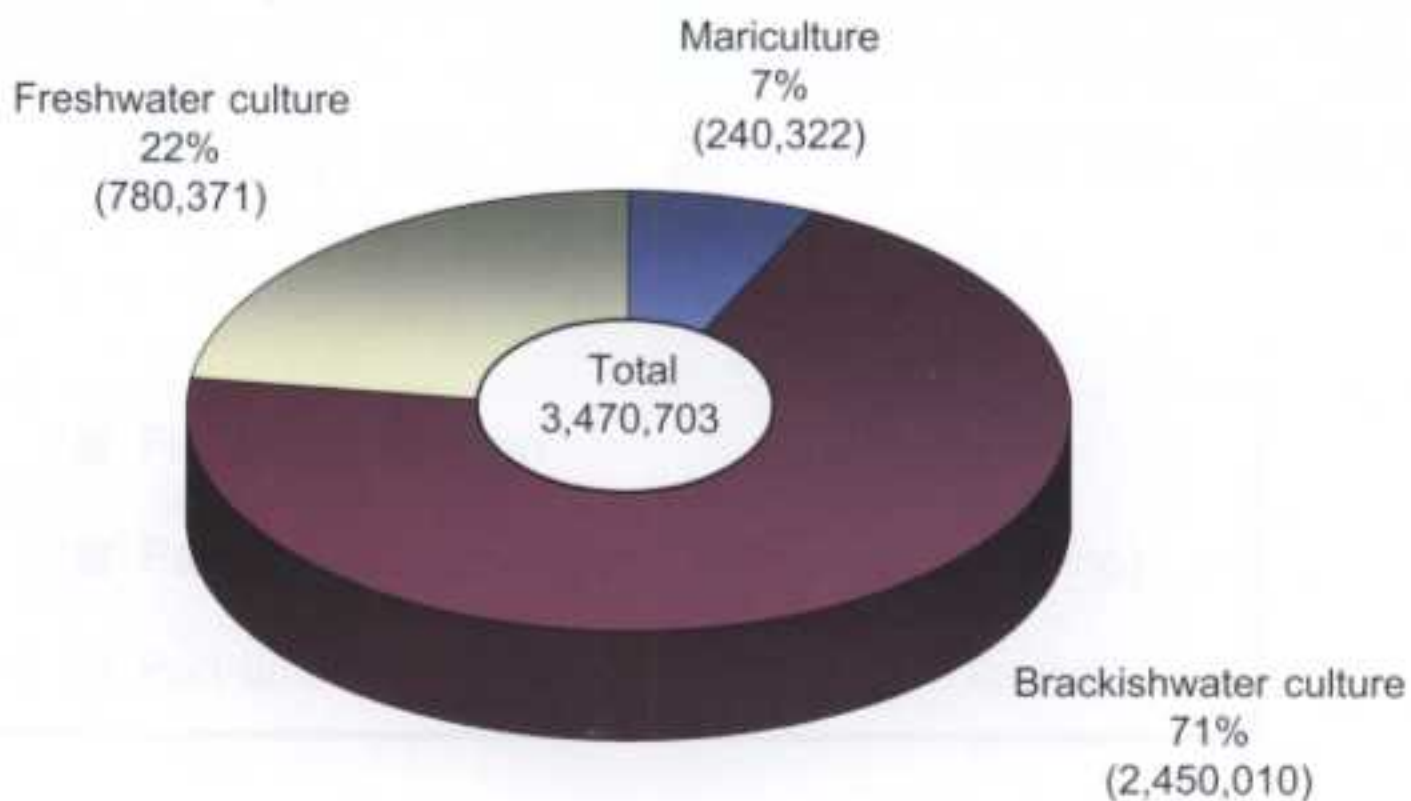
Country/Territory	Total	Marine Fishery	Inland Fishery	Aquaculture
Total	9,271,705	4,430,505	242,631	4,660,309
Brunei	3,964	2,962	-	1,002
Hong Kong	293,351	271,143	-	22,208
Malaysia	1,139,971	973,781	-	166,910
Philippines	2,075,768	1,378,618	57,027	640,122
Singapore	20,865	14,129	-	6,736
Taiwan	1,385,716	565,293	719	691,217
Thailand	2,995,346	1,163,559	184,885	1,646,902
Vietnam	1,356,724	-	-	1,356,724

## 5. Aquaculture by Sub-sector : 1998

(1) In quantity (MT)



(2) In value (US\$ 1,000)



