must look to the sea for its future food supply. Infrastructures ahve been established during the past few years aiming at offshore fisheries development in the Republic while plans have been initiated for the maximum utilisation of limited inland and coastal waters for intensive aquaculture.

The total local production in1972 was 15,662 tons representing about 25% of total fish landings in Singapore. Of the 45,295 tons of fresh fish imported 80% came from West Malaysia while exports amounted to 3,967 tons.

The landings from offshore waters made up about 72.9% of the local production of fish in 1972. 33.4% of the landings was caught by otter trawling and 29.4% by trolling. Longlining landed 9.7% while all other methods together brought in only 0.4%. Of the 254 inboard powered boats registered for fishing purposes, 117 were used in otter trawling, 77 in trolling and 10 in longlining. There were 1,602 fishrmen licensed for working in inboard powered boats.

Singapore realises the importance of offshore fisheries and is nurturing its development. There are five fish processing plants operating in Singapore, three are under construction and six sites have been offered for similar development. At the main fishing port, the total cold storage capacity available is about 3,000 tons. This main fishing port, located at Jurong, provided landing faciliteis for 756 local and foreign vessels last year to discharge 13,227 tons. The Primary Production Department also provides facilities for inspection of processing plants and issues health certificates for fish products.

In subscribing to the policy of regional cooperation Singapore is providing building facilities, scientific and service staff and one-third of the operating cost to the Marine Fisheries Research Department, one of the departments of the Southeast Asian Fisheries Development Center (SEAFDEC) to conduct offshore fisheries research with the aim of contributing to fisheries development in the region. At the Fisheries Training Centre, a joint project with UNDP, training in offshore fishing, navigation and engineering know-how is carried out.

Local production from inshore fisheries was 21.6% of the total landings in 1972. Apart from other minor gears, the production was mainly from palisade traps. However, during the last decade, the production has dropped by almost 40%.

Singapore has largely relied on traditional methods of fish cultivation. However, emphasis has recently been laid on more scientific approaches. The re-orientation will directly lead to more intensive methods of farming highly priced fish for maximum utilisation of land and water resources, and will intimately involve socio-economic factors. Some of the projects have resulted in the successful mass production of marble goby fingerlings (*Oxyeleotris marmorata*) and juveniles of *Macrobrachium resenbergii*. Experiments on the intensive culture of grouper (*Epinephelus tauvina*) in floating cage-nets and the breeding of *Siganus oramin* and marine prawns (*Penaeus indicus* and *Matapenaeus ensis*) have been encouraging.

Ornamental fish and aquarium plants are cultivated for local and foreing markets. In 1972, the export value for these two items totalled more than S$10 million. The Freshwater Fisheries Laboratory has continued to provide technical assistance to hobbyists, breeders and exporters.

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The country report of the Kingdom of Thailand

by
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Fishery Administration

The development of the Thai fisheries during the past few years has resulted in a spectacular increase of total landing of fish; particularly marine fish landing (Table 1). According to recent fisheries statistics, the total catches of both marine and freshwater fish increased from 1.44 million metric ton in 1970 to 1.58 million metric ton in 1971. This remarkable increase of marine fish landing is mostly due to the rapid development of commercial trawl recently, and of which resulted a drastic decline in the abundance of demersal fisheries resources in the Gulf of Thailand (Table II). The Ministry of Agriculture and the Co-operatives, therefore, announced a new conservational measure in July 1972 in accordance with he provisions of the Fisheries Act of B.E. 2490 (1947), commercial trawling operations of all types and sizes of trawlers are now prohibited within three kilometers off shores.

Planning

In recognizing the prominent role of fisheries in the supply of needed animal protein food, the Government of Thailand has incorporated the fisheries development program in its overall economic and social development plans since 1961. The Department of Fisheries, Ministry of Agriculture and Co-operatives, has already set up the current fisheries development program in the Third National Economic and Social Development Plan (1972–1976).

