

Overview of Current Fish Consumption and Fish Processing in Southeast Asia

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Food Fish Supply in the Region

The amount of local fish consumption in 1978 and 1984 was roughly estimated using the data in the SEAFDEC Fisheries Statistical Bulletin for the South China Sea Area, by adding the amount of fish imported to the local fish production and deducting the amount of exported fish in each country and the amount of fish reduced to fish meal and fertilizers. The majority of trash fishes are not directly utilized for human consumption in Thailand, and were therefore excluded from local consumption.

The per capita fish consumption was calculated by dividing the estimated local fish con-

sumption by the total population and is shown in Table 1.

Per Capita Fish Consumption

The regional per capita fish consumption in 1978 and 1984 was 23 kg and 21 kg, respectively.

The reasons for the slight decrease in the figure for 1984 can be explained as follows:

- a) Total population in the region increased 15 per cent, and local fish production in the region only increased from 6 million tons in 1978 to 7.1 million tons in 1984.

Table 1. Balance of supply and demand of fish

		Local Production	Import	Export	Reduction	Local Consumption	Population Size	Per Capita Consumption
Brunei	a	3	2	0	—	5	0.2	25
	b	5	2	0	—	7	0.22	32
Indonesia	a	1,648	27	63	—	1,612	136.6	12
	b	2,261	4	52	19	2,194	161.6	14
Malaysia	a	685	157	130	62	650	12.9	50
	b	672	237	138	108	663	15.2	44
Philippines	a	1,580	48	49	—	1,579	46.7	34
	b	2,080	6	63	—	2,023	53.2	38
Singapore	a	16	815	58	—	773	2.3	—
	b	25	151	84	—	92	2.5	37
Thailand	a	2,099	29	235	921	972	45.5	21
	b	2,135	119	412	844	998	50.4	20
Total	a	6,031	1,078	535	983	5,591	244.3	23
	b	7,178	519	749	971	5,977	283.1	21

Source: Fishery Statistical Bulletin for South China Sea Area

Unit: Production — '000 mt
 Population — Million
 Per Capita Consumption — kg

Year: a = 1978
 b = 1984

- b) The amount of imported fish declined from 1 million tons in 1978 to 0.5 million tons in 1984, and the amount of exported fish and fishery products increased from 0.5 million tons to 0.7 million tons during this period.

The local fish supply may not be sufficient to meet the requirement for animal protein in the region.

The average price of fish, excluding shrimp and squid, which are exportable products, is higher than the general consumer price index in Thailand.

The average per capita fish consumption varies for each country; for example, in Brunei, it has increased remarkably due to an increase in local production and the amount of fish imported.

In the Philippines, the per capita consumption has increased although the amount of exported fish commodities also increased.

Per capita fish consumption in Thailand has dropped from 21 kg in 1978 to 20 kg in 1984, due mainly to an increase in the quantity exported in spite of a slight increase in local production. When looking at the amount of "reduced" fish in Thailand in Table 1, we can see that more than 40% of the total production was reduced to fish meal and therefore not used

for human consumption.

Thailand should introduce appropriate measures to prevent over exploitation of precious fish resources and utilize these resources more carefully. The reduction of fishing effort and introduction of mesh size regulations would ensure proper management of the resources. If 50% of the trash fish could be utilized for human consumption, the per capita fish consumption would be increased, or foreign exchange could be increased by exporting these fish in the form of "surimi".

Disposition of Marine Fish

Table 2 shows the disposition of fish in the region. Of the total fish production in 1984, 38% was consumed in its fresh form, followed by 20% as dried and salted fish. Fish in Asia is traditionally consumed fresh and as dried or salted fish products; as these were the only methods of preservation available for such perishable commodities before the introduction of modern technologies for the preservation of fish products, such as canning and freezing, etc. Since fish is perishable and cannot be kept for long, the cost of fish which cannot be sold fresh, and is thus used for processing, is lower than that of fresh fish and often results in poor quality processed products. That is why the price of processed

