February 2007

Development of an ASEAN Framework for Trade Negotiations: The Fisheries Sector

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF BOXES

Executive Summary

Fish exports are very important to the economies of developing countries in Southeast Asia with top world fish exporters coming from the region. International trade in fish and fishery products grew substantially in the past two decades, with values greater than net exports of other agricultural commodities such as coffee, bananas, rice and tea. The sector represents one of the dominant sources of income for poor households in Southeast Asia. However, tariff escalation in the major world fish markets, namely, the European Union, North America, and Japanese markets results in high effective protection rates and discourages diversification into processing activities.

Non-tariff barriers, often linked to technical standards or procedures, are hindering the industry's further development. Nevertheless, there is an opportunity for improvements in market access conditions through clearer and more streamlined applications of technical standards such as those pertaining to food quality and safety; promotion of trade in fish and fishery products in line with social and environmental sustainability; disciplines on fisheries' subsidies; further clarification and simplification of rules of origin procedures, and; in the case of some developed markets, a broadening of the coverage of eco-labelling and certification schemes. The key challenge areas would be in developing and harmonizing standards and other trade rules in view of the member countries' differences in priorities and capacities.

An avenue to pursue enhanced market access is through the ASEAN Free Trade Area processes and other regional arrangements such as the ASEAN+3. The current implementation schedule has resulted in modest reductions in barriers in the more advanced ASEAN members, albeit at a slow pace.

Following the lead of the ASEAN Roadmap for Fisheries Integration, which identified specific activities that would be undertaken to facilitate and optimize trade potential for the sector, several recommendations in addressing some of the market access barriers for the ASEAN+3 free trade initiative have been developed. This includes the reduction of tariff and non-tariff barriers as well as the promotion of fisheries trade in accordance with socio-economic and environmental sustainability. Fish trade negotiations are relevant for fisheries management because several fish species have now become the subject of agreements such as the CITES. There is also a need to provide technical assistance and capacity building programs to enable countries to adjust to new rules and implement existing trade obligations. The type of result that emerges from the negotiations, however, is conditional on effective participation in the negotiations by developing countries. Specific recommendations to further advance the growth of the sector are:

- Support the harmonization of standards for health and safety regulations in fish trade such as Sanitary and Phytosanitary (SPS) measures and procedures for administering them in line with international standards while recognizing the problems that developing countries face in complying with such standards;

- Implement coastal resources development and management strategies and guidelines that adhere to the principles of sustainable use of coastal and marine resources and responsible fisheries;

- Harmonize customs procedures and simplify rules of origin;

- Develop regional policy and guidelines for fisheries subsidies, cognizant of the region's specific requirements;

- Develop and promote fish and fishery product brands that support responsible fisheries and food safety practices; and

- Implement programs to increase the capacity of developing countries in technical, institutional and legal areas affecting fisheries management;

Experience shows that the integration process could be slow and tedious, but if the ASEAN+3 is to foster deeper economic integration in the region, it would be necessary not just to focus on the item-by-item tariff lines and exclusions but more importantly on ways to increase competition and efficiency, which in turn will bring real economic benefits.

Standards are increasingly becoming a major barrier, with East Asian exporters facing difficulties in meeting health and safety standards. Inevitably, improved harmonization of SPS and Technical Barriers to Trade (TBT) requirements and standards would be important in both regional and international levels but there is apprehension that incremental benefits from trade liberalization would be nullified by protectionist use of the said measures. Nonetheless, it would be necessary to developing country players to adapt to the global changes to avoid compromising the export prospects. To comply with international safety and quality standards, the governments should be proactive in assisting the private sector to find solutions. Cooperation between donors, international agencies, national agencies and private entrepreneurs is desirable to make optimal use of resources allocated to food safety-related activities.

Effective fisheries management should also be viewed as the foundation for sustainable fisheries trade and be a part of fish trade related initiatives. Moreover, fisheries policy should not focus on increasing production and income from fishing alone as efforts to promote new technologies have placed increased pressure on the resource. What is needed is to build upon the diverse ecosystem characteristics of the coastal zone and promote alternatives to fishing as a source of livelihood.

The ASEAN initiatives in economic integration can stimulate trade and market access for its members, if they are fully implemented. As noted, the weak integration in the fisheries sector is attributed to the current production and technology entailing simple transformation of raw materials that are not suited to division across economies. A liberal regional trading landscape can encourage further processing and specialization in a regional context and could enhance opportunities for joint ventures among exporters.

However, individual countries should continually strengthen their own comparative and competitive advantages through specialization and product innovation.

Development of an ASEAN Framework for Trade Negotiations: The Fisheries Sector*

1.0 Introduction

On the surface, the ASEAN Free Trade Area (AFTA) is going from strength to strength. However, experts say that the picture is not quite what it is cracked up to be. As Pangestu and Gooptu (2003) observed, the strong expressions of political commitment and proposals to widen ASEAN cooperation have not always been followed up with concrete and broad-ranging implementation. The idea of a comprehensive and integrated framework to cover investment, services, trade and investment facilitation measures, competition policy and antidumping has been proposed; however, this has not progressed very far. To be fair about it, there have been efforts to address these problems. There have been pledges to streamline customs procedures and adopt shared product standards. To make the task more manageable, ASEAN has decided to press ahead in 11 priority sectors – from fisheries to aviation.

World fisheries production has grown rapidly in response to increasing demand, and as a result of advances in fishing technology, growth in aquaculture, and expansion in areas and species fished. Moreover, fisheries and aquaculture production is a clear contributor to national economies across the Asia. This study is intended to review the current situation and summarize present understanding of the dynamics, problems and opportunities in the fisheries sector in Southeast Asia and develop a framework that can be used for fisheries trade negotiations between ASEAN member countries (Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam), Japan, China and the Republic of Korea; henceforth, ASEAN+3.

Section two provides a summary of the major trends and potential for fisheries and aquaculture including ornamental fish trade in the ASEAN+3 countries. Sections three and four discuss existing demand and supply side constraints faced by developing countries in international fish trade. The demand-side considerations include market constraints related to trade, such as tariff and non-tariff barriers, while the supply-side constraints encompass the domestic challenges in developing countries. Section five explores the relevant ASEAN initiatives intended to facilitate fisheries trade while section six provides suggestions regarding the flexibilities that the industry would require in order to cope with the regional integration and liberalization processes. In section seven, specific recommendations and options for the way forward for the ASEAN+3 trade negotiations for the sector, are presented. The last section draws some conclusions and final thoughts on the work at hand.