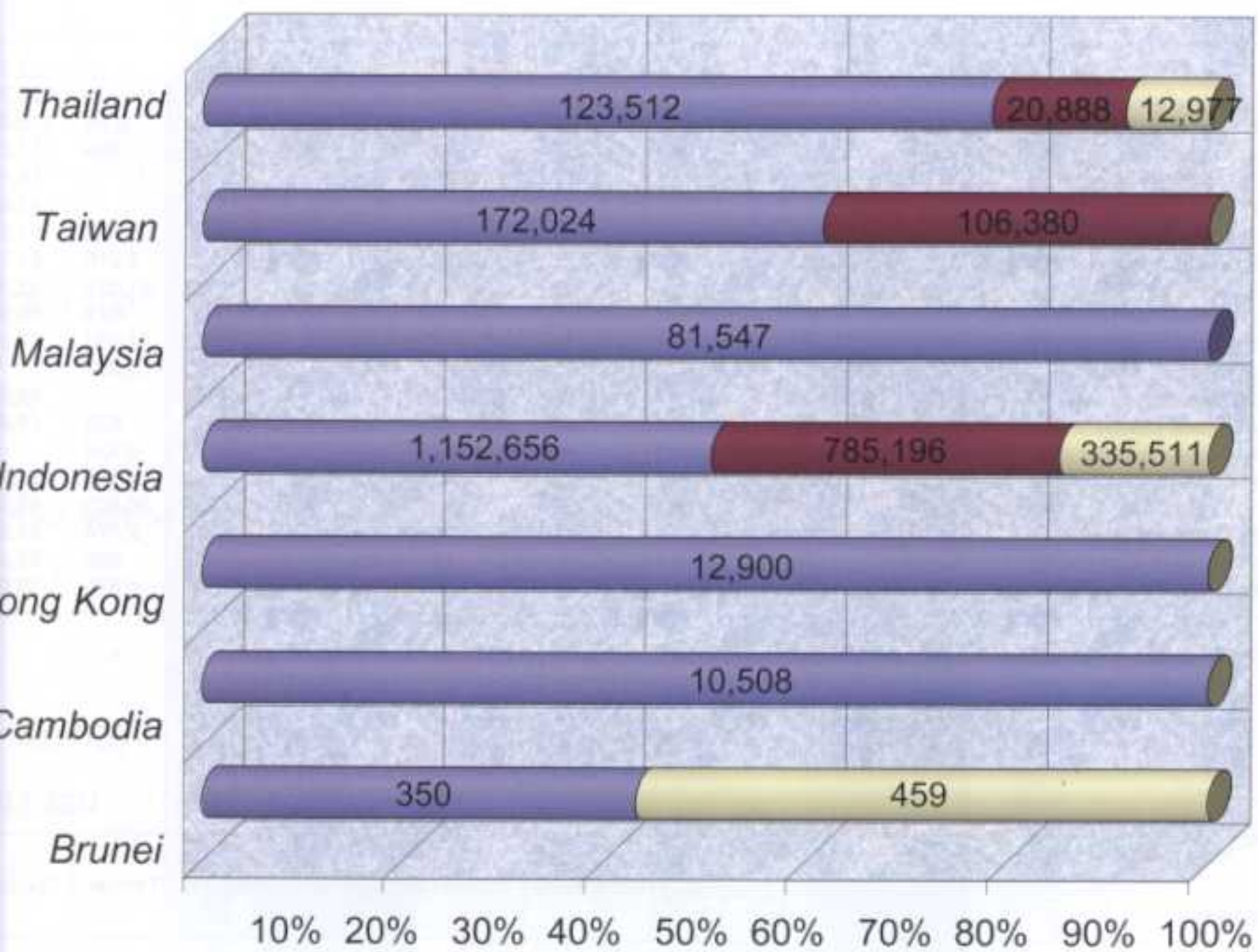
Note : Data of Indonesia and Malaysia are not available.

## 6. Number of Fishing Boats by Type (Marine fishery only)

Country / Territory	Year	Total	Non-powered boat	Out-board powered boat	In-board powered boat
Brunei	1998	809	91	687	31
Cambodia	1998	4,142	581	...	...
Hong Kong	1998	4,462	639	...	...
Indonesia	1998	412,702	225,428	100,344	86,930
Malaysia	1998	32,846	2,856	12,718	17,272
Singapore	1998	211	5	139	67
Taiwan	1998	26,313	2,007	12,583	11,723
Thailand A	1995	54,538	2,826	36,430	15,282

Notes : A From the Marine Fishery Census, 1995.

## 7. Number of Fishermen by Working Status



- Full-time fishermen
- Part-time fishermen (Mainly engaged in fishing)
- Part-time fishermen (Partly engaged in fishing)



## 8. Major 20 Marine Species Caught in the Region : 1998

### (1) In quantity

Species	Country / Territory							
	Total	Ratio Composed (%)	Hong Kong	Indonesia	Malaysia	Singapore	Taiwan	Thailand
1. Trash fish (3902)	1,863,393	22.98	-	-	331,702	1,709	-	764,99
2. Misc. fish (3901)	1,015,126	12.52	124,149	456,546	51,100	901	-	191,215
3. Sardines (3501)	634,240	7.82	8	210,977	46,315	-	5,24	185,858
4. Anchovies (3503)	507,282	6.26	17	166,808	25,651	73	305	157,214
5. Round scads (3405)	506,307	6.24	2,962	277,593	53,426	-	-	86,163
6. Indian mackerels (3701)	394,364	4.86	-	204,763	102,072	165	-	43,682
7. Indo-pacific mackerel (3702)	360,279	4.44	-	22,746	-	-	35,513	151,010
8. Eastern little tuna (3606)	360,187	4.44	4	236,673	-	-	1,216	61,147
9. Squid (5702)	286,181	3.53	8,340	31,850	38,697	462	21,016	92,908
10. Treadfin breams (3310)	284,932	3.51	19,449	30,937	40,327	158	871	96,595
11. Other prawns (4503)	280,893	3.46	14	87,200	67,157	621	11,357	57,272
12. Skipjack tuna (3601)	228,543	2.82	-	227,068	-	12	1,463	-
13. Selar scads (3407)	208,448	2.57	-	128,459	22,233	234	-	28,761
14. Lizard (3303)	186,703	2.30	6,619	11,998	14,424	90	638	76,467
15. Frigate & bullet tuna (3607)	175,046	2.16	-	168,122	-	-	6,924	-
16. Big-eye snappers (3316)	171,557	2.12	-	4,149	4,612	-	2,328	80,234
17. Jacks, cavalla, trevallies (3406)	169,069	2.09	20	39,443	575	222	36,821	45,999
18. Cuttle fishes (5701)	167,198	2.06	510	11,473	23,182	179	2,174	63,340
19. Longtail tuna (3604)	158,210	1.95	-	-	52,517	-	885	52,404
20. Drums & croakers (3313)	150,713	1.86	3,992	50,114	22,480	160	6,675	33,648