Table 2. Disposition of marine fish

		Total	Fresh Fish	Freezing	Canning	Dried & Salted	Steamed/Boiled	Fermented	Other Curing	For Reduction	Others
Brunei	a	3	3	—	—	—	—	—	—	—	—
	b	—	—	—	—	—	—	—	—	—	—
Indonesia	a	1,227	591	24	6	470	66	60	6	—	4
	b	1,713	854	46	17	606	121	44	16	—	9
Malaysia	a	627	419	15	—	62	—	9	2	62	58
	b	579	328	6	—	84	15	15	10	108	13
Philippines	a	—	—	—	—	—	—	—	—	—	—
	b	—	—	—	—	—	—	—	—	—	—
Singapore	a	16	16	—	—	—	—	—	—	—	—
	b	25	25	—	—	—	—	—	—	—	—
Thailand	a	1,839	470	150	27	193	32	16	—	899	52
	b	1,912	404	198	173	170	22	100	—	840	5
Total	a	3,712	1,499	189	33	724	98	85	8	961	114
	b	4,229	1,611	250	190	860	158	159	26	948	27

Source: Fishery Statistical Bulletin for South China Sea Area

Unit: '000 mt

Year: a = 1978

b = 1984

fish is cheaper than fresh fish.

In Table 2, we can see that the disposition of fresh fish in Indonesia and Thailand was roughly 50% and 20%, respectively in 1984, and for dried and salted fish about 35% and 9% respectively.

This can be explained by the fact that Indonesia has maintained a traditional consumption pattern while Thailand, on the other hand, has well developed canning and freezing industries, as shown in Table 3. While canning and freezing are better ways of preservation, although the traditional methods of drying, salting, steaming and fermenting are still popular in the region (see tables 2 and 4). It is therefore necessary to improve the standard of the traditional preservation methods.

When we look at the Japanese experience, the consumer's preference becomes more diversified with improvements in his economic condition. Traditional processed products can be sold at a higher price once their quality is improved by the introduction of advanced technology.

Fish Quality Improvement

When I first went to Thailand 20 years ago,

the price of fish at wholesale markets varied according to species, but did not reflect the freshness of the fish. The current Manager of the Fish Marketing Organisation of Thailand told me that nowadays the price of fish varies according to quality.

Fishermen can sell live prawn at a higher price than dead prawn, and fresh fish suitable for "sashimi" can be sold at a high price in Bangkok.

Since the available fish resources are almost fully exploited in the region, fishermen cannot expect to raise their income by increasing their catch. It is, therefore, important to encourage fishermen to preserve the freshness of the fish on board to get better prices.

Ice has been used on Thai trawlers, but is not sufficient to preserve freshness over a long period.

Malaysian trawlers installed refrigerators on board to preserve freshness using cold sea water, but the quality of fish is still not high enough. It is therefore important that efficient refrigeration systems be introduced to the region.

Table 3. No. of cold storage and capacity (1979 — 1985)

	No. of Cold Storages	Freezing Capacity ton/D	Storage Capacity M ³	Quantity of Fresh Stored (1000 mt)				
				Total	Fish	Shrimp	Squid	Others
1979	29	618	14,524	110	5	24	40	11
1980	29	705	14,404	124	59	23	59	3
1981	34	954	14,686	109	41	26	40	2
1982	41	1,112	16,821	123	70	16	35	2
1983	47	1,316	22,240	120	59	18	41	2
1984	54	1,470	25,590	200	94	28	70	8
1985	56	1,517	29,940	247	127	36	77	7

Source: Department of Fisheries, Thailand
Quantity = '000 mt

Table 4. No. of fish processing factories and fish materials used (1981-1985)

	Fish Sauce		Shrimp Paste		Fish Dried & Salted		Dry Shrimp		Dry Squid		Fish Ball		Others	
	No.	Q	No.	Q	No.	Q	No.	Q	No.	Q	No.	Q	No.	Q
1981	103	90	533	17	393	95	161	25	351	27	10	0.3	177	30
1982	96	30	2,377	7	676	34	301	20	826	31	52	0.3	1,621	27
1983	110	28	2,603	13	759	39	276	27	854	39	52	3.2	1,898	24
1984	113	24	2,860	15	800	59	284	42	865	47	64	3.5	1,213	23
1985	114	19	2,725	12	978	62	148	40	879	47	64	2.9	1,069	19

Source: Department of Fisheries, Thailand
Q = '000 mt