* *Prepared by Catherine Frances J. Corpuz for the Partnership and Advocacy for Competitiveness and Trade Project of the DLSU Angelo King Institute for Economic and Business Studies*

2.0 Trends in Fish Production, Utilization and Trade in Southeast Asia

Capture fisheries and aquaculture provide food security, trade and employment opportunities in Southeast Asia. Culturally, aquatic resources mean more than a source of income or food supply; traditional fishery products such as fish sauce and fish-based condiments are important ingredients of people's daily diet, which are not easily substituted (Sugiyama, Staples and Funge-Smith, 2004). While the production value of the fisheries sector as a percentage of the gross domestic product of individual countries is relatively small (see Table 2.1), exports of fisheries products from developing countries now form a major portion of agricultural and food processing exports. Aside from those directly involved in the primary production sector as shown in Table 2.2, there are also a number of people who are engaged in the supporting industries of fisheries and aquaculture such as boat building, ice making, feed manufacturing, processing, marketing and distribution of fisheries and aquaculture products.

Table 2.1: Contribution of Fisheries to GDP

Capture Fisheries		Aquaculture	
Country	**Production Value as Percent of GDP**	**Country**	**Production Value as Percent of GDP**
Cambodia	10.030	Cambodia	0.893
Indonesia	2.350	Indonesia	1.662
Lao PDR	1.432	Lao PDR	5.775
Malaysia	1.128	Malaysia	0.366
Philippines	2.184	Myanmar	0.167
Thailand	2.044	Philippines	2.688
Vietnam	3.702	Thailand	2.071
China	1.132	Vietnam	3.497
		China	2.618
		RO Korea	0.145
		Japan	0.108

Source: Sugiyama, Staples and Funge-Smith (2004)
Note: These are 2001 figures except for Vietnam, which is from 2000

Table 2.2: People Employed in Fishing and Aquaculture

Country	2000	1990	1980	1970
Brunei Darussalam	1,355	1,900	722	1,130
Cambodia	73,425	37,695	13,100	10,000
Indonesia	5,118,571	3,617,586	2,231,515	841,627
Lao PDR	15,000	15,000	11,800	10,000
Malaysia	100,666	88,494	119,642	81,729
Myanmar	610,000	580,962	361,051	344,000
Philippines	990,872	898,000	781,500	1,047,441
Singapore	364	836	2,025	1,919
Thailand	354,495	207,019	86,188	74,086
Viet Nam	1,000,000	800,000	330,000	317,440
Total ASEAN	**8,264,748**	**6,247,492**	**3,937,543**	**2,729,372**
China	12,233,128	9,092,926	2,950,344	2,300,000

Japan	260,200	303,400	376,880	437,900
RO Korea	176,928	211,753	298,122	367,645
Hong Kong	24,655	31,283	35,700	50,000
Asia (excluding Middle East)	**28,890,352**	**23,092,966**	**13,158,174**	**8,832,925**

Source of basic data: Earthtrends and FAO FishStat

2.1 Production

Asia is the world's largest producer of fish, from both aquaculture and capture fishery sectors, but there is considerable variation in general trends among the countries. Most of the growth in both aquaculture and capture fisheries occurred in China, Thailand, Indonesia and India. Japan and RO Korea have shown a steady reduction in the supply of capture fish and continue to rely on aquaculture production (Tables 2.3 and 2.4).

Production growth in Southeast Asia has been very strong for the past four decades with capture fisheries production increasing linearly. The total capture production level of over 15 million metric tons in 2004 for the countries in the region was second only to China. Ninety percent of capture production is attributed to those caught in marine waters. However, given the rich freshwater resources in the area and the fact that the catch of many small-scale operators is not properly recorded, the proportion of inland capture production might be underestimated.

Table 2.3: Total Capture Fisheries Production (in metric tons)

Country	2004	2003	2002	2001	2000
Brunei Darussalam	2,428	2,226	2,058	1,597	2,487
Cambodia	305,817	364,357	406,182	428,200	284,368
Indonesia	4,811,325	4,627,154	4,323,770	4,243,274	4,084,079
Lao PDR	29,800	29,800	33,440	31,000	29,250
Malaysia	1,339,844	1,291,164	1,279,635	1,238,813	1,293,325
Myanmar	1,586,660	1,343,860	1,284,340	1,187,880	1,093,200
Philippines	2,214,336	2,168,737	2,033,095	1,951,517	1,899,042
Singapore	2,173	2,085	2,769	3,342	5,371
Thailand	2,845,088	2,849,697	2,842,508	2,833,911	2,997,394
Vietnam	1,879,488	1,856,105	1,802,598	1,724,758	1,623,312
Total ASEAN	**15,016,959**	**14,535,185**	**14,010,395**	**13,644,292**	**13,311,828**
China	16,892,793	16,755,653	16,553,144	16,529,389	16,987,325
Japan	4,403,415	4,672,286	4,362,697	4,705,059	4,987,704
RO Korea	1,575,337	1,642,905	1,671,420	1,990,722	1,824,995
Hong Kong	167,544	157,444	169,790	173,972	157,012
Asia (excluding Middle East)	**45,065,729**	**45,040,927**	**44,000,781**	**44,179,584**	**44,358,126**

Source of basic data: Earthtrends and FAO FishStat

Table 2.4: Total Aquaculture Production (in metric tons)

Country	2004	2003	2002	2001	2000
Brunei Darussalam	708	160	157	99	113
Cambodia	20,835	18,500	14,600	14,000	14,430
Indonesia	1,058,042	996,659	914,071	864,276	788,500
Lao PDR	64,900	64,900	59,716	50,000	42,066
Malaysia	171,270	167,160	165,119	158,158	151,773
Myanmar	400,360	252,010	190,120	121,266	98,912
Philippines	512,220	459,615	443,537	434,661	393,863
Singapore	5,406	5,024	5,027	4,443	5,112
Thailand	1,172,866	1,064,378	954,567	814,121	738,155
Vietnam	1,198,617	937,502	703,041	588,098	498,517
Total ASEAN	**4,605,224**	**3,965,908**	**3,449,955**	**3,049,122**	**2,731,441**
China	30,614,998	28,886,229	27,767,251	26,050,101	24,580,671
Japan	776,421	823,873	826,715	799,946	762,824
RO Korea	405,748	387,791	296,783	294,484	293,420
Hong Kong	4,615	4,857	4,302	5,627	4,988
Asia (excluding Middle East)	**40,216,780**	**37,692,570**	**35,750,973**	**33,435,774**	**31,322,958**

Source of basic data: Earthtrends and FAO FishStat

Although capture fisheries continue to account for the larger share in the region's fish production, most of the recent expansion emanated from the faster-growing aquaculture sector. Aquaculture production in Southeast Asia is very diverse, comprising of freshwater fish, aquatic plants, crustaceans, marine/diadromous fishes and molluscs (Sugiyama, Staples and Funge-Smith, 2004). Crustaceans are a major culture species because even if its level of production is not as high as that of freshwater finfish and aquatic plants, it has the highest production value.

