

COUNTRY REPORT: MALAYSIA
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PART I:

**CURRENT STATUS OF
FISHERY STATISTICAL SYSTEMS IN MALAYSIA**

1. INTRODUCTION

This paper presents the current status of fishery and aquaculture statistics in Malaysia. It covers the data collection system for the estimation of the annual fishery production for the country. The main organization responsible for the collection, compilation, processing and reporting the fishery statistics in Malaysia is the Department of Fisheries, Ministry of Agriculture. The trade data on fish and fishery products however, are collated and reported by the Department of Statistics Malaysia.

The statistical data collection, compilation and processing are supervised by the Fisheries Information and Management Unit based in the Fisheries Headquarters in Kuala Lumpur. This unit comprises 11 staff members. The marine fishery statistical data collection at the district and state levels are carried out by a total of 63 field staff, responsible for 65 Fisheries Districts. The field staff comprises 33 staff in Peninsular or West Malaysia, and 15 each in Sabah and Sarawak. For the aquaculture sector, a total of 102 Aquaculture Extension Assistants at the district and state levels are responsible for the statistical data collection and compilation.

2. FISHERY STATISTICAL SYSTEMS

The fishery statistics collected and collated comprise the following major aspects, namely, marine capture fisheries, aquaculture, inland water bodies, fisheries trade data. These statistics are published in the Annual Fisheries Statistics Volume 1 and 2. Data from marine capture fisheries, aquaculture and inland water bodies are published in Volume 1, while fisheries trade data are published in Volume 2.

There are basically two methods used in data collection; by observation and by inquiry. Field enumerators are stationed in the respective fishing districts. There are 63 field enumerators in all the states in Malaysia, each state having between 2 to 15 enumerators. Their main duty is to collect data on landings by the local vessels. Working manuals are prepared for the field enumerators comprising the following items:

- a) Listing of fishing gear,
- b) Catch sample,
- c) Catch estimates for the state,
- d) Catch estimates for the state,
- e) Landing value estimates, and
- f) Fishing effort data.

A list of fishing gear is obtained through monthly investigation and inquiry carried out by district. The purpose is to update the master list, taking into account any changes in the total number of fishing fleets due to seasonality, repair work, lay offs, etc. This will facilitate the routine stratified sampling in order to determine the total fishing effort for the state. The state then distributes the sample size proportionately between the districts and between gear groups.

The sample size is stratified by gear groups. On the other hand, trawlers and fish purse seiners, are further stratified into various tonnage groups as shown in Table 1. The total number of samples for each gear in each state are determined based on the total number of fishing gears in operation. The computation for sampling population is shown in Table 2.

The recommended work schedule of the field enumerators includes the following:

- a) The last 3 weeks of the month are involved in field survey, i.e. for 18 working days. The field work covers the main landing places, fishing complexes, office visits, house visits and market places. While on field trips, the field enumerators obtain the sample from observation as well as from inquiries.
- b) Observation method is employed on trawlers and fish purse seiners landing. Inquiries are normally conducted for the sample data on traditional fisheries. The field work also involves the collection and verification of the Log Book filled in by the off-shore vessels. Each enumerator covers a sample of about 10-12 samples by observation and 15-20 by inquiry each day. Thus on the average each month, a total of some 250 samples can be covered by each enumerator. This has been most workable and reasonable for one full-time enumerator.
- c) On the first week of each month, data compilation, data entry into the computer and data processing are carried out by District Fisheries Assistants at the state office to get the monthly total for the state. The state data are sent to the Department of Fisheries Headquarters in Kuala Lumpur in the form of diskettes as well as hard copy.
- d) At the Headquarters, there are 10 personnel involved in the processing, compiling, computing, data entry, tabulation and documentation of fishery statistics. The monthly total from the states are computed to get the national aggregate through a computer application system developed for this purpose.