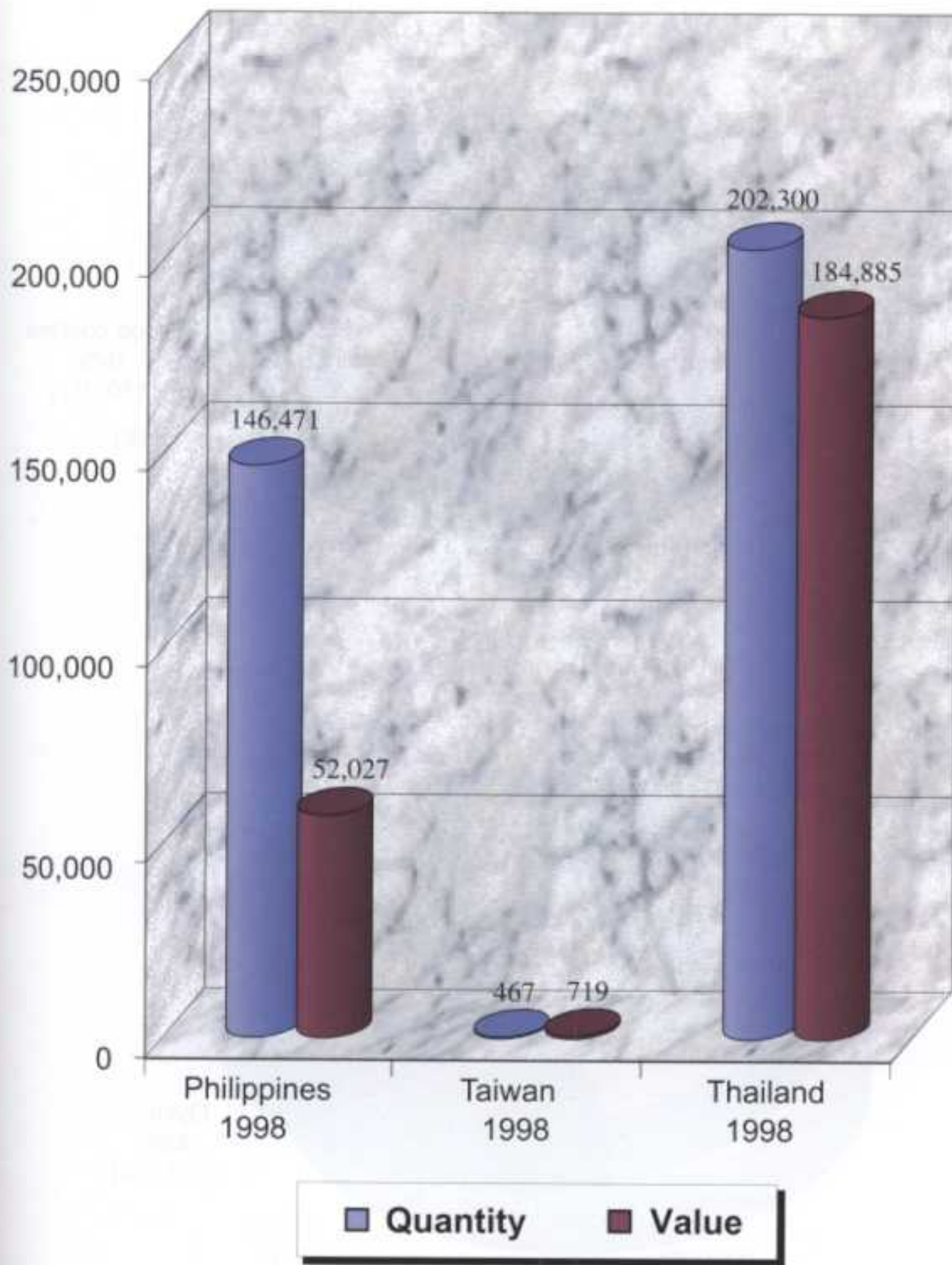
### (2) In value

US\$ 1,000

Species	Country / Territory							
	Total	Ratio Composed (%)	Hong Kong	Indonesia	Malaysia	Singapore	Taiwan	Thailand
1. Other prawns (4503)	268,063	14.09	9	-	185,018	3,999	41,031	38,007
2. Misc. fishes (3901)	261,153	13.73	182,838	-	16,352	1,896	-	60,063
3. Penaeid prawns (4502)	175,288	9.22	30,455	-	59,223	-	13,601	72,009
4. Indo-Pacific mackerel (3702)	131,365	6.91	-	-	-	-	15,231	116,134
5. Squid (5702)	115,723	6.08	23,833	-	49,377	990	41,523	-
6. Jacks, cavalla, trevallies (3406)	112,613	5.92	36	-	449	392	93,826	17,911
7. Treadfin breams (3310)	86,739	4.56	26,912	-	20,613	419	2,699	36,544
8. Groupers (3305)	86,432	4.54	2,957	-	29,206	305	36,095	17,867
9. Trash fish (3902)	77,537	4.08	-	-	23,681	512	-	53,344
10. Round scads (3405)	75,908	3.99	2,610	-	43,768	-	-	29,530
11. Narrow-barred mackerel (3609)	73,755	3.88	5,135	-	44,846	-	23,774	-
12. Longtail tuna (3604)	57,509	3.02	-	-	21,007	-	1,234	35,268
13. Indian mackerel (3701)	54,766	2.88	-	-	3,572	279	-	18,765
14. Drums & croakers (3313)	53,285	2.80	7,951	-	7,193	89	22,211	15,841
15. Sardines (3501)	50,226	2.64	17	-	14,820	-	8,817	26,572
16. Swimming crab (4201)	46,508	2.45	4,165	-	39,239	717	2,387	-
17. Breams (3317)	46,218	2.43	1,974	-	647	-	43,015	588
18. Hairtails (3703)	45,369	2.39	3,903	-	18,682	94	904	13,250
19. Black pomfret (3410)	43,873	2.31	7,488	-	30,024	225	2,563	3,573
20. Hardtail scads (3408)	39,704	2.09	-	-	14,724	72	-	24,908