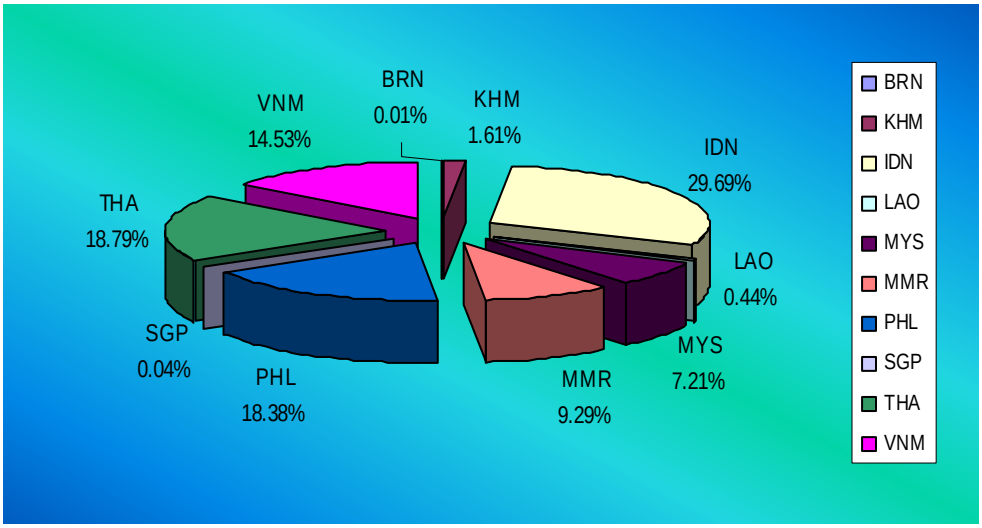
Aquaculture grew annually at an average rate of 8% from 1970 to 2004, while capture production grew at a slower pace of a little over 3% for the same period. Ahmed and Lorica (2002) attributed this to technical innovations, private sector growth and increased market demand, which are the major drivers in the expansion of aquaculture in developing countries, particularly in Asia. Moreover, the forward (e.g., harvesting, post-harvest handling, processing and marketing) and the backward (e.g., hatcheries, nurseries and seed, feed and other input deliveries) linkages in aquaculture can generate substantial labor demand. Then again, trade-induced aquaculture has been associated with environmental problems such as clearance of mangrove forests and disease outbreaks. There is likewise the danger that with increasing demand for fishmeal, species used as fish feeds like herring and sardines might be over-fished. The issue of genetic modification has also cropped up and likely to be important in the future (Ahmed, 2006).

Among ASEAN member countries, Indonesia and Thailand are consistently among the world's top ten fish-producing countries with the Philippines and Vietnam following their lead. In 2004, Indonesia contributed 30% of the total ASEAN fish production while Thailand, Philippines and Vietnam accounted for 19%, 18% and 14%,

respectively (See Figure 2.1). Brief profiles of the fisheries sector in individual ASEAN member countries as well as Japan, China and RO Korea are presented in Annex 1.

The sector remains polarized with the presence of large-scale, industrial, or commercial fishery (i.e., fishery that employs relatively capital-intensive fishing technologies, with equipment owned by commercial entrepreneurs and operated by salaried crews) and small-scale or artisanal fishery. The latter refers to traditional fishery involving fishing households, mostly labor intensive, using a small craft with traditional fishing gear such as hand lines, small nets, traps, spears, and hand collection methods. The fish processing industry is similarly characterized by the existence of small-scale family establishments relying on customary and long-established processing methods side-by-side with modern processing plants equipped with state-of-the-art machinery.

Figure 2.1: Share of ASEAN Countries in Fish Production (in percent)



2.2 Utilization

The biggest share of fish produced goes to direct human consumption as fish is a major source of animal protein in Asia, particularly for rural populations. While before some were entirely dependent upon capture fisheries for food, aquaculture fish has become increasingly a practical substitute or alternative. In 2002, about 76% or 100.7 million tons of estimated world fish production was directly consumed by people while the remaining 24% (32 million tons) was destined for non-food products, in particular the manufacture of fishmeal and fish oil (FAO, 2004). Almost all the fish products used for non-food purposes came from natural stocks of small pelagics.

As a highly perishable commodity, fish has significant processing requirements. Freezing represents the main method for processing fish for human consumption, followed by canning and curing. In the past, developing countries were involved

primarily in exports of raw materials for the processing industries of developed countries but in recent years, they have been increasingly involved in adding value to their produce prior to exporting.

The form of fish consumed indicates regional and national differences. For example, the consumption of cured fish and live or fresh forms is higher in Africa and Asia compared with other places. On the other hand, more than two-thirds of fish used for human consumption in Europe and North America were either frozen or canned. The many options for processing fish allow for a wide range of tastes and presentations, making fish one of the most versatile food commodities but fresh fish is still the most widely accepted product on the market (FAO, 2004). During the 1990s, the proportion of fish marketed in live/fresh form worldwide increased compared with other products. The sale of live fish to consumers and restaurants is especially strong in Southeast Asia and the Far East.

2.3 Trade

As demand grows faster than supply, the price of fish is increasing worldwide and fish is becoming a "cash crop". Fish and fishery products are highly traded commodities bringing valuable foreign exchange earnings to exporting countries.

For the past 20 years, many developing countries in Southeast Asia have become net exporters of fish products. The more marketable fish species are being sold to provide income that is used to purchase other commodities, including more affordable food items. Trade continues to flow primarily from developing to developed nations, largely involving high-value species such as shrimp, prawns, lobster and tuna. On the other hand, in many developed countries like Japan, the trend has been reversed with these countries becoming net importers, rather than net exporters. The latest export and import values by the ASEAN + 3 are shown in Table 2.5. When combined, the export value of ASEAN member countries account for 43% of fish exports from Asia in 2004.

Owing to the growth in its aquaculture production, Vietnam has significantly increased its exports of fish and fishery products within a span of ten years (from US$4.8 million in 1994 to US$2.4 billion in 2004). The bulk of the country's exports consisted of shrimps (mainly in frozen form). The main target markets for Vietnamese exports were China, Japan and the United States.