The Log Book system was introduced in January 1989 for the detailed enumeration of the deep sea fishing vessels. The operators are imposed by regulation to fill in the Log Book and submit it to the Department of Fisheries on a monthly basis. The Log Book serves not only as a source of the catch data but also as a monitoring and assessment mechanism of the performance of the deep sea fishing vessels in Malaysia.

The cost and earning surveys for the fishery enterprises are carried out on an annual basis. A sample size of three trips for each gear is collected from every state for every month. The total sample for the state is processed and analyzed in order to represent the national data.

The information required are: (a) Gears used - main and supplementary, (b) Quantity and value of landing - by composition of fish, prawn, cuttle fish and trash fish, (c) Cost of operation per trip, (d) Maintenance costs and other related costs, (e) Capital cost, (f) Number of workers, and (g) Details of vessel. The interview is done through inquiry. Heavy reliance is placed on the information given to the enumerators.

The depreciation of fishing facilities is computed based on the following life span: (a) Hull of the wooden vessel - 15 years, (b) Hull of non-powered boat - 10 years, (c) Inboard engine - 10 years, (d) Outboard engine - 5 years, (e) Nets (3 sets) - 5 years, (f) Refrigerated Sea water System (RSW) - 10 years, (g) Radio communication sets - 7 years, and (h) Winch - 10 years.

Standard forms used in various stages of data collection include:

- a) List of the number of fishing gear in operation,
- b) Sample: Fish landing and fishing efforts, and
- c) Total sample at state level.

Computation and tabulation of the catch data are carried out at state level. The analysis of the economic performance of the main fisheries is published from time to time.

On the other hand, statistics on aquaculture are collected, compiled and processed to determine the annual aquaculture production for the country. Aquaculture production is divided into: freshwater aquaculture, and brackish/marine aquaculture. The statistics for aquaculture is further sub-divided into aquaculture systems, namely; pond culture in freshwater and brackish/marine, cage culture in freshwater and brackish/marine, freshwater culture in disused mining pools, cockle, eel, mussel and milk fish culture.

In each culture system, the following data are collected and compiled: (a) Number and area of ponds, cages, tanks and disused mining pools; (b) Number of aquaculturists by culture systems, (c) Estimated production of fish by culture system, species, state and district; (d) Wholesale and retail price of fish, prawn etc.; (e) Estimated wholesale and retail value of fish species; (f) Production by systems, species, months and states; (g) Fish/prawn fry production by government and private hatcheries; (h) Distribution of fish/prawn for public stocking; and (i) Production and value of ornamental fish.

A listing or detailed inventory of all aquaculturists are carried out annually by some 102 Fisheries Aquaculture Extension Assistants at the district levels. The data is then transmitted to the state office for checking and compilation. A brief description of the methodology is as follows:

- a) An inventory of fish ponds and farms is carried out once a year to determine the number and the total area under culture, their size, types and number of aquaculturists. The inventory is updated every month during their monthly extension visits.

- b) A 10% sample of the farms are selected for each culture system, with a minimum of 10 and a maximum of 35 farms a month. The field enumerators visit the sampled farms monthly, or either once every three or four months to determine their production. Records of monthly production by aquaculturists and by species are compiled and submitted to the state office for submission to the Headquarters.
- c) Retail and wholesale prices by species are obtained on a monthly basis from aquaculturists and from major markets in the district. The average price by species, district and state are then calculated and compiled together with the monthly data to estimate the total production for the district.
- d) Production by culture systems are then aggregated at state level to estimate the total production for the state for each month. The compiled aggregated production are then transmitted to the Headquarters for estimation of national aggregate.

The methodology employed in data collection for inland fisheries is different from the methodology adopted for aquaculture production. Inland fisheries refers to the activities for capture fisheries in public water bodies such as rivers, lakes, disused mining pools and reservoirs. However, due to the scatteredness and remoteness of some of these water bodies, sampling cannot be carried out. The data collection is mostly carried out by inquiry. The data collected from inland water bodies are categorized as catch data by species and months, and wholesale and retail price of fish.