## 9. Inland Fishery Production in Quantity and Value by Country

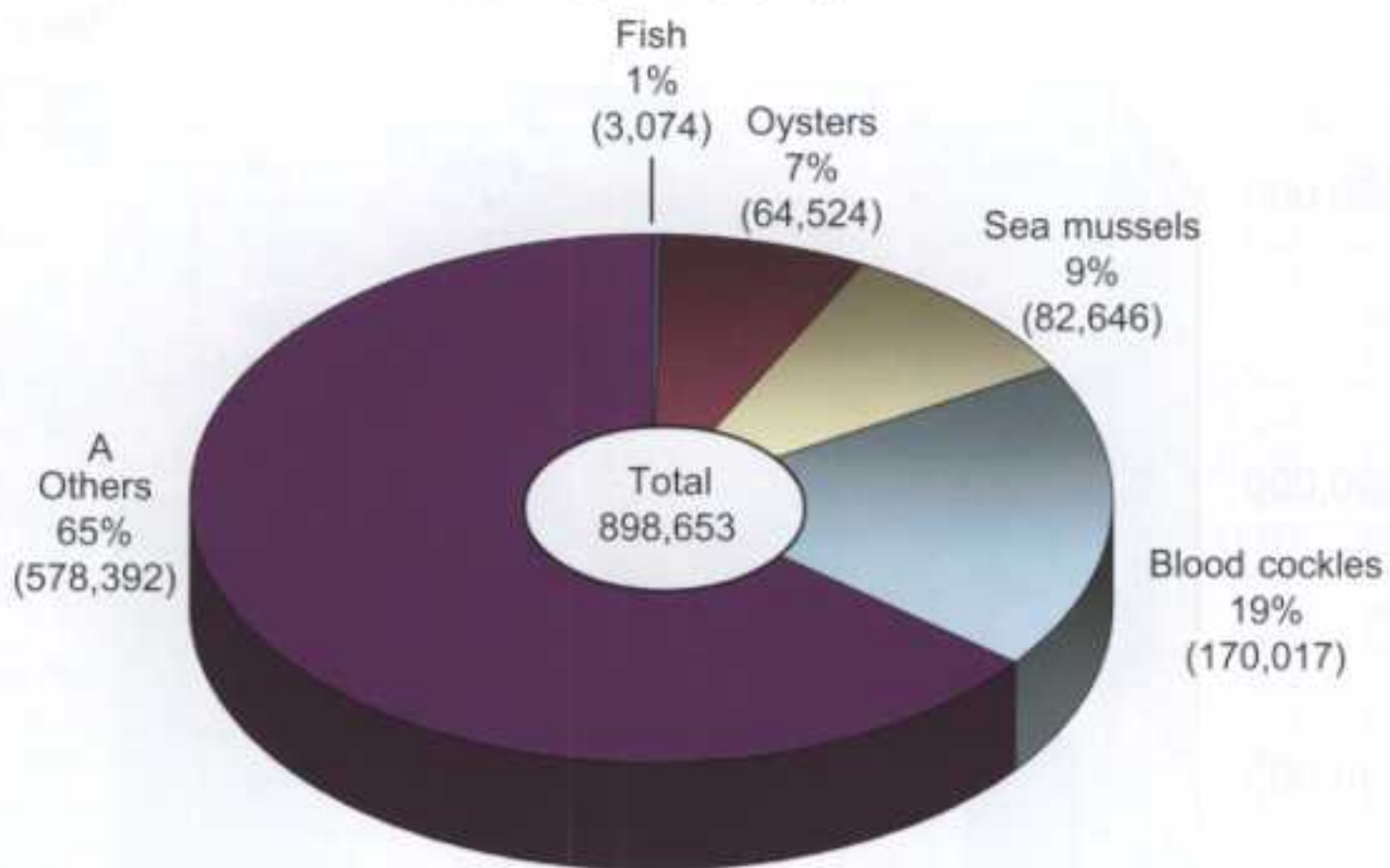
Quantity : MT  
Value : US\$ 1,000



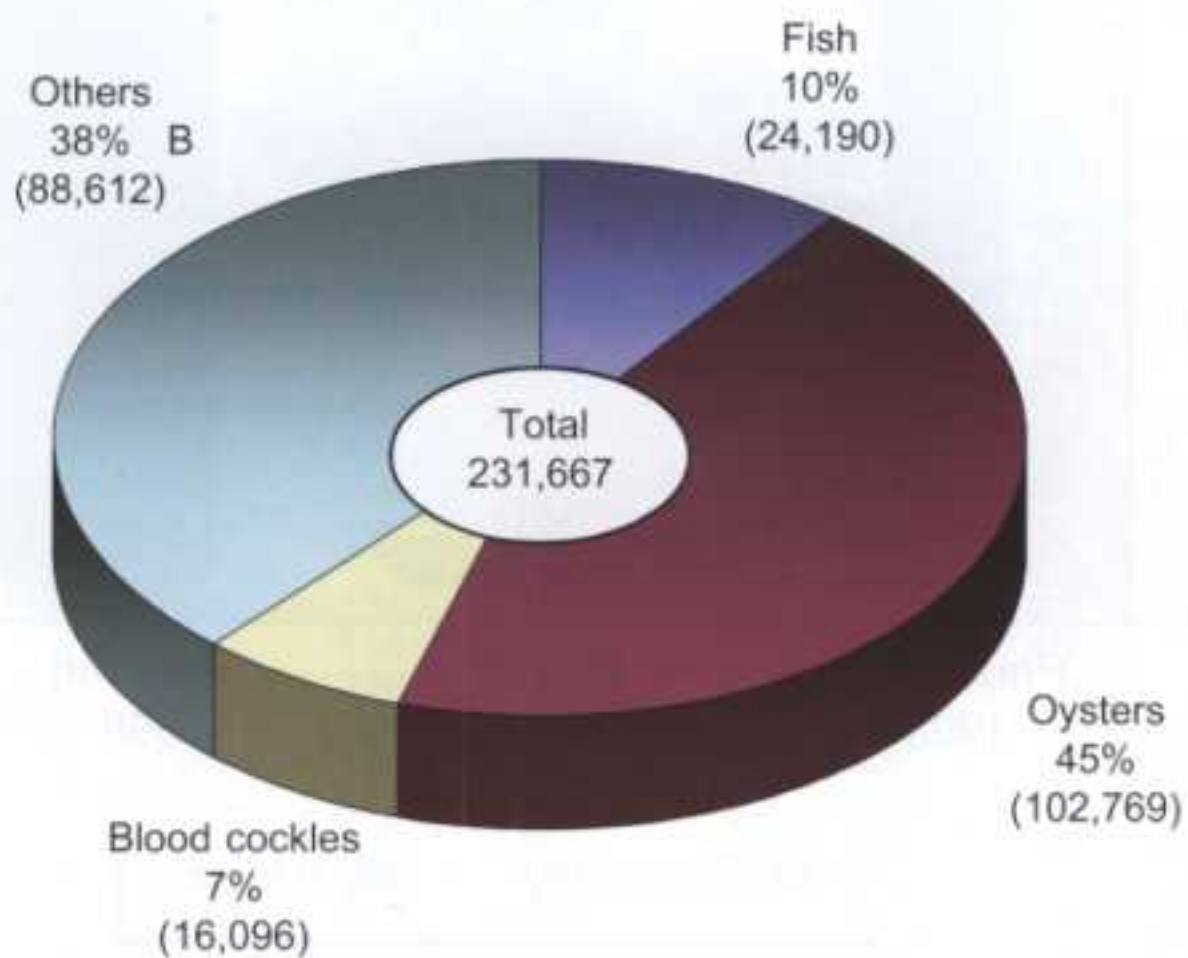