Thailand continues to lead the ASEAN member countries as the world's top exporter of fish and fishery products since 1993. Nonetheless, despite its performance, the title was wrestled away by China in 2002. China has experienced remarkable increases in its fishery exports since the early 1990s. These increases are linked to growing production, as well as to the development of China's fish-processing industry taking advantage of its competitive labor and production costs. In addition to exports from domestic fisheries production, China also exports reprocessed imported raw material, creating a strong value-addition in the process. At the same time, its imports of

fish and fishery products have increased significantly over the last decade, rising from US$0.7 billion in 1992 to US$3.1 billion in 2004. With its accession to the World Trade Organization (WTO) in 2001, China had to commit itself to lowering its import duties, which decreased from an average import tariff of as high as 15.3% in 2001 to 11% in 2003 and 10.4% in 2004. The quantity of imported fishery products (2.9 million metric tons) in PR China exceeded that of exported products (2.3 million metric tons) in 2004. Nonetheless, it has achieved a remarkable trade surplus of US$3.5 billion from fishery products, indicative of the strong value adding that occurred in the process.

Table 2.5: Trade in Fish and Fishery Products (in thousand US$)

	2004			2003			2002		
Country	Exports	Imports	Net Exports	Exports	Imports	Net Exports	Exports	Imports	Net Exports
Brunei Darussalam	683	12,996	-12,313	704	11,684	-10,980	459	12,917	-12,458
Cambodia	39,578	3,146	36,432	34,477	3,004	31,473	31,962	559	31,403
Indonesia	1,654,112	139,789	1,514,323	1,550,953	74,089	1,476,864	1,490,854	77,148	1,413,706
Lao PDR	25	3,331	-3,306	12	2,318	-2,306	12	1,713	-1,701
Malaysia	569,206	527,869	41,337	252,703	365,826	-113,123	377,584	387,049	-9,465
Myanmar	318,514	1,267	317,247	317,382	1,713	315,669	251,534	397	251,137
Philippines	413,716	68,248	345,468	427,789	81,405	346,384	415,465	89,878	325,587
Singapore	393,075	623,496	-230,421	315,012	528,601	-213,589	311,327	498,370	-187,043
Thailand	4,034,003	1,230,989	2,803,014	3,906,384	1,074,916	2,831,468	3,676,427	1,042,103	2,634,324
Viet Nam	2,402,781	172,715	2,230,066	2,201,878	156,753	2,045,125	2,030,320	92,272	1,938,048
Total ASEAN	9,825,693	2,783,846	7,041,847	9,007,294	2,300,309	6,706,985	8,585,944	2,202,406	6,383,538
China	6,636,839	3,125,631	3,511,208	5,243,459	2,388,590	2,854,869	4,485,274	2,197,793	2,287,481
Japan	1,077,287	14,559,508	-13,482,221	922,980	12,395,943	-11,472,963	788,953	13,646,071	-12,857,118
RO Korea	1,139,399	2,233,243	-1,093,844	1,003,354	1,934,998	-931,644	1,045,672	1,861,093	-815,421
Hong Kong	46,536	1,907,984	-1,861,448	47,355	1,752,420	-1,705,065	50,165	1,766,128	-1,715,963
Asia (excluding Middle East)	22,957,953	25,310,903	-2,352,950	19,751,735	21,455,531	-1,703,796	18,811,313	22,345,735	-3,534,422

Source of basic data: Earthtrends and FAO FishStat

Exports from developed to developing nations in Southeast Asia consist mainly of low-value small pelagic species, but these are vital for food security. In 2003, despite consuming around one-third of all fish products, imports by developing countries account for only 15% of the total value of fish-traded (FAO, 2004). On the other hand, trade among developing countries, which are mostly in the form of fishmeal for use as fish oil in aquaculture, remained modest at US$5 billion but it is high in terms of volume involving large quantities of low-value species.

In contrast, flows from developing (including ASEAN member countries) to developed countries are largely composed of high-value species such as shrimps, prawns, lobster and tuna with the European Union, Japan and the US as major importers. Delgado et al., (2003a) noted that positive net exports from developing to the developed countries are expected to continue at least until 2020, but at a lower level than at present due to increasing South-South trade and growing consumption in developing countries.

Findings in FAO (2005a) support this observation and projects that total demand for fish in developing countries will increase from the 30.5 million tons registered in 1979-81 to nearly 140 million tons in 2015. Asia accounted for 68% of the total fish demand during the same period and this is expected to increase further to 86% between 2010 and 2015. Annual per capita demand for finfishes in developing countries is estimated to go up from 10.7 kg in 1999-2001 to 13.5 kg in 2015, and in developed countries, from 16.3 kg to 17.3 kg during the same period FAO (2005a). Delgado et al. (2003a) projected that annual per capita consumption of fish by 2020 will rise significantly to 39.5 kg and 25.8 kg for China and in Southeast Asia, respectively. The increasing demand for high-value food fish in developing countries will also affect the current flows of trade of high-value products, which has been concentrated so far in a few major markets in the developed world. This suggests a slowing and even a reversal of net export growth by developing countries as shown in Table 2.6.

Table 2.6: Net Exports of Food Fish (Actual and Projected)

Country/Region	Total Net Exports ('000 metric tons)			Net Change ('000 metric tons)	
	Actual		Projected	Actual	Projected
	1985	1997	2020	1985-1997	1997-2020
China	311	462	21	151	-441
Southeast Asia	315	696	594	381	-102
India	32	41	-286	9	-327
Other South Asia	37	118	6	81	-112
Latin America	489	1,962	2,645	1,473	683
West Asia and North Africa	79	184	183	105	-1
Sub-Saharan Africa	-146	186	75	332	-111
United States	-565	-901	-1,235	-336	-334
Japan	-1,037	2,073	-1,903	-1,036	170
European Union 15	-1,231	2,521	-2,081	-1,290	440
Eastern Europe and former Soviet Union	-704	614	-923	90	-309
Other developed countries	2,160	2,232	2,801	72	569
Developing world	1,377	3,877	3,341	2,500	-536
Developing world excluding China	1,067	3,415	3,320	2,348	95
Developed world	-1,377	-3,877	-3,341	-2,500	536

Source: Delgado, et al. (2003a)
Notes: Actual data are three-year averages centered on 1985 and 1997; Negative values indicate net imports

Despite Asia as a whole experiencing negative net exports, majority of the members of ASEAN continue to enjoy positive figures. This indicates that there are still areas for further intra-regional trade opportunities. Intra-regional fish trade in Asia alone came to about US$11.7 billion during 2000-02 (FAO, 2005a).

Changing income patterns are expected to affect consumption, particularly in developing countries, notably as incomes rise. The market within the region is heterogeneous as characterized by its income level. Each fish exporting country can thus find a market niche to exploit. IFPRI (2002) foresees the continued rise in per capita income consumption of meats, dairy and fish products in developing countries until the year 2030. The observed global trend suggests that those who are at the low income level

continue to demand unbranded and basic packaged products. On the other hand, the more affluent economies in Asia are increasingly importing high value commodities for domestic consumption. At higher income levels, fresh and healthy products as well as food processed for convenience are favored. Following the study of the International Trade Strategies Pty Ltd., and Center for Food and Agribusiness (2004), food markets in ASEAN can be disaggregated into: (i) Group A (sophisticated, processed and fresh, health products): to which Singapore, Brunei Darussalam belong; (ii) Group B (basic packaged food and frozen products): Thailand, Malaysia; (iii) Group C (unbranded products, and basic packaged products with some frozen products): Indonesia, The Philippines, Vietnam; and (iv) Group D (unbranded products, and some basic packaged foods): Cambodia, Laos, Myanmar.