3. TRADE DATA

Data on imports and exports of fish and fishery products are collected by the Royal Customs and Excise Department at the major exit and entry points throughout the country. The Customs Act requires all importers and exporters of goods including fish and fishery products to fill in Customs declaration forms on import and export. The Customs declaration forms are channeled to the Department of Statistics for computation and processing of the national data on import and export. These data are extracted by the Department of Fisheries for publication in Volume 2 of the Annual Fisheries Statistics on Import and Export. The import and export data extracted by the Department of Fisheries includes: (a) Quantity, value and types of imports and exports of fish and fishery products.; and (b) Import and export of fish and fishery commodities by country of origin and destination based on the harmonized system of classification for international trade.

4. PROPOSALS TO IMPROVE THE CURRENT FISHERY STATISTICAL SYSTEM

The statistical system currently in practice is satisfactory and highly credible, in spite of certain internal constraints faced by the Department. However, the data entry and processing will be improved further. One aspect is the data entry into the computer and direct computation to determine the national aggregate of fish production based on the tables as found in the Annual Fisheries Statistics. If this is accomplished, preparation of the Annual Fisheries Statistics for publication can be highly expedited.

PART II:
CURRENT AND FUTURE ECONOMIC ASPECT
OF FISHERIES IN MALAYSIA

1. INTRODUCTION

This part of the paper presents the current and future economic aspect of the fishery sector in Malaysia, and its contribution to economic development. The fishery sector in Malaysia plays a significant role in providing employment, especially in the rural areas. It is also one of the important contributors to the country's economic growth. Perhaps, more importantly, it provides protein food in the form of fish to the population. In 1995, its contribution to Gross Domestic Product (GDP) is US \$1.26 billion, about 1.51% of the total national GDP. However, its contribution to the agricultural sector is only 10.68% (Table 3).

The fishery sector in Malaysia also provides direct employment to some 82,200 fishermen and 18,466 aquaculturists, giving a total of 100,666 manpower employed in the fishery industry. This constituted about 1.24% of the total labor force in the country (Table 4). In 1995, the total number of fishing vessels in Malaysia was 34,906 units, comprising trawlers, purse seines and the traditional fishing gear as shown in (Table 4). Compared to 1994, there was an increase of 11.15% in 1995. The total number of fishing gears licensed in 1995 were 29,152 units, an increase of 12.75% compared to 1994.

2. FISH PRODUCTION

The total fish production has increased steadily at an average of 6% per annum from 978,235 mt in 1991 to 1,245,117 mt in 1995. In terms of value, there was also a marked increase from US \$741.82 million in 1991 to US \$ 1,126.09 million in 1995. This registered an average growth rate of about 15% for the same period (Table 5). In terms of quantity and value, the average growth rate per annum for marine capture fisheries for 1991 and 1995 is 5% and 13% respectively (Table 6). The quantity landed in 1991 was 911,933 mt valued at US \$676.26 million, while in 1995, the quantity landed increased to 1,108,436 mt valued at US \$1,084.36 million.

Among the fishery sectors, aquaculture has registered the highest growth in production. In 1995, the production from aquaculture was 132,742 mt, valued at US \$157.08 million. This registered an average increase per annum of about 20% compared to its production in 1991 (Table 5). Consequently, in terms of value, it showed a steady average increase of about 27% per annum from 1991 to 1995.

Malaysia is the second world largest producer of ornamental fish after Singapore. Its production in 1995 was 253.08 million pieces. This showed a market increase of an average of 33% per annum when compared to its production in 1991 (Table 5). In terms of value, it also showed a significant increase at an average of 42% per annum. A large proportion of ornamental fish produced are exported to more than 30 countries in the world.