## 10. Aquaculture

### 10.1 Mariculture Production : 1998

(1) In quantity (MT)



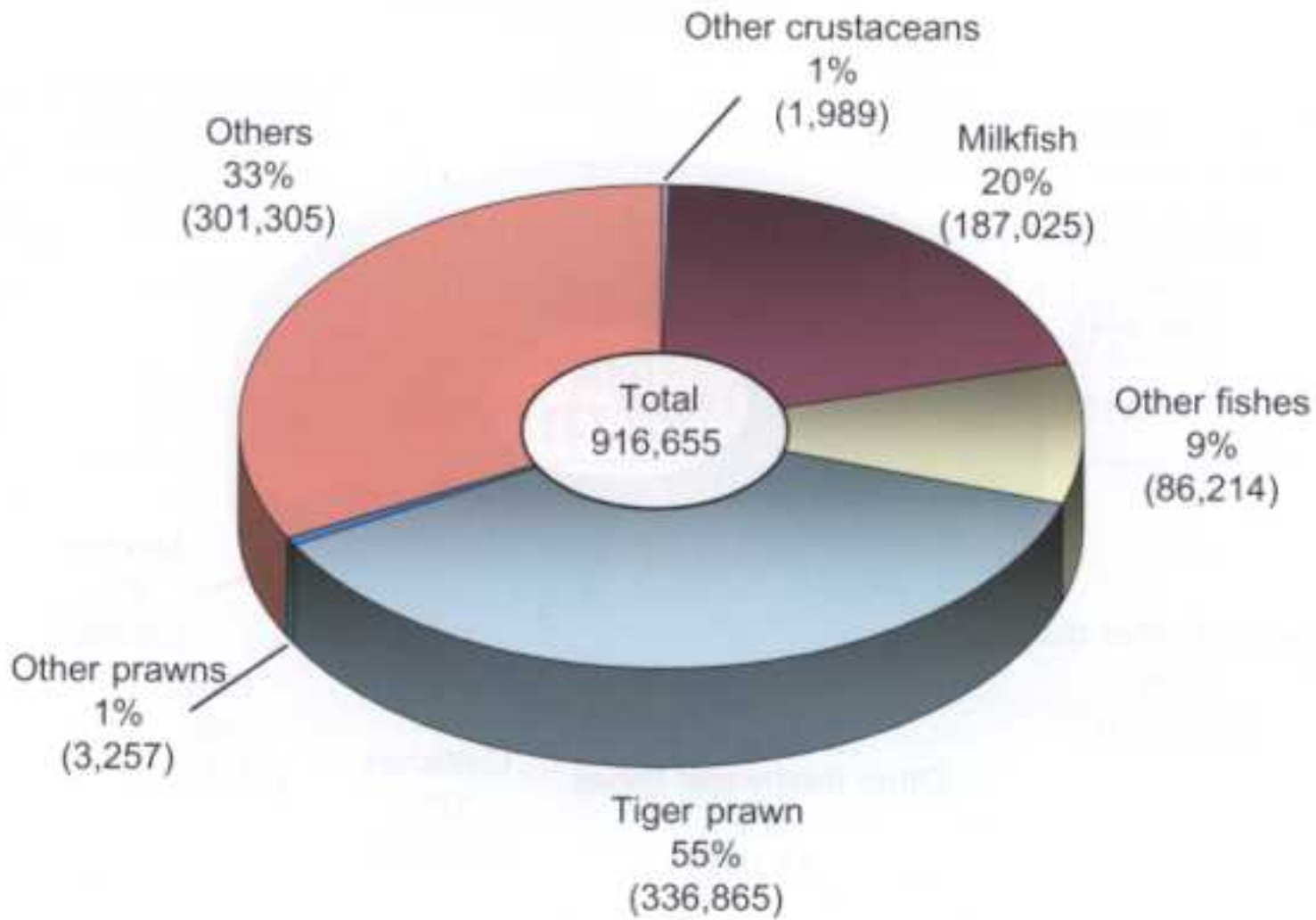
(2) In value (US\$ 1,000)