FAO (2005a) estimated that there are currently over 800 fish species being traded internationally in a variety of forms and preparations. More than half of the fish products intended for human consumption is marketed as fresh fish (Kura et al., 2004). This growth in the share of fresh fish, as well as those sold as live or chilled, is likely to continue as consumers become increasingly health conscious and as new technological systems supporting handling, transportation, storage and distribution facilities develop.

Besides product diversification, value-addition to fish exports leads to greater export earnings. Fish trade in developing countries is gradually evolving from the export of fish as raw material to the export of processed fish products. The fish processing industry is becoming more globalized as processing is increasingly taking place in locations other than the country of origin of the fish. Hence, there is substantial exporting and re-exporting taking place such as in the case of Thailand and Singapore. The flow of resources can be facilitated by having a well-functioning supply chain for fisheries products, which includes all the links from the point of production to the end-user. There is also evidence of rising developed country investment in processing facilities in developing countries where labor costs are lower.

Regional trade agreements such as the ASEAN's Free Trade Agreement (AFTA) is an attempt to facilitate the expansion of South-South trade that focuses on eliminating protective tariffs and harmonizing trade policies within a region. Among AFTA's targets is for 0-5% tariffs for intra-ASEAN trade. In the first few years following its implementation, average tariffs on fish commodities declined to as low as 5% to 3%. As such, the increased fish supply and demand, combined with significant progress in the implementation of national, bilateral and multilateral free trade agreements in developing countries, is expected to bring about revitalized South-South fish trade.

Unfortunately, this growing dependence on fish exports by developing countries has exposed them to market shocks and price volatility and forced them to comply with new sets of health and food safety-related rules such as Sanitary and Phytosanitary (SPS) standards and Hazard Analysis Critical Control Point (HACCP) regulations (Ahmed, 2006).

2.4 Aquarium and Marine Ornamental Fish Trade

The growing aquarium industry and trade in marine ornamental species gained considerable attention in recent years. Unlike food fish and aquaculture production, there is less information available in the industry. It deals with relatively low volumes, but of high value species. Extrapolation from partial estimates indicates that the total value of the aquarium trade alone exceeds US$1 billion per year (Sugiyama, Staples and Funge-Smith, 2004). A total of 1,471 species of marine fish are traded worldwide but the ten most traded species account for about 36% of all fish traded for the years 1997 to 2002. Southeast Asia is the hub of this trade, supplying up to 86% of all organisms traded globally. Countries in the region, notably the Philippines and Indonesia, are major exporters of aquarium fish, invertebrates and live corals. It exports 85% of all the aquarium fish and 75% of the invertebrates other than corals. Its contribution to the coral trade is even more dramatic – 99% of all live coral traded, mostly from Indonesia (Green, 2002).

Many fish products for food purposes go to Asian markets while reef animals and products primarily go to the United States, Canada and the European Union. North America accounts for over half of the global imports (Table 2.7). Meanwhile, most of the imports to East Asia are intended for Japan, Hong Kong and Taiwan (Table 2.8).

Table 2.7: Regional Trade Links, Expressed as Percentage of the Total Number of All Species in the Global Aquarium Trade

Exporters	Importers									
	North America	East Asia	European Union	Unknown	Wider Europe	Middle East	Australasia	South America	Africa	Total
East Asia	52.7	14.0	13.0	4.9	0.6	0.2	0.1	0.1	<0.1	85.7
Caribbean	5.8	-	<0.1	-	-	-	-	-	-	5.8
North America	4.3	-	0.2	-	-	-	-	-	-	4.6
European Union	1.4	-	0.1	-	-	-	-	-	-	1.5
Red Sea	0.7	-	<0.1	-	-	-	-	-	-	0.7
Australasia	0.4	-	<0.1	0.5	-	-	-	-	-	1.0
Africa	0.2	-	-	-	-	-	-	-	-	0.2
East Pacific	0.1	-	-	-	-	-	-	-	-	0.1
South America	<0.1	-	0.2	-	-	-	-	-	-	0.2
Indian Ocean	<0.1	-	<0.1	-	-	-	-	-	-	<0.1
Middle East	-	-	<0.1	0.3	-	-	-	-	-	0.3
TOTAL	65.7	14.0	13.5	5.7	0.6	0.2	0.1	0.1	<0.1	100

Source: Green, 2002

Table 2.8: Trade within East Asia Expressed as a Percentage of the Trade in 1.5 million Organisms from 1999 to 2001

Exporters	Importers								
	China	Hong Kong	Japan	DPR Korea	RO Korea	Malaysia	Singapore	Taiwan	Thailand
Indonesia	0.01	3.33	27.48	0.64	0.37	0.23	0.69	1.34	0.02
Philippines	-	13.00	8.69	0.29	-	-	0.69	43.23	-

Source: Green, 2002

Critics of the trade point to the damaging techniques that are sometimes employed in collecting fish and invertebrates, introduction of alien species, overexploitation and the threat of extinction of target species. Despite being collected in an environmentally sound manner, aquarium organisms may suffer from poor husbandry and transport practices resulting in stress, reduced health and increased mortality. Thus, it created added pressure on the reef ecosystem as more organisms have to be collected to make up for those that die. Unsustainable and destructive practices are endangering coral reefs, altering the ecosystem functions of reefs and diminishing the long-term economic value and ecosystem benefits to local communities (Best, 2002).

Nowhere is the threat to corals and reef animals from domestic and international demand more evident than in Southeast Asia, home to 34% of the world's coral reefs and the center of marine biodiversity, where 88% of reefs in the region are threatened by human activities (Burke, Selig and Spalding, 2002). Needless to say, declining reef health threatens food security, jobs and livelihoods for the region's teeming population. Despite the fact that majority of the countries in the region have acceded to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), an international agreement that protects wildlife by ensuring that international trade is based on sustainable use and does not threaten the survival of a species in the wild, trade in reef animals remains largely unregulated and in many instances, illegal and unreported.

Supporters of the aquarium industry, on the other hand, contend that a responsible marine aquarium trade provides incentives for sustainable reef management and conservation. The industry could support jobs in predominantly rural, low-income coastal communities and subsequently provide strong economic incentives for coral reef conservation in regions that have limited resources and other options for generating revenue are limited. In the Philippines, there are approximately 7,000 aquarium fish collectors who are dependent on the industry (Holthus and Spalding, 2002). Considering the important socio-economic benefits that it brings, the fishers and their families have an incentive to ensure the reef environments in good condition, properly managed for sustainable use and will continue to produce fish stocks.