3. FISH FOR FOOD AND NON-FOOD USE

The total amount of fish used for direct human consumption in 1995 was 765,474 mt (Table 7). The present rate of consumption increased at an average rate of 6% per annum compared to that of 1991. This is based on the per capita consumption of 39 kg in 1995 (Table 8). Consequently, the amount used for animal feeds and other purposes also showed an increase at an average rate of 4% per annum from 266,907 mt in 1991 to 318,695 mt in 1995.

4. TOTAL FISH TRADE

The total imports on fishery commodities by quantity has increased at an average rate of 2% per annum from 246,257 mt in 1991 to 260,568 mt in 1995 (Table 9). However, in terms of values, it has increased quite significantly at higher average rate of 18% per annum from US \$174.54 million in 1991 to US \$331.37 million in 1995.

The total exports of fishery commodities of Malaysia by quantity has increased at an average rate of 9% per annum from 175,216 mt in 1991, to 247,839 mt in 1995. However, in terms of value, it also showed an increase at a slightly lower average rate of 5% per annum (Table 10). The value exported in 1995 was US \$356.89 million as compared to exports in 1991 which valued at US \$268.96 million.

5. FISHERY POLICY TOWARDS AD 2010

The objectives of the National Fisheries Policy as outlined in the National Agriculture Policy III (NAP3) for the year 1997-2010 are as follows:

- a) To ensure adequate supply of fish to meet domestic demand for fresh fish as well as for the processing industries;
- b) To capitalize on export markets for some selected high value fish products; and
- c) To conserve and sustainably manage and utilize fishery resources.

6. FUTURE DEMAND

The demand for fish and fishery products is expected to continue to increase due to population growth, rise per capita consumption, as well as the growing awareness of the health benefits of fish and fishery products. The total demand for fish and fishery products in Malaysia by the year 2010, is estimated to be about 1.71 million mt. This is based on the expected increase of per capita consumption from 39 kg in 1995 to 60 kg in 2010 (Table 8). In order to meet the increasing demand for fish, the production of fish should be increased significantly. By the year 2010, the total fish production is expected to increase to 1,932,000 mt, i.e. an increase by about 56% compared to the year 1995.

Based on the increasing trend in consumption of fishery products, the demand for fishery products such as convenience fish products, fish oils, surimi and surimi-based reformulated fishery products and fish concentrated, likewise, is expected to increase quite significantly. This is based on the average annual growth rate of about 3.1% for the period 1995-2010 (Table 11), valued at US \$1,077 million.

7. STRATEGY FOR DEVELOPMENT

Malaysia has the potential resources to further increase fish supply. Consider the availability of fish resources in EEZ waters, the deep sea fisheries can be further developed to increase the current marine capture fisheries of about 1.1 million tons to about 1.5 million tons in 2010. However, as the marine capture fisheries including inshore and deep sea, have reached the maximum sustainable yield (msy), the increasing demand must be supplemented by production from aquaculture. In order to increase efficiency and productivity the following activities are planned for immediate implementation:

- a) Intensification of the efficient use of resource-friendly technology to maximize productivity;
- b) Automation and mechanization in fishing, post-harvest handling and aquaculture production to increase productivity and reduce labor dependency; and
- c) Adoption of high technology efficient culture system in aquaculture.

In addition, the market distribution and market information system for fish and fishery products will be improved in order to reduce post-harvest losses. Quality assurance practices will be upgraded. Quality control centers will be established to provide accreditation for local and exported fishery products. Market opportunities will be exploited and value-added products enhanced through product differentiation for the export niche markets.

The following strategies will be undertaken in order to strengthen the economic foundation of the country:

- a) All aspects of R & D in fishery will be strengthened. This includes:
 - intensifying R & D in development of new culture systems, fish disease prevention, fish nutrition, feed and fry production, genetic improvement, treatment of water and effluents;
 - intensifying R & D and technology transfer in post-harvest handling, quality control, packaging and processing. Research in product development will also be strengthened to tap the vast biodiversity of marine resources;
 - upgrading R & D institutions to become center of excellence in tropical marine fisheries and aquaculture; and
 - strengthening R & D institutions/industry linkages through public-private sector research collaboration and contract research.