One of the most significant development policies at present is to initiate and promote the expansion of deep-sea fishing industry. Based on the Third National Economic and Social Development Plan, the Accelerated Program of Agricultural Development has been set up recently by the Ministry of Agriculture and Co-operatives. Because of its great demand in the international markets, marine shrimp is considered as one of the agricultural

Table I. Annual total fish landing in Thailand, 1964 – 1971 (estimated in tons) Fisheries Record of Thailand 1971, Statistics Section, Department of Fisheries, November, 1972.

Year	1964	1965	1966	1967	1968	1969	1970	1971
Marine fishes	494,196	529,483	635,165	762,187	1,004,058	1,179,595	1,335,690	1,470,289
Fresh water fishes	82,790	85,637	85,117	85,256	85,245	90,439	112,714	116,788
Total	576,986	615,120	720,282	847,443	1,089,303	1,270,034	1,448,404	1,587,077

Table II. Average catch rates obtained by M.V. 'Pramong 2' in systematic survey of demersal fish resources in the Gulf of Thailand by trawl net fishing, 1961 – 1972.

Year	No. of hauls	Catch rate kg·/hr.	Yearly rate of decrease kg·/hr.	Rate of decrease (base year, 1961)	Catch rate in % of 1961
1961	133	297.8	–	–	100
1963*	200	256.0	41.8	41.8	86
1964	182	225.6	30.4	72.8	75.9
1965	192	179.2	46.4	118.6	60.2
1966	713	130.8	48.4	167.0	43.9
1967	713	115.0	15.7	182.8	38.6
1968	719	105.9	9.1	191.9	35.6
1969	720	102.7	3.2	195.1	34.5
1970	718	97.4	5.3	200.4	32.7
1971	720	66.3	31.1	231.5	22.3
1972	720	63.1	3.2	234.7	21.2

*The average catch rate was obtained by M.V. 'Pramong 2' in the experimental trawling survey.

commodities of economic importance. The Department of Fisheries has therefore given full attention to the Shrimp Culture development. In the above- mentioned Program, the target has been set to reach a marine shrimp production of 112 thousand metric tons in 1976.

Generally, because of the limited amount of annual budget appropriated by the Government, some fisheries development projects have not been achieved soundly and rapidly. It is felt, therefore, that Thailand still needs foreign technical assistance in certain aspects of fisheries development.

Marine Resources

(a) Reources surveying, experimental and exploratory fishing, location of new fishing grounds.

The Exploratory Fishing Unit of The Department of Fisheries is responsible for the survey of pelagic and demersal fish resources and for the location of suitable fishing grounds in the Gulf of Thailand, the South China Sea, and the Indian Ocean including its contiguous waters. M.V. 'Fishery Research No. 1' of this unit has been assigned to undertake the demersal fisheries resources survey in the Gulf of Thailand and in the southern portion of the South China Sea since 1962, and the demersal and pelagic fisheries resources Survey in Andaman Sea and in the Indian Ocean has been carried out by M.V. 'Fishery No. 2' since 1965. The data obtained are being analyzed to ascertain the potentila yields from and to promote the deep-sea fishing industry in the future. Furthermore, intensive exploratory and experimental fishing, mainly with trawl and tuna longline, has been initiated in the Indian Ocean. An assessment of the stocks of demersal fish in the Gulf of Thailand made by M.V. 'Fishery Research No. 1' indicated that the demersal fish stocks have exhibited obviously a drastic decline from about 105 kg./hr. in 1969 down to about 88 kg./hr. in 1970 as revealed by the catch and effort study. (Data Report of the Exploratory Fishing UNit, No. SR 0110)