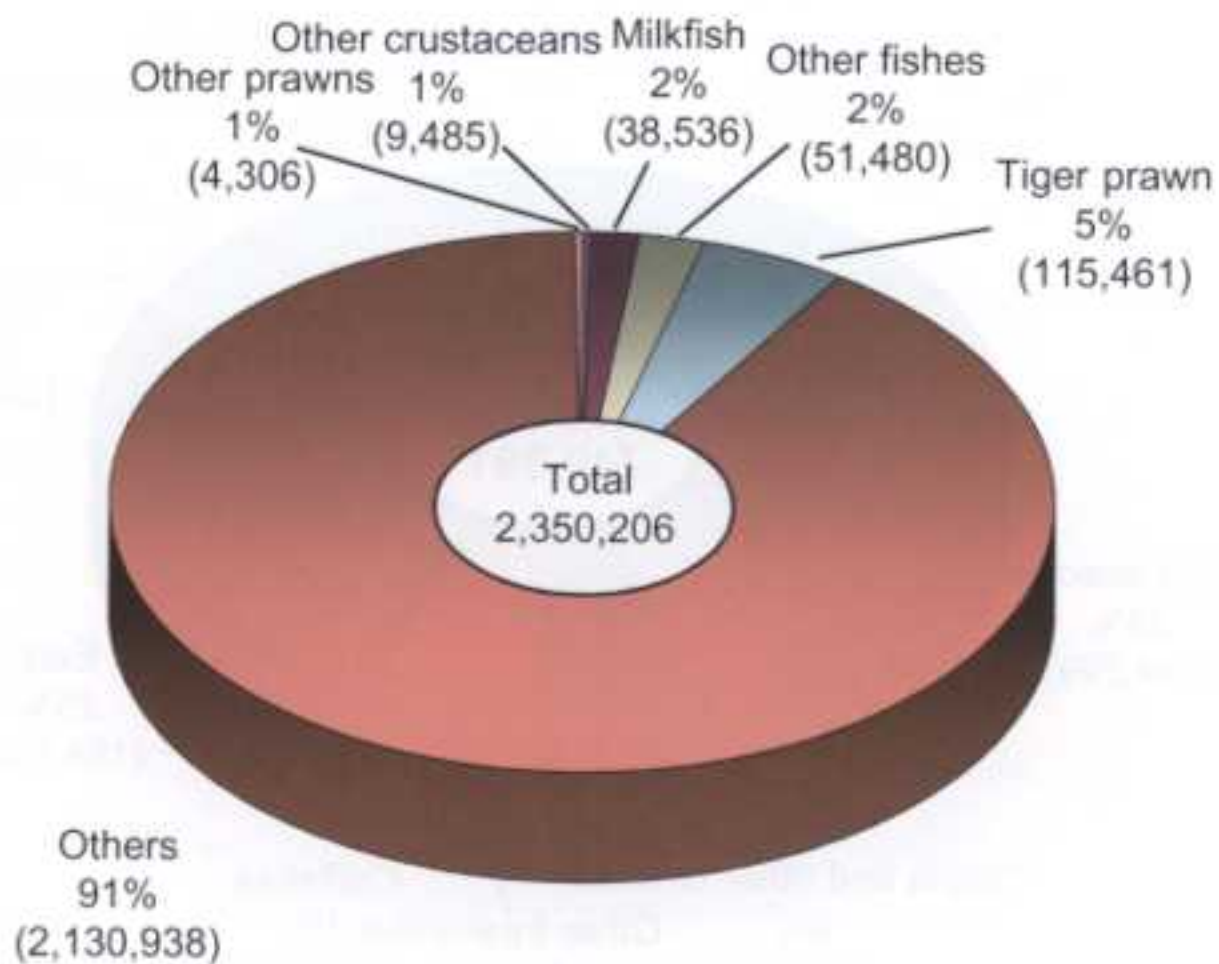
Notes : A Including mariculture production of Philippines in which yield by species could not identify  
B Including mariculture production of Thailand in which value by species could not identify

## 10.2 Brackishwater Production : 1998

(1) In quantity (MT)