- b) Human resource development (HRD) will be enhanced to provide skilled manpower and professionals needed by the industry. This includes the recruitment of foreign expertise such as skippers, master fishermen and gear technologists to train the locals.
- c) The present package of incentives and credit facilities will be continued. The terms and conditions of these facilities will be reviewed to improve accessibility. New incentives and innovative financing will be provided to encourage private sector to develop and operate mega fishing ports and integrated fishing complexes.
- d) The Government will continue to exercise regulatory and enforcement functions to ensure that fishery resources are efficiently and sustainably managed. The scope of the Fisheries Act 1985 will be extended worldwide. New regulations will be formulated for the accessibility and utilization of aquatic genetic resources. Monitoring, control and surveillance activities to prevent foreign fishing encroachment will be intensified.

Moreover, the cooperation with ASEAN partners through joint ventures and contractual trading arrangements will be promoted and facilitated in order to secure fish for fresh consumption and the processing industries. The promotion of sustainable development will be carried out through the following:

- a) **Managing Sustainable Production**
 - Fishermen community and related parties will be encouraged to manage and conserve fisheries resources through community-based fishery management programs
 - Inshore fisheries will continue to be regulated to conserve fishery resources
 - Surplus fisheries will be encouraged to venture into other economic sectors
- b) **Rehabilitating Depleting Fishery Resources**
 - Artificial reefs will continue to be developed while public water stocking and sea ranching will be undertaken to conserve and enhance fishery resources
 - More marine parks and marine reserves will be established to protect the natural marine ecosystem
 - Guidelines, regulations and code of practices will be introduced and enforced to ensure sustainable aquaculture practices.

Table 1. Classification of national fishing fleets

Gear	1995
Trawl nets	
less than 10 GRT	
10 GRT - 25 GRT	
25 GRT - 40 GRT	
40 GRT - 70 GRT	
70 GRT and above	
Total Trawl Nets	5,991
Fish Purse Seiners	
less than 10 GRT	
10 GRT - 25 GRT	
25 GRT - 40 GRT	
40 GRT - 70 GRT	
70 GRT and above	
Total fish purse seiners	953
Purse seiners - anchovy	118
Other seiners	858
Gill/Drift nets	19,296
Lift nets	329
Traps - stationary	196
Traps - portable	666
Hooks and lines	3,989
BAG nets	728
Push/Scoop nets	39
Barrier nets	258
Shellfish collection	310
Fish - Carriers	257
Miscellaneous	918
Subtotal - traditional	27,962
Grand total	34,906

Sources: D.O.F. Malaysia

Table 2. Computation of sample size by gear groups and districts

Number of Gears in operation	No. of Samples for 0-100 Units	Additional Samples (10%)	Total Samples
100	35	0	35 (min)
150	35	5	40
200	35	10	45
400	35	30	65
500 and above	35	40	75 (max)

Districts	No. of gears in operation	Total Sample
A	350	44
B	200	25
C	<u>50</u>	<u>6</u>
Total	600	75

Table 3. Contribution of the fishery sector to national economy Malaysia 1995

	Value in US\$
Gross National Product (GNP)	US\$87.48 billion
Gross Domestic Product (GDP)	US\$83.24 billion
Population (number)	20.69 million
GDP per head	US\$4023.00
Contribution of fisheries to GDP	US\$1.26 billion
% of contribution of fisheries to GDP	1.51%
% of contribution of fisheries to agriculture sector GDP	10.68%

Source : D.O.F. & National Bank, Malaysia

Note : Agriculture sector inclusive of agriculture, forestry and fisheries

Table 4. Employment gear, volume and value of marine capture fisheries and Aquaculture Malaysia, 1995