M.V. 'Pramong 2' of the Demersal Fisheries Investigation Unit of Marine Fisheries Laboratory has also been engaged in the monitoring survey of the demersal fish resources in the coastal waters of the Gulf of Thailand since 1964. Approximately 720 hauls of trawl net are made annually. The results of the survey indicated that there has been a steady decline in the average catch rate of this vessel from about 130 kg./hr. in 1966 to 63 kg./hr. in 1972. The catch rate in 1971 has decreased by more than 200 kgs. from 1961 which was the year that trawling was introduced to the Gulf of Thailand. (Table II) From the catch and effort studies of the total commercial catch landings from 1961 to 1969 (Table III), it seems reasonable to believe that the demersal fish resources in the Gulf of Thailand have reached the level of maximum sustained yield since 1966, with an estimated level of about 450,000 metric tons. The details of this studies appear in the Annual Report 1971 of Demersal Fisheries Investigations Unit, Department of Fisheries, prepared by Andhi P. Isarankura entitled "present status of trawl fisheries resources in the Gulf of Thailand and the management program."

Table III. The total commercial trawl catch landings and the catch rates of demersal fish as determined by the survey in the Gulf of Thailand, 1961 – 1969.

Year	Total landings (Metric tons)	Catch/hour (Kgs.)
1961	123,000	298
1962	151,000	277
1963	228,000	250
1964	372,000	226
1965	393,000	179
1966	449,000	131
1967	525,000	115
1968	784,000	106
1969	767,000	103

(b) Research and investigation on the biology and stocks of commercially important aquatic animals.

M.V., 'Pramong 1' and M.V. 'Pramong 6' of the Pelagic Fisheries Investigation Unit of the Marine Fisheries Laboratory have been undertaken several research projects with respect to the biology and/or stock of the pelagic fish species including *Rastrelliger* spp., *Scomberomorous* spp. and *Stolephorous* spp. The age determination study of the Indo-Pacific mackerel *Rastrelliger neglectus* (van Kampen) collected from various fishing grounds has been in progress. The assessment on the growth and mortality rates of the said mackerel tagged during 1969–1971 indicates the overall recapture of 8.68 per cent. Base on the analysis of the yield-per recruit models, the study on the population dynamics of the above mentioned fish in the Gulf of Thailand also indicated a possibility of increasing production by fishing intensity operations (Kurogane et al, 1970 and Hongskul, 1971)

The study on the biology of several demersal fish species including *Nemipterus* spp., *Saurida* spp. *Lutianus lineolatus* and *Sciaena russelli* (Cuvier) has been carried out by the Demersal Fisheries Investigations Unit of the Marine Fisheries Laboratory. The biological data on length, weight, maturity stage of the gonads and stomach contents of these species collected monthly are now being analyzed. Dart tags and plastic tape tags were used on eight species of demersal fish during the study of distribution and dispersion of the stocks.

(c) Fisheries oceanographic studies.

In accordance with the participation of Thailand in the CSK South China Sea program, M.V. 'Fishery Research No. 2' has made regular oceanographic surveys in the South China Sea. Such surveys consist of a number of physical and chemical observations. In addition, meteorological observations have also been conducted so that the data obtained can be beneficially employed by the Department of Meteorology in Bangkok.

Aside from this, M.V. 'Fishery Research No. 1 and M.V. 'Fishery Research No. 2' also perform the practical sea training to the students from the Faculty of Fisheries, Kasetsart University and from the Department of Marine Science, Chulalongkorn University for a specified period of time.

(d) Research programs and institutions

In order to expand fishing grounds on both the Gulf of Thailand and the Indian Ocean coasts to international waters, experimental and exploratory fishing operations are now in progress. Thai fisheries has grown up to high extent since the introduction of one boat bottom trawl, therefore it is necessary to improve types of the fishing gear used in order to obtain the better yeild. The fishing gear experiment of various type of trawls in the Gulf of Thailand and in the Andaman sea within Thai-German Partnership in the field of fisheries has been carried out recently on the 6th of February 1973 at the Marine Fisheries Station, Rayong Province. The result of this particular experiment indicated high opening bottom trawls to become an important fishing gear, especially for the bigger boats working in the growing far distance fisheries. (Report on the experiment of various type of trawls in the Gulf of Thailand and in the Andaman sea within Thai-German partnership in the field of fisheries, 1973. A paper submitted to the Department of Fisheries)

Aquaculture

(a) Shrimp culture

In 1971, 5593 tons of frozen shrimps of about 246 million bahts (US $ 11.7 millions) which represent over 49% of the total foreign exchange earning of the fishery product; acceleration of the shrimp culture development is thus considered as part of the fishery development policy at present.