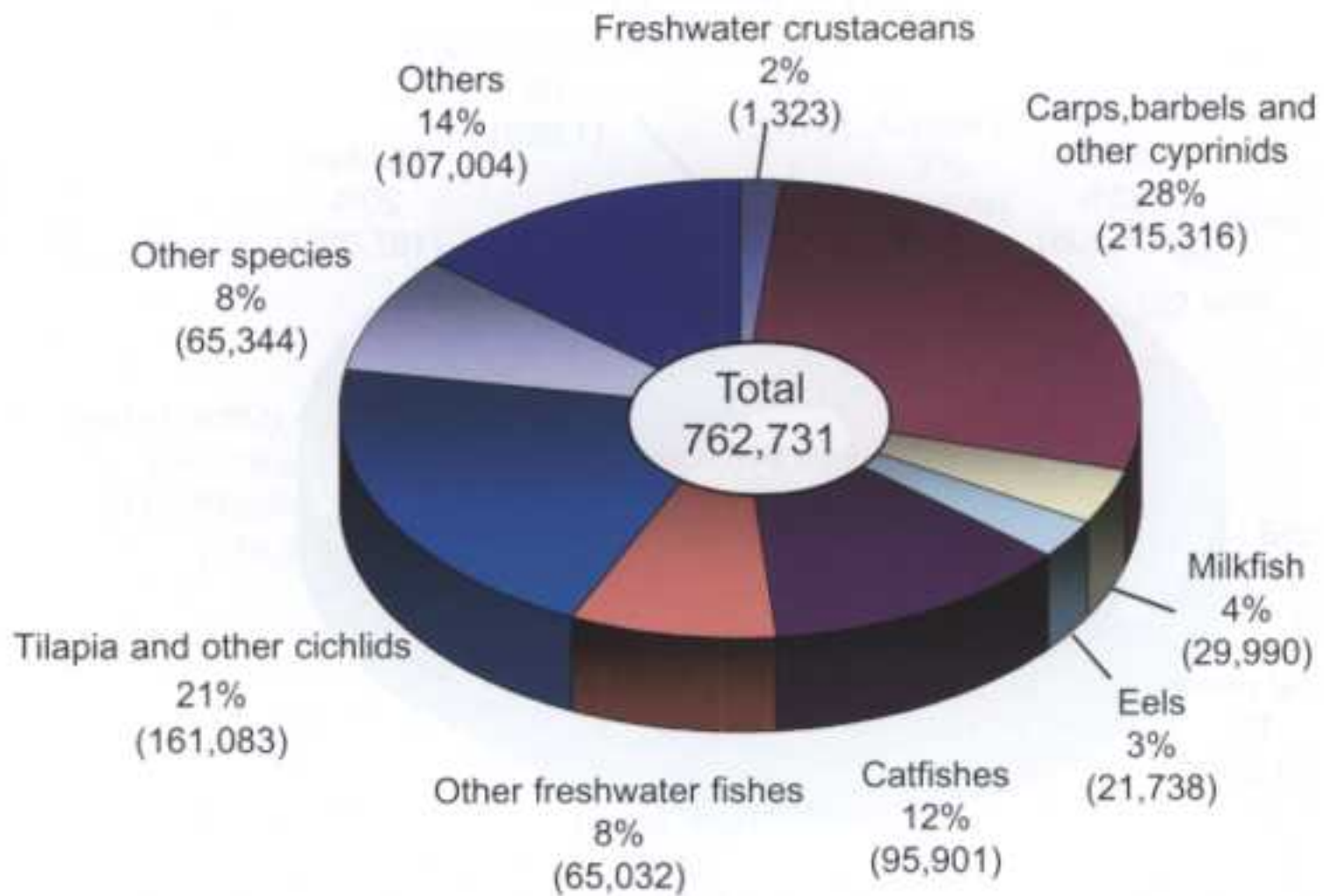
(2) In value (US\$ 1,000)



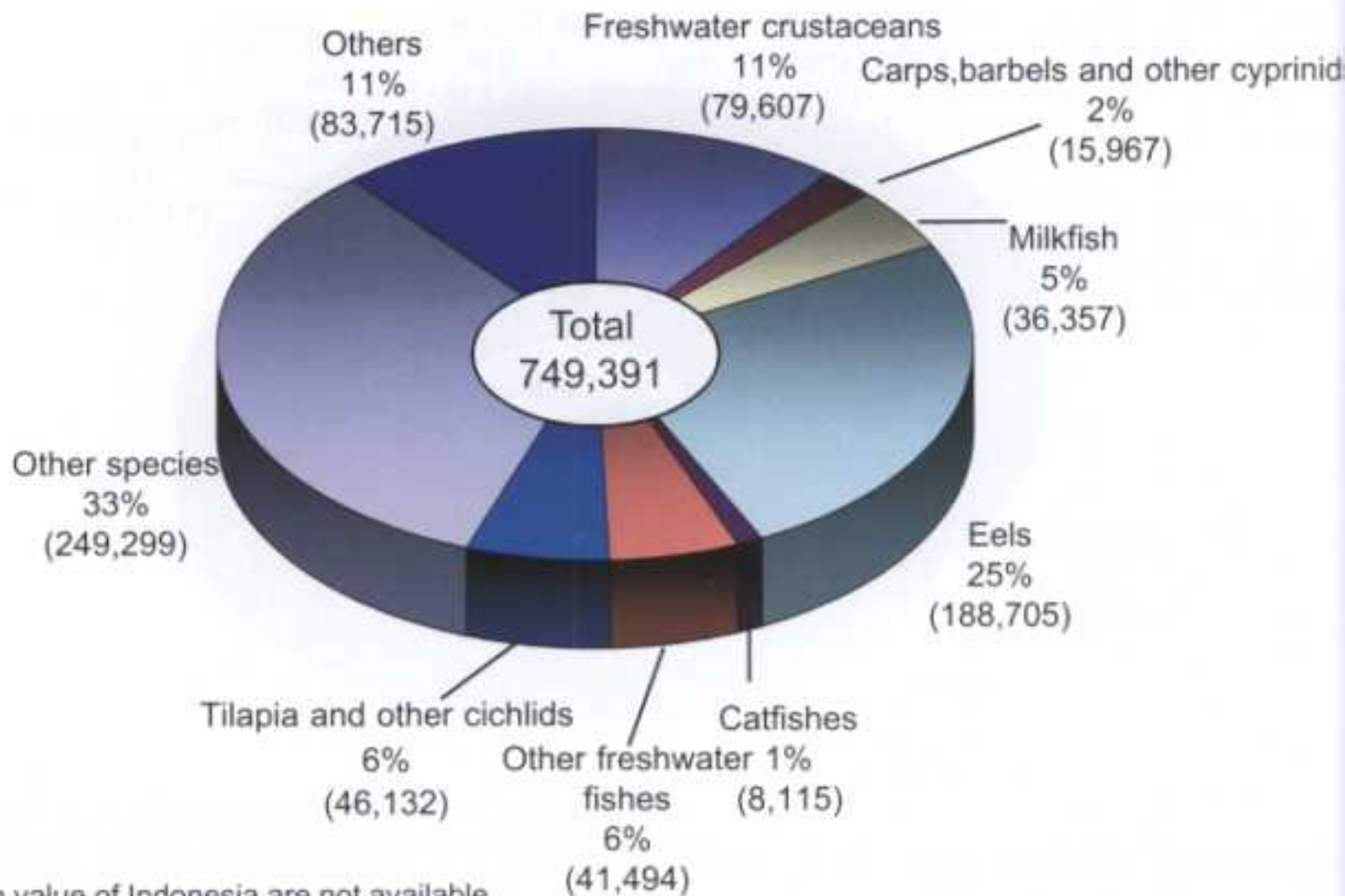
Note : Data in value of Indonesia are not available.