Gear	Fisherman (No)	%	Vessel-Gear (No)	%	Landing (Tons)	%	Value US\$Million	%
<u>Marine -Capture Commercials</u>								
Trawlers	19,657	19.5%	5,991	17%	609,298	48.9%	443.52	35.1%
Purse seiners - fish	18,217	18.1%	953	3%	162,300	13.0%	161.04	12.8%
Sub-total (Commercials)	37,874	37.6%	6,944	20%	771,598	61.9%	604.56	47.9%
Traditionals	44,326	44.0%	27,962	80%	336,838	27.1%	479.80	38.1%
Total - marine capture	82,200	81.6%	34,906	100%	1,108,436	89.0%	1,084.36	86.0%
	Aquaculturist	%	-	-	Production (Tons)	%	Value in US\$Million	%
Aquaculture*	18,466	18.4%	-	-		11.0%	176.73	14.0%
Grand-total	100,666	100%	-	-	1,245,117	100%	1,261.09	100%

Sources D.O.F. Malaysia

* Aquaculture : Production inclusive of inland - fisheries
Value inclusive of ornamental fish

**Table 5. Total fish production (marine, aquaculture and inland) Malaysia 1991-1995
(Volume in tons and value in US\$Million)**

	1991		1992		1993		1994		1995	
	Volume	Value US\$Million	Volume	Value US\$Million	Volume	Value US\$Million	Volume	Value US\$Million	Volume	Value US\$Million
Marine (Capture Fisheries)	911,933	676.26	1,023,516	933.30	1,047,350	925.55	1,065,585	986.36	1,108,436	1,084.36
Aquaculture	64,844	60.27	79,699	81.32	105,237	113.79	114,114	139.33	132,742	157.08
Inland (Capture Fisheries)	1,458	-	1,773	-	1,971	-	2,064	-	3,939	-
Ornamental fish*	(88.58 Million pieces)	5.29	(102.60 Million pieces)	6.83	(188.87 Million pieces)	13.09	(227.79 Million pieces)	16.70	(253.08 Million pieces)	19.65
Total	978,235 (Tons)	741.82	1,104,988	1,021.45	1,154,558	1,052.43	1,181,763	1,142.39	1,245,117	1,261.09

* Ornamental fish by million pieces

Sources: D.O.F. Malaysia

Table 6. Total marine capture fisheries and share of the production among various fish gears (in volume and value) Malaysia 1991-1995 (Volume in Tonnes and Value in US\$ Million)

Gear/Year	1991		1992		1993		1994		1995	
	Landing (Tonnes)	Value US\$Million	Landing (Tonnes)	Value US\$Million	Landing (Tonnes)	Value US\$Million	Landing (Tonnes)	Value US\$Million	Landing (Tonnes)	Value US\$Million
Commercials										
Trawl nets	529,543	300.50	572,395	410.23	561,942	358.80	587,928	395.46	609,298	443.52
Purse seiners - fish	133,646	100.99	134,753	117.06	160,269	144.62	156,246	150.29	162,300	161.04
Sub-total (Commercials)	663,189	401.49	707,148	527.29	722,211	503.42	744,174	545.75	771,598	604.56
Traditionals										
Purse Seiners-Anchovy	21,518	16.32	37,591	32.72	24,003	21.68	19,599	18.65	21,136	20.80
Other Seiners	22,635	27.14	26,632	35.12	20,360	31.98	24,104	33.40	22,084	38.44
Drift/gill nets	94,191	107.73	112,228	157.72	117,515	160.98	145,657	201.53	153,202	211.91
Lift nets	20,133	15.92	28,686	25.11	31,262	28.72	26,397	25.35	27,075	26.81
Traps - Stationery	3,543	5.38	3,577	6.20	3,111	5.70	4,489	10.13	5,079	13.33
Traps - portable	62,34	6.27	7,934	9.79	9,876	12.36	9,188	12.17	9,107	11.04
Hooks and lines	37,894	40.43	43,187	61.20	44,153	63.68	38,664	54.39	41,888	64.44
Bag nets	27,932	40.96	30,769	51.86	32,870	57.64	28,297	57.58	26,959	59.44
Barrier nets	2,943	1.99	3,104	2.33	3,824	3.02	4,143	3.24	2,473	1.80
Pust/Scoop nets	6,503	9.70	9,613	15.95	9,741	15.48	5,267	10.01	6,440	15.14
Shellfish collection	3,240	1.29	10,127	5.67	21,997	14.46	9,093	7.17	15,426	9.61
Miscellaneous	1,978	1.64	2,920	2.34	6,427	6.43	6,513	6.99	5,969	7.04
Sub-total (traditional)	248,744	274.77	316,368	406.01	325,139	422.13	321,411	440.61	336,838	479.80
Grand-total	911,933	676.26	1,023,516	933.30	1,047,350	925.55	1,065,585	986.36	1,108,436	1,084.36