The application of international certification schemes may provide an important tool for achieving this. Although still in its infancy, the Marine Aquarium Council (MAC) certification process intended to support a responsible and sustainable marine aquarium trade by eliminating its negative aspects and accentuating the positive aspects

to coastal communities, fishers, local and national economies. The MAC^{SM} Standards outline the requirements for a third-party certification of quality and sustainability in the marine aquarium industry. Its certification system launched in 2001 was first implemented in the Philippines in June 2002 (Holthus and Spalding, 2002). As more certified organisms become available, it is expected that aquarium hobbyists will be in a position to make purchases in the knowledge that the organisms they are buying have been collected and transported according to a set of agreed and monitored standards.

The significance of species preservation in attaining sustainable development indicates that rare and endangered species should be given ample protection they deserve, while at the same time enabling rational trade to continue. Wabnitz, Taylor, Green and Razar (2003) outlined some management initiatives, which need to be considered if the aquarium trade is to flourish:

- Collection of information on the population dynamics and life history characteristics of organisms targeted by the ornamental trade as well as accurate trade data in order to make more informed decisions regarding the sustainable collection of marine ornamentals;
- Development of certification schemes and associated operational standards for the industry and more widely applied to make certain that fish are collected, handled and transported in a manner that minimizes stress to the animals right through the process from 'reef to retail';
- Implementation of measures such as quotas and size limits, and restricted access to the ornamental fishery, where appropriate, though proper consultation is essential; and,
- Development and promotion of mariculture protocols for raising commonly traded species in source countries, to take pressure off wild stocks and to avoid removing livelihoods from local communities.

Whereas it is the responsibility of individual countries to take necessary action in regulating aquarium fish trade within their territories, including live-reef food fish trade, the above initiatives can benefit from a regional approach particularly in distilling experiences and lessons learned. A set of activities from a regional group or committee composed of all stakeholders can be the basis for future involvement of international assistance agencies and donors, rather than assisting individual countries.

3.0 Barriers to Fisheries Trade

The future of the fisheries sector in developing countries is largely dependent on international trade. For this reason, having continued access to a secure and stable export market is essential in order to expand their participation. Trade liberalization calls for the gradual removal of trade barriers and the implementation of a free market economy following the spirit of the WTO agreement. Reductions in traditional barriers to trade such as tariffs and quantitative restrictions on fish and fishery products particularly in developed economies marked the recent years. Compared to developed countries, the progress in developing countries to implement free trade is slow due to structural rigidities and perhaps even more importantly, fear of losing competitiveness for their products both in the domestic and international markets. Tariff rates remain high in most developing countries hindering further South-South trade. In addition, tariff escalation and tariff peaks continue to persist. Tariff escalation refers to higher tariffs on processed products compared to raw materials. The presence of tariff escalation implies that developing countries do not capture the increased profits from processing their fish products. Tariff peaks, on the other hand, refer to particularly high tariffs on selected and often sensitive products.

While efforts resulting in the reduction or elimination of tariffs contribute in furthering market access, developing countries are concerned about regulatory barriers such as food safety regulations, quality and composition standards, and labeling requirements. The Technical Barriers to Trade (TBT), and SPS measures might affect exports of fish and other food products of the developing countries (Unnevehr, 2000 and Jaffe, 1999). The future of fish exports from the developing countries is being seriously threatened by these regulations, which are being progressively imposed by the major fish importing countries. Many consider these policies of the major fish importing countries as protectionist measures, which can be more difficult to overcome than tariff barriers. These are likely to set back developing countries as they will not be able to immediately comply and maintain international standards for their exports given the necessary financial outlay, technical requirement and inadequate skilled work force. For example, the traditional methods of preservation, marketing and distribution practiced in many developing countries are challenged by the requirements of applying modern quality assurance programs for fish and fishery products.

3.1 Tariffs

FAO-Globefish (2000) noted that the presence of tariff peaks and tariff escalation applied to processed or value added fish products continue to deter the growth of fish processing industries in many developing countries. Meanwhile, major importing countries like Japan, the US and the EU have exercised varied approaches in dealing with fish products imported from developing countries ranging from preferential rates and duty-free access for some countries to the near-total removal of tariffs for certain types of products, such as raw fish and fresh chilled and frozen fish (Table 3.1).

Table 3.1: Average Tariff in Industrialized Countries, by Type of Seafood (in %)

Type of Seafood	EU	Japan	US	RO Korea	Canada
Raw Fish	10.3	4.3	0.6	15.3	0.6
Intermediate Seafood Products	4.0	2.0	1.0	33.0	3.0
Processed Seafood	16.3	9.0	3.3	20.0	2.6

Source: Roheim (2003)

The profiles of tariff structures vary widely among industrialized countries in terms of the tariff levels applied, the transparency of the structure, and the presence of tariff escalation. In her study, Roheim (2003) showed that RO Korea and the EU have the highest duties and the highest occurrence of tariff peaks, with 69% and 41% of tariffs exceeding 15%, respectively. The EU also applies tariffs greater than 15% to around 5% of imports from developing countries while the US only has 4% of tariffs over 15%. In contrast, Japan and Canada have no tariff peaks. However, the EU and RO Korea have highly transparent structures as tariffs are applied as ad valorem duties compared with the US and Japan which have more complex tariff structures.

Tariff policies of the major fish importing countries such as Japan are of special interest to the developing countries as they import a significant percentage of their fish requirements from the developing countries. Japan has two lists of countries, one is for most favored nation (MFN) and the other is for countries under the Generalized System of Preferences (GSP). However, there is no significant difference between the benefits accorded to the two groups, although the MFN countries pay 25% higher tariff for certain products such as canned tuna, skipjack, sardine, scallops and shrimp than the GSP countries.

Average tariffs for developing countries are 19.4% for raw fish, 22% for intermediate products and 23.8% for processed food. It is also interesting to note that the average tariffs for industrialized countries are lower than those of developing countries by approximately 6.2% for raw fish foods, 8.6% for intermediate seafood products and 10.2% for processed seafood (Roheim, 2003). Tariffs on fish are not only higher in developing countries but the tariff structures also vary amongst them. This heterogeneity further complicates trade among developing countries.

There have been efforts to reduce tariffs but many developing countries remain wary that liberalization could lead to a loss of domestic market share because of displacement from imports and of global market share due to the erosion of the tariff margins of preferential market access. In the case of China, as part of its accession to the WTO, it lowered its import tariffs on fish and fishery products from as high as 15.3% in 2001 to 10.4% in 2004. After 2004, only minor reductions remain to be implemented.