For present status of shrimp farming development, Thailand possesses most of the requirements favouring to the development of commercial farming. It has at present about 45,000 rai or 7,500 hectares of traditional type of shrimp pond, most of which could be improved to yield higher production, and there are over 300,000 rai or 50,000 hectares of coastal swamps and inland water having high potential for shrimp farming and prawn culture development. Aside from this, it also has a number of large, fast growing, and high quality shrimp and prawn suitable for culturing. Many species of penaeid shrimps such as *Penaeus semisulcatus, P. Monodon, P. merguiensis* and *P. latisulatus* as well as the famous giant fresh water prawn Macrobrachiium rosenbergii are available and can be collected for the purpose of shrimp seed production all year round. In addition, the climate conditions of the natural water are favourable for the growth of these large species which occur locally. All these factors provide very great potentials and possibilities for large scale of shrimp and prawn culture development. Under proper development and well managed shrimp farming program, an annual production of about 100,000 tons of prawns and shrimp can be expected.

1. Shrimp and prawn seed production

At present, the shrimp and prawn seed are solely obtained from natural stocks. This method of seed production is likely to be unsatisfactory. With regard to several species of shrimp, experiments on artificial seed production have been carried out on a commercial scale. Pilot shrimp hatcheries are to be built at three marine fisheries stations located in Songkhla, Phuket, and Rayong provinces. These shrimp hatcheries are planned to have capacity of about 100 millions of post larvae of the penaeid species for distribution to shrimp farmers.

2. Improvements of the traditional shrimp farms.

Shrimp culture technique currently adopted in Thailand is a traditional one. The shrimp farming production in Thailand varies according to location of the farms and farm maintenance. The average yield per unit area is very low being 54.5 kg./rai or 327 kg./ha. (Teinsongrusmee, 1970) and 21.8 kg./rai (result of cost and earning survey on shrimp culture in Thailand 1970 conducted by The Statistics Section, Department of Fisheries). Experimental and demonstrative shrimp farms using Japanese modern methods are to be built and operated. The techniques developed will be used as basis for improving the existing traditional shrimp farm for higher production, it is expected that the current annual yield of 325 kg./ha. will be increased to 500 kg./ha.

Investigations on appropriate methods and techniques of increasing production in shrimp culture are being carried out at the pilot far at Samutsakorn and Samutpakarn provinces. Three major problems encourntered during shrimp culture operations are the leakage of pond embankments, the enemies, and the insufficient amount of natural food in ponds. The above-mentioned problems have been solved by the use of plastic and cello-crete materials, the tea-seed cake application for killing fish, and the addition of superphosphate fertilizers resulting in approximately three-fold increase in yields.

3. Shrimp culture loan

A long termed credit is needed for both development of intensive shrimp farmings and improvements of the existing indigenous farms. In view of the efficiency of loan management, the Bank for Agriculture and Agricultural Co-operatives (BAAC) is suggested to take the responsibility to operate on the shrimp farm loan. While the Department of Fisheries is to supply all technical assistance required by the BAAC. A working party composes of BAAC, the Department of Fisheries and concerned agencies are to be set up for the details project preparation with assisted by the Japanese experts.

4. Activities undertaken by the Department of Fisheries

The activities on the shrimp culture development both researches and field studies have already been initiated to some extent by various Marine Fisheries Stations of the Department of Fisheries. Projects being undertaken presently are as follows: -

Bangchan Fisheries Station : Shrimp rearing experiment in different sizes of ponds by using fertilizers and other supplemental feeds.