Source: D.O.F. Malaysia

Table 7. Fisheries commodities Malaysia, 1991-1995
Total amount used for direct human consumption and
amount used for animal feed and other purposes

Year	Total amount used for direct human consumption (Tonnes)	Amount used for animal feed and other purposes
1991	582,323	266,907
1992	684,371	269,892
1993	707,986	296,378
1994	717,155	314,364
1995	765,474	318,695

Table 8. Malaysia: projected production and demand for fish in Malaysia, 1985-2010

Year	1985	1990	1995	2000	2005	2010
Population (in millions)	15.80	17.81	20.69	23.27	25.84	28.41
Consumption per capita (kg)	33	35	39	47	53	60
Demand ('000 mt)	527	621	810	1,094	1,370	1,705
Aquaculture ('000 mt)	55	52	133	250	400	600
Capture fisheries ('000 mt)	746	951	1,108	1,230	1,306	1,332
Total Fish Supply ('000 mt)	801	1003	1,241	1,480	1,706	1,932
Total Food Fish ('000 mt)	500	565	765	982	1,223	1,439
Self-Sufficiency Level (%)	95	91	94	90	89	84
Export for food items ('000 mt)	149	145	185	152	155	80
Import for food items ('000 mt)	176	201	230	264	302	346

Source: National Agriculture Policy (1997-2010), Malaysia

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Table 9. Annual series of fishery commodities import by type, quantity and value
(Quantity in Tons and Value in US\$ Million)

Description of Commodity	1991		1992		1993		1994		1995	
	Quantity (Tons)	Value US\$(Million)	Quantity (Tons)	Value US\$(Million)	Quantity (Tons)	Value US\$(Million)	Quantity (Tonnes)	Value US\$(Million)	Quantity (Tons)	Value US\$(Million)
Live Fish	332	7.99	1,841	15.36	1,043	9.15	1,123	21.69	964	22.52
Fish, Fresh, Chilled or Frozen	154,835	80.73	174,058	134.87	176,389	150.45	176,197	158.47	164,389	163.22
Fish, Dried, Salted, in Brine: Smoked Fish	12,989	10.73	11,080	9.50	13,047	10.19	12,600	8.88	9,783	9.33
Crustaceans and Molluscs, Fresh, Chilled, Frozen, Salted, Dried	41,630	35.76	39,076	52.45	33,075	53.31	37,086	66.90	38,151	79.72
Fish, Crustacean & Molluscs, Prepared or Preserved, N.E.S.	17,261	28.24	16,057	26.78	15,559	31.24	19,353	33.80	16,744	33.20
Fats & Oils & Their Fractions, Of Fish or Marine Mammals, Not Chemically Modified	433	0.42	485	0.34	538	0.54	1,207	1.43	2,640	2.52
Flours, Meals and Pellets, Of Fish Or Of Crustaceans, Molluscs Or Other Aquatic Invertebrates, Unfit for Human Consumption	15,995	6.60	11,511	5.13	19,477	9.90	25,935	13.36	25,200	14.13
Miscellaneous	2,780	4.07	5,772	3.97	2,503	4.00	2,379	3.92	2,697	6.73
TOTAL	246,257	174.54	259,881	248.40	261,631	268.79	275,880	308.45	260,568	331.37