### 10.3 Freshwater Culture Production : 1998

(1) In quantity (MT)



(2) In value (US\$ 1,000)



Note : Data in value of Indonesia are not available.

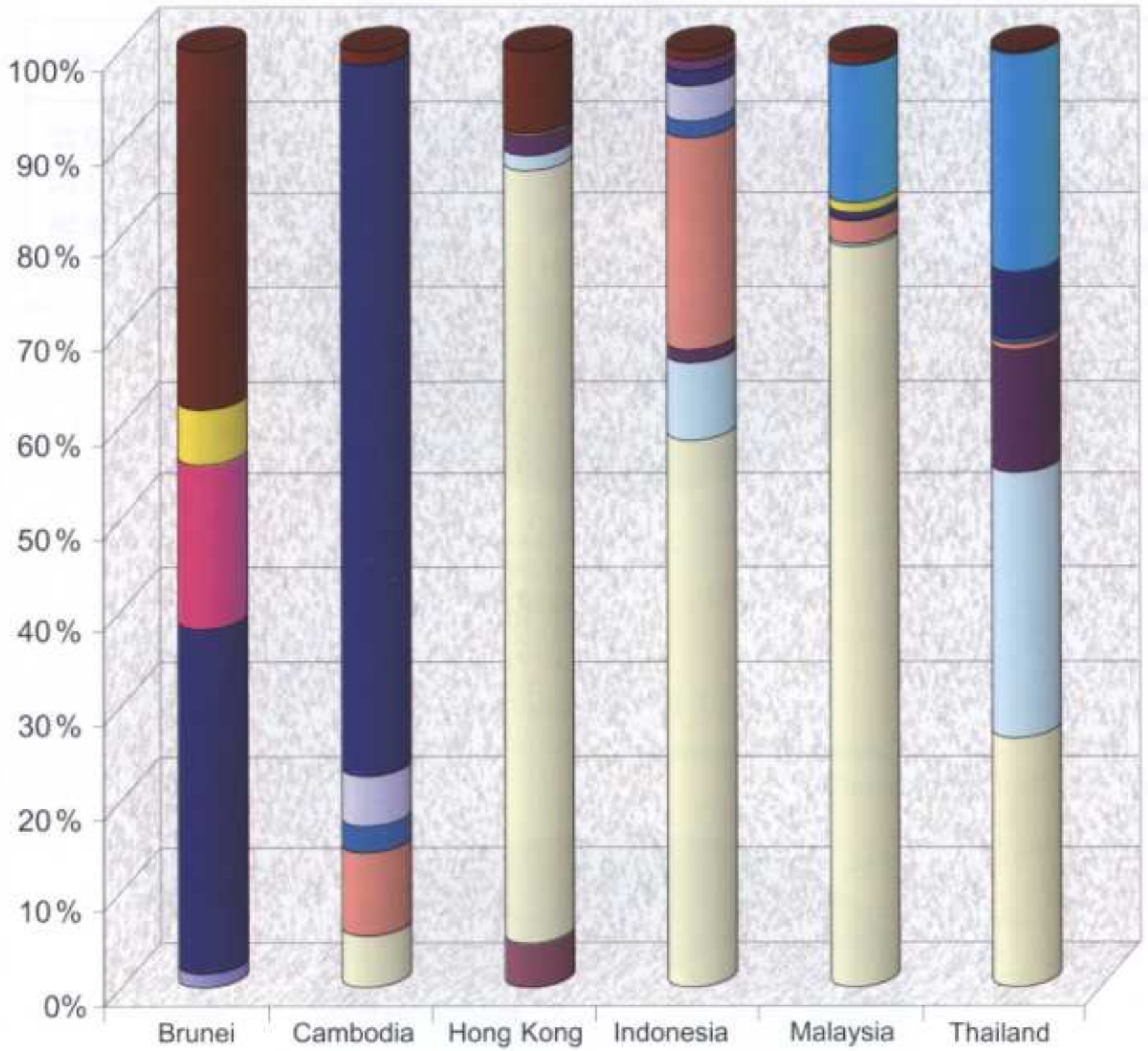
## 11. Fish Food Balance : 1998

kg.

Country / Territory	Total Production	Import	Trash Fish	Export	Balance	Percapita
Hong Kong	186,164	219,616	-	70,291	335,489	50.22
Malaysia	1,353,196	249,856	331,702	144,540	1,126,810	51.80
Taiwan	509,015	282,737	-	417,656	374,096	18.56
Thailand	3,505,840	728,960	764,991	1,302,191	2,167,618	35.32

otes : Per capita fish consumption was estimated based on the assumption that all Trash fish landed were not used for human consumption.

## 12. Disposition of Catch (percentage), 1998



### 13. Export and Import of Fishery Commodities : 1998

US\$ 1,000

Country/Territory	Export	Import	Balance of Trade
Total	10,880,708	3,603,356	7,277,352
Hong Kong	321,491	1,477,980	-1,156,489
Indonesia	698,666	52,492	646,174
Malaysia	314,355	231,729	82,626
Singapore	4,161,190	456,645	3,704,545
Taiwan	1,128,354	502,308	626,046
Thailand	4,256,652	882,202	3,374,450