Developing countries also rationalize higher tariffs on imported items such as fish on the grounds of significant loss of domestic market share by local producers who are usually small-scale operators compared to their competitors in the developed countries who tend to operate on commercial scale with significant advantages of technological efficiency and economies of scale. Table 3.2 shows the position of some countries

regarding the reduction of fisheries tariffs. While these were submitted for WTO negotiation purposes, these are reflective of the respective country's sentiments and are relevant to the current study.

Table 3.2: Positions and Proposals on Fisheries Tariffs (as of March 2006)

Country(ies) (Date/Document Symbol)	Highlight of Proposal	Overall Position on Liberalization		Major Concern(s)
		Yes	No	
Singapore 10 September 2002 TN/MA/W/8	"…propose that nuisance tariffs be eliminated, and tariff peaks be substantially reduced, if not eliminated. The negotiations would also need to define what constitute nuisance tariffs and tariff peaks."	/		WTO members should try to ensure a comprehensive and balanced tariff package for all countries
Canada 15 October 2002 TN/MA/W/9	"… supports the negotiation of new "zero-for-zero" (duty-free) sectoral agreements to include sectors of interest to both developed and developing countries. …support new agreements for sectors such as fish products, … "	/		Canada favors eliminating nuisance tariffs and maximizing the use of ad valorem rates.
USA 2 December 2002 TN/MA/W/18	"As soon as possible but no later than 2010, elimination of tariffs in the following additional sectors and others, as agreed by Members: …, fish and fishery products, scientific equipment, and environmental goods."	/		The US is keen on increasing market access through the reduction and elimination of barriers to trade, including the elimination of duties on non-agricultural products by 2015.
Japan 6 January 2003 TN/MA/W/15/ Add.1	"… the civil society is also concerned about the potential negative influence of a free trade regime on forest and fishery resources. It is indispensable for the WTO to promote trade liberalization, while … taking into consideration the global environmental issues and ensuring sustainable use of exhaustible natural resources."		/	A zero-for-zero approach in the fishery sector should not be pursued since it will abolish all tariffs regardless of the level of fishery resources, management status, and importance of fisheries and fishing communities in each country.
RO Korea 16 June 2003 TN/MA/W/6/Add.2	"… firmly believe that fish and fish products are not applicable for sectoral tariff elimination … and should not be included as a possible sector for negotiation."		/	Korea has concerns about the legitimacy of "environmental concerns" of members with commercial interests in reducing subsidies.
RO Korea	"… tariff elimination for fish and fish products would bring about undesirable results for both fish exporting and		/	

15 July 2003 TN/MA/W/6/Add.3	importing countries in terms of resource depletion."			
Canada, Iceland, New Zealand, Norway, Singapore and Thailand 18 Oct 2005 TN/MA/W/63	"A sectoral agreement on fish and fish products resulting in the elimination or substantial reduction of tariffs would be an important contribution in facilitating further economic development … "	/		
Canada, Iceland, New Zealand, Norway, Panama, Singapore and Thailand 22 May 2006 TN/MA/W/63/ Add.1	With a view to moving towards the objective of comprehensive elimination of all tariffs and unjustified non-tariff barriers affecting fish and fish products, modalities could include the reduction of tariffs to zero by developed countries and less than zero for developing countries, along with longer implementation periods for developing countries.	/		

Source: Available on http://www.trade-environment.org/page/theme/tewto/para16.htm

3.2 Non-Tariff Barriers

Increasing outbreaks of food-borne illnesses alongside consumer concerns over inter-regional disease transmission have driven the development of more stringent laws and regulatory frameworks. Key importing countries are tightening their food safety legislation and demanding the adoption by exporting countries of agreed inspection, examination and certification procedures. They, notably the EU, have set stringent standards and regulations to cover trade in endangered species, labeling of product origin, traceability, chain of custody, and zero tolerance for certain veterinary drug residues (Ahmed, 2006). These various measures can be viewed as non-tariff barriers (NTBs) to trade. Based on the incidences of import detentions and rejections, the main exporting region affected by these EU requirements has consistently been Asia (e.g., Thailand, Vietnam and India), followed by Africa and South America.

NTBs can hinder access to export markets, making it hard for export dependent economies to take full advantage of trade opportunities. On the other hand, developed countries would want to ensure smooth trade transactions as they are increasingly reliant on imports. Hence, it is to the interest of both parties to have transparent rules that facilitate trade and bridge the capacity gaps that exist. In general, the absence of agreed standards, transparency and predictability in the implementation and verification of standards is a bigger constraint than the willingness and ability of countries and respective exporters to comply with the said standards.

The Standards and Trade Development Facility (STDF) was set up as a global program in capacity building and technical assistance to assist developing countries in trade and SPS measures established by Food and Agriculture Organization of the United

Nations (FAO), the World Organization for Animal Health (OIE), the World Bank (WB), World Health Organization (WHO) and WTO. The objective of the STDF is to assist developing countries in enhancing their expertise and capacity to analyze and implement international SPS standards, improve their human, animal and plant health situation, and thus gain and maintain market access (STDF, 2006).

Aside from easing trade relations, complying with standards and technical regulations will enhance the fish industry in exporting countries through improving the quality of fish and fish products available in the local market, better fish quality management and boosting export potential. Ahmed (2006) opines that in the medium to long term, the sector appears to recover well after the implementation of standards and regulations, often with a smaller but better equipped processing segment, improved marketing strategy and strengthened institutions. However, he cautions that increased polarization, particularly related to the poor and vulnerable, may occur in the longer term.

3.2.1 Sanitary and Phytosanitary Measures

The SPS measures include all measures whose purpose is to protect human or animal health from food-borne risks, animal or plant borne diseases, and pests or diseases, and involve inspection, examination and certification procedures (Khan, 2002, and Musonda and Mbowe, 2002). The application and measurement criteria for SPS standards vary across major importing countries and regions (See Box 1 for a related note).

Box 1: On Japanese Quality Control Regulations

While new regulations with regard to quality control, such as Hazard Analysis Critical Control Points (HACCP), have been adopted by all major importing countries and made compulsory for their fish processing industries, one notable exception is Japan. Although some firms in Japan have implemented HACCP systems, there is no mandatory requirement either for domestic processors, or external suppliers. Standards for imports of fish and fishery products into Japan are governed by the legislation set out in the Food Sanitation Law and the Quarantine Law. The laws prohibit *inter alia* the imports of unsanitary foods, foods not conforming to prescribed specifications of composition, standards of manufacture and storage. The consignments may be checked for signs of decomposition, presence of foreign matter and contaminants (e.g. antibiotic residues, mercury and pesticides). The law requires prior notification of imports and sanitary inspectors can undertake spot checks and laboratory tests. Following an initial check, subsequent imports from the same manufacturer can be exempted from repeated inspections, and all that is usually required upon importation is the examination of documentation. If a cargo has been inspected by an official laboratory in the exporting country for certain conditions and the inspection results are attached to the import notification, the cargo may be exempt from further inspection.