MALAYSIA:

Table 10. Annual series of fishery commodities export by type, quantity and value
(Quantity in Tons and Value in US\$ Million)

Description of Commodity	1991		1992		1993		1994		1995	
	Quantity (Tons)	Value US\$(Million)	Quantity (Tons)	Value US\$(Million)	Quantity (Tons)	Value US\$(Million)	Quantity (Tons)	Value US\$(Million)	Quantity (Tons)	Value US\$(Million)
Live Fish	5,613	10.63	12,133	18.24	6,326	30.84	6,115	22.02	4,683	23.31
Fish, Fresh, Chilled or Frozen	44,333	24.64	50,323	33.96	41,526	32.20	48,407	33.53	56,923	31.91
Fish, Dried, Salted, in Brine: Smoked Fish	1,741	2.29	1,417	2.01	1,065	1.87	1,221	1.84	1,049	1.93
Crustaceans and Molluscs, Fresh, Chilled, Frozen, Salted, Dried	80,588	140.45	88,633	141.07	98,919	123.39	144,963	143.73	99,086	163.30
Fish, Crustacean & Molluscs, Prepared or Preserved, N.E.S.	22,699	81.98	36,199	95.80	44,087	116.06	36,370	122.21	23,494	113.78
Fats & Oils & Their Fractions, Of Fish or Marine Mammals, Not Chemically Modified	978	1.17	27	0.02	25	0.04	152	0.09	15	0.05
Flours, Meals and Pellets, Of Fish Or Of Crustaceans, Molluscs Or Other Aquatic Invertebrates, Unfit for Human Consumption	8,782	3.76	6,407	3.12	6,896	2.91	4,274	1.72	3,988	1.66
Miscellaneous	10,481	4.04	10,840	5.99	7,345	4.27	5,220	5.36	58,601	20.95
TOTAL	175,216	268.96	205,979	300.20	206,189	311.57	246,723	330.51	247,839	356.89

**Table 11. Malaysia: forecast of the food sector value added, 1995-2010
(RM Million in 1978 Prices)**

Item	1995		2000		2005		2010		Average Annual Growth Rate			
	RM Million	%	RM Million	%	RM Million	%	RM Million	%	1995-2000	2000-2005	2005-2010	1995-2010
Food Commodities	664	15.0	706	13.3	738	11.8	761	10.4	1.2	0.9	0.6	0.9
Padi Livestock	855	19.4	1,011	19.0	1,135	18.2	1,267	17.3	3.4	2.3	2.2	2.7
FISHERY	1,800	40.8	2,174	40.8	2,507	40.1	2,838	38.6	3.8	2.9	2.5	3.1
Vegetables	634	14.4	827	15.5	1,071	17.1	1,412	19.2	5.5	5.3	5.7	5.5
Fruit	464	10.5	606	11.4	796	12.7	1,065	14.5	5.5	5.6	6.0	5.7
Total	4,417	100.0	5,324	100.0	6,247	100.0	7,343	100.0	3.8	3.2	3.3	3.4
Share to Agriculture's GDP (%)		27.2		29.1		30.4		31.5				

Sources: National Agriculture Policy (1997 - 2010), Malaysia

US\$1 = RM2.60 (1997)
RM = Ringgit Malaysia

Table 12. Malaysia: projected value-added for fishery products, 1995-2010, Malaysia

Year	Value-Added (RM million in 1978 price)	Percentage of annual growth (percentage)
1995	1,800	-
2000	2,174	3.8
2005	2,507	2.9
2010	2,838	2.5

Source: Economic Planning Unit, Prime Minister Department, 1996, Malaysia

US\$1 = RM2.60 (1997)
RM = Ringgit Malaysia