Rayong Marine Fisheries Station : A construction of a culturing concrete pond of 2 rai in area (approximaely one Acre), has been completed and another one of approximately 5 rai is now being constructed.

Construction of six shrimp hatcheries of 400 tons in total volume for the experimentation on seed production.

Two nursery ponds of 320 m^2 in area are now being constructed.

Songkhla Marine Fisheries Station: Construction of eight hatchery ponds of 5 x 5 x 2 m^3 in size approximately of 400 tons in total volume for conduction of the marine shrimp seed production.

Construction of eighteen hatchery ponds of 2 x 10 x 1 m^3 in size for *Macrobrachium* spp. seed production are now being constructed.

Construction of two juvenile stocking ponds of 5 x 10 x 1 m^3 in size for rearing of juvenile shrimps.

Experimentation on rearing of juvenile shrimps to marketable size in brackish water ponds, ferro-cement pond and other fenced ponds.

Survey on the abundance and distribution of larvae along the coastal of Songhla and Pattani Provinces.

Phuket Marine Fisheries Station: Construction of a shrimp culturing pond of 3 rai in area and the hatcheries ponds of 80 and 260 tons in volume have been completed and another one of 260 tons is now being constructed for *Penaeus* spp. seed production.

Post larvae of three species of marine shrimp *Penaeus semisulcatus, P. monodon* and *P. merguiensis* were distributed to the shrimp farmers in southern part of Thailand.

5. Research program and investigations

Research program consist of three main objectives : -

Firstly, the development of modern culture techniques being promoted by newly enlarged experiment of the existing indigenous shrimp farm; secondly, providing proper foods for shrimp larvae; and thirdly, extension of the commercial shrimp farming industry in order to increase the export products.

Although researches and investigation on appropriate methods and techniques for increasing production are being initiated to some extent, however, foreign technical assistance in certain aspects of shrimp culture is still needed. At the request of the Thai Government, and the auspieces of Government of Japan, a survey team consigned by the Japanese Overseas Technical Cooperation Agency has conducted a series of survey from 14–29 March, 1973 for the purpose of working out the details of the technical cooperation in the field of shrimp culture development in Thailand between the two countries based on the recommendation of the Japanese survey team which visited Thailand from 18 July to 7 August, 1972.

(b) Itntroduction of new cultivating marine fishes.

As far as the introduction of modern techniques in cultivating new species of marine fishes is concerned, considerable progress has been made in the artificial fertilization study of various commercially important pelagic fishes Those species succeeded from the experiments are :-

Rastrelliger neglectus
Carans malam
C. leptolepis
C. mate
C. crumenophthalmus
Decapterus russelli
Lutianus vitta
Sciaena sp.
Sphraena sp.
Suarida sp.

In order to increase the foreign excahnge earning through export of certain fishery products, studies on rearing of sea turtle and spiny lobster are now also being initiated at the Phuket Marine Biological Center.

Training

So far as the in-service training program is concerned, the Marine Biological Center at Phuket offer several training courses on various specialized fields of fisheries and related subjects to trainees selected from scientists and fisheries technical officers of the Department of Fisheries for a specified period of time. Kasetsart University offers instructional programs leading to Bachelor of Science and Master of Science degrees in fisheries biology, aquaculture, fisheries management, fishery products, fisheries technology, marine science, food science and related subjects. In addition, both undergraduate and graduate programs can also be pursued in the Department of Marine Science, Faculty of Science, Chulalongkorn Uni-

versity. A few general fisheries courses are offered to students in several agricultural schools and colleges of the Vocational Education Department of the Ministry of Education. Generally most scientists and fisheries technical officers of the Department of Fisheries are from the above mentioned university graduates, and extension workers from the vocational school graduates.

Fishing fleet

The present fishing fishing fleet is estimated at about 40,000 boats and craft of various sizes, the majority being small boats with the long shaft outboard engines which fish in the inshore waters. In 1971, there are only 59 fishing vessels which proceed into deeper waters for their catches and two fishery research vessels of 131 and 388 GT. operated by the Department of Fisheries.

The current trend of boat building is for installation of higher horse-power engines on large vessels capable of fishing in distance waters. The maximum size of vessels consturcted to date is reported to be a 35-m wooden trawler powered by approximately 1000-HP marine diesel engine; nine fishing boats of the same size and design are now being consturcted by private fishing enterprises.

Fishing household

The number of fishing operator's household regardless of the size and fishing employee's households that engaged in fishing during 1971 was estimated at about 30,000 and 10,000 respectively. There is an increase of the number of fishing operator's households with more than three permanent employees, this is due to a fairly high productivity of off-shore fisheries, whereas a decrease of the number of fishing operator's households without any employees or with less than two employees is due partly to low productivity of in-shore fisheries and partly to an increase of employment chance with other industries.

Statistics

(a) Strenghening national statistical offices in order to introudce statistical systems.

The statistical systems providing information on marine catch landings and fishing efforts were formulated in 1969 by the Department of Fisheries. Such systems are continued by a working group of 73 enumerators and 5 supervisors.

(b) Availability of basic data on landings by species and areas, on fishing fleets,fishery output and trade.

The survey and annual catch landings at five major landing places has been commenced since January 1972. The survey aims at providing the landings in terms of quantity and value of fish by species. The fishing inventory items consisting of fishing house holds, fishing boats and fishing workers are collected biennially. The number of fishing fleets is counted by types of engines and by lengths of boats. Statistics of the annual catch landings during the last 30 years are now available. The data on the imports and exports of fishery products are obtained from the foreign trade statistics issued by the Department of Customs, Ministry of Finance.

Recent Trends in Production, Distribution and Demand

(a) Trend in Production, Quantity and Value.

According to the latest fisheries statistics, the total catches of both marine and freshwater fish increased from 1.48 million metric ton in 1970 to 1.58 million metric ton in 1971. As a result of the rapid development of commercial trawling, the marine landing accounted for about 80 per cent of the total fish production. The fishing yields have been utilized in the following way : fresh market fish 47 per cent; salted, dried or smoked 7 per cent; frozen 1.5 per cent; various processed forms 44.5 per cent.

(b) Trends in domestic demand, fresh vs. processed fish.

It should be noted that the quantity of fresh marine fish transported to the main consuming centers in the northern and northeastern province is extremely small as compared with a large quantity of fish landed at the Bangkok Fish Market. Generally, no cheap fresh marine fish of high quality are on sale in those provinces mentioned. As a mater of fact, handling and distribution of fresh fish is in general a great problem that faces Thailand at the present time. Consequently, the people in these regions prefers processed freshwater fishery products to the marine ones.

(c) Earning of foreign exchange through export of fishery products.

In 1971, Thailand exported approximately 55 thousand metric tons of fish and fishery products with the total value of about 497 million bahts (US $ 23.50 millions); some 5593 tons of frozen shrimp at a value of about 246 million bahts (US $11.70 millions) were exported to Japan, U.S.A. and Europe. The latter figure accounted for about 50 per cent of the total value of fishery products for export. The favorable balance of trade on fishery products was estimated at about 415 million bahts (US $ 19.70 millions) in 1971.

Costs and Earnings

There has been no investigation to show any changes in input costs and profitability of the fishing operations as a whole inthe countr. However, the ocst and earning surveys of trawlers and shrimp culture operations have been conducted since Fabruary 1969. The details of this studies appear in the result of cost and earning survey on shrimp culture in Thailand, 1970 conducted by the Statistic Section, Department of Fisheries.

Financing the Industry

At present, the main sources of financial assistance available to fishermen and fish processors are provided by several financial institutions, namely: the Department of Fisheries, the Bank for Agriculture and Agricultural Co-operatives the Industrial Finance Corporation of Thailand and all commercial banks. A total amount of 7.57 million baht loan granted by the Department of Fisheries to fisherman in1971 is extremely limited. Therefore, the Department of Fisheries has recently requested a 50-million bahts revolving loan fund from the

Asian Development Bank for fisheries loans. In 1971, a fisheries loan fund of 6.32 million bahts was granted by the Agriculture and Agricultural-Cooperatives Bank which is a government-owned financial institution. Deep-sea fishing, fish cultivation and fish-processing industries are the industrial fisheries enterprises being eligible for the loans provided by the Industrial Finance Cooperation of Thailand. The maximum loan amount per borrower is 30 million bahts grants for up to 7 years at the rate of interest of 10.5% per annum. Fishermen and fish processors may apply for loans from any commercial bank; such adequately secured loans will be granted at the interest rate of 14% per annum.

Technical Assistance

Foreign expertise for fisheries development is being utilized by Thailand under a bilateral agreement with the Federal Republic of Germany relating to the establishment of the Marine Fisheries Laboratory. Under the Thai-Danish Co-operation in the field of marine biology; Marine Biological Center has been established in1971 at Phuket province. Expertise in recent years is obtained mostly for introducing improved techniques of fishery. Besides the utilization of the services of foreign experts technical assistance is also achieved by deputing the selected candidates to foreign countries for specific training.

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The country report of the Republic of Vietnam

Fishers Resources of Vietnam

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Abstracts

With cease fire and the reestablishment of peace in Vietnam, the country should be in a position to make major advance towards becoming self supporting and an economically stable nation. To achieve this end, every material and resource must be effectively used. Among the natural resources, fishery products represent an important contribution and a major factor in supplying the much needed additional protein food needs of the people. At the same time it may be possible to supply quantities of exportable fishery products to earn foreign exchange. In 972, total fishery production was 677,700 MT from which about 2,000 MT of shrimp have been exported with a value of 6 million US$.

Fish resources of Vietnam come from: (1) Inland waters (fresh water and brackish water) including the swampy and flooded areas of the Mekong Delta and an inextricable network of rivers and canals throughout the country. Most of the tropical species of fish of the Indomalaysian archipelago are found in inland waters. Some are widespred and are used for local consumption. These include snake-head fish and Trichogaster which are caught in flooded rice field and other types like common carp and catfishes which are cultivated in fish ponds. Some introudced species such as the Chinese carp promise to be adaptable to the local condiions. (2) Marine waters (inshore and offshore) abound with common species of the South China Sea and the Gulf of Thailand. These include red snappers, markerel, threadfin, pomfret grouper squid, herring, lizzard fish, etc.... Shell fish, such as shrimps and prawns, lobsters, mussels, clams, and crabs are also taken in variable quantities depending on the area.

Due to the geographical situation of the country adjacent to the wide continental shelf of most of Southeast Asia, Vietnam has a great potential for development of fishery resources. In spite of the ravaging war that hindered fisheries from developing, our production of fish in 1972 reached about 677,700 tons, comprised of more than 500,000 tons of marine products, 82,000 tons of fresh water fishes and about 96,000 tons of shrimp, crab and molluscs combined.

Nearly all of these resources were used for local consumption. The small remainder, some 2300 MT with high unit value in the international market were exported and brought nearly 6 million US$ into the trade balance. Export species includee shrimp, polynemeus threadfin, pomfret, red snapper, squid etc....

1. FRESH WATER AND BRACKISH WATER RESOURCES

Almost all tropical water resources are found in Vietnam, especially in the south west region flooded every year by the Mekong River. Many farmers in this region are also part-time fishermen. They use many kinds of fishing gears and small outboard boats for fast transportation of their catch to the market. Deep ponds near the rice fields are used for fish concentration when the water runs down toward the river.

The main species caught in the south west are as follows:

English name	Scientific name
Snake head fish	*Ophicephalus striatus*, and Ophicephalus micropeltes
Fresh water catfish	*Clarias batrachus*, and *Clarias fuscus*
Climbing perch	*Anabas testudineus*