Source: Bostock, Greenhalgh and Kleiuh (2004)

SPS issues associated with capture fisheries or wild-caught fish usually revolve around contamination prior to catch, storage and processing. These standards are also a crucial issue in aquaculture (e.g., in problems like traces of chemicals such as antibiotics and fungicides that remain in the fish, and disease outbreaks among farmed animals). At present, the EU has the most stringent SPS restrictions. In 2001, the EU decided to examine all shrimp products imported from China, Indonesia, Thailand, Vietnam and

others because residual antibiotics were discovered in some products (Ahmed, 2006). A 'zero tolerance' towards various residual antibiotics in food products was implemented. However, the EU delegates authority for the implementation and enforcement of its food safety legislation to exporting country authorities. These include measures prior to processing, which cover small-scale and non-industrialized sections of the market. The said requirements pose a major challenge to small local industries in developing countries and corresponding country authorities, which may not have the capacity to control and monitor SPS concerns.

In response to the growing concern on the quality of food, including fish, importing countries, the Codex Alimentarius Commission (CAC) recommended the adoption of a food safety management system such as HACCP in 1993. The CAC recommendations have been endorsed and made virtually mandatory due the WTO agreements on SPS and TBT during the Uruguay Round (See Box 2). These agreements are intended to ensure that requirements such as quality, labeling and methods of analysis applied to internationally traded goods are not misleading to the consumer, and discriminate in favor of domestic producers or goods of different origin.

Box 2: The Codex Alimentarius

The Codex Alimentarius, or the food code, has become the seminal global reference point for consumers, food producers and processors, national food control agencies and the international food trade. The code has had an enormous impact on the thinking of food producers and processors as well as on the awareness of the end users - the consumers. The system presents a unique opportunity for all countries to join the international community in formulating and harmonizing food standards and ensuring their global implementation. Moreover, it allows them a role in the development of codes governing hygienic processing practices and recommendations relating to compliance with those standards.

The significance of the food code for consumer health protection was underscored in 1985 by the United Nations Resolution 39/248, whereby guidelines were adopted for use in the elaboration and reinforcement of consumer protection policies. The guidelines advise that "Governments should take into account the need of all consumers for food security and should support and, as far as possible, adopt standards from the ... Codex Alimentarius of FAO and the World Health Organization".

The Codex Alimentarius is relevant to the international food trade. With respect to the ever-increasing global market, in particular, the advantages of having universally uniform food standards for the protection of consumers are self-evident. It is not surprising that the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) and the Agreement on Technical Barriers to Trade (TBT) both encourage the international harmonization of food standards. A product of the Uruguay Round of multinational trade negotiations, the SPS Agreement cites Codex standards, guidelines and recommendations as the preferred international measures for facilitating international trade in food. As such, Codex standards have become the benchmarks against which national food measures and regulations are evaluated within the legal parameters of the Uruguay Round Agreements.

Source: FAO (2005b)

The SPS agreement provides for harmonization of health measures of WTO member countries with international standards. The CAC also has a clear and strategic interest in promoting maximum use of these standards both for domestic and international standards. At the national level, the trading countries and the organizations/institutions dealing with standardization activities are encouraged to follow international standards, guidelines and recommendations for both domestic and global trade. An important element of international standard guidelines is the compliance with HACCP for the

management of food safety. The HACCP system is recommended as a way of reducing hazards stemming from processing of fish and fishery products (FAO, 2002). Implementation of the HACCP system in fish processing is mandatory and all exporting countries have to comply with this requirement for international trade. In many countries, since the HACCP is mandated within the fish-processing sector, there are difficulties in implementing control measures on antibiotics use in aquaculture. Hence, FAO (2002) has suggested that further procedures and monitoring should be performed in addition to the HACCP plan such as prerequisites (e.g., plant location, water supply and effluent control) and good hygiene practices at the pond/breeding area be implemented.

Under the SPS Agreement, when international standards do not exist or harmonization is not appropriate, countries can resort to the alternative equivalence principle whereby the importing country accepts that SPS measures in the exporting country achieve an appropriate level of health protection, even though they differ from the measures used in the importing country (Lem, 2004).

The SPS Agreement was set up to avoid sanitary standards being used as an unjustified barrier to trade by importing countries. There are several key principles including the sovereign right of a country to put protective measures in place, but these measures should not be more restrictive than necessary to achieve the appropriate level of protection. The Agreement also stresses that SPS measures should be scientifically based, including the application of risk assessment, in determining the appropriate levels of SPS measures (Bostock, Greenhalgh and Kleiuh, 2004). It is imperative that there be transparency in the development and implementation of measures and the adoption of international standards.

3.2.2 Technical Barriers to Trade

The TBT covers all technical regulations, quality and composition standards, labeling, and source and origin information requirements, with the exception of SPS measures.

The WTO TBT Agreement tries to balance the trade facilitating aspects of standards against their trade-distorting potential by obligating countries to ensure that technical regulations and standards, including packaging, marking and labeling requirements as well as the procedures for assessment of conformity with technical regulations and standards, do not create unnecessary obstacles to international trade or discriminate in favor of domestic producers or goods of different origins. It does this by encouraging ‘standard equivalence’ between countries, promoting the use of international standards, and mandating that countries notify each other of changes in their standards via enquiry points.

- ***Certification and Labeling***

There is a wide range of certification schemes and initiatives related to standards. Some deal with social issues while others concentrate more on resource sustainability and

the environment. There are also those that seek to provide accreditation (and allow the use of labels), whereas some just seek out to establish recommendations about best practices or codes of practice. For example, the goal of fisheries eco-labeling programs is to create market-based incentives for better management of fisheries by creating consumer demand for seafood products from well-managed stocks or from sustainable aquaculture.

The best-known example of an independent organization certifying capture fisheries based on standards for sustainable management is the Marine Stewardship Council (MSC). Despite eco-labelling initiatives like those of the MSC and the Marine Aquarium Council (MAC) certification processes being viewed as actions primarily driven by self-interest that allows paybacks on long-term investment for operators in the business, it can have a sustainable impact on fisheries. Nevertheless, only a small portion of the world's fisheries has been certified so far. The extent to which certification and labeling can be used as a barrier to trade will ultimately depend on the demand for certified/branded product in different markets. Whereas there seems to be a consensus that the most promising markets will be those in Europe and North America, where consumers are relatively affluent, sensitized to environmental/social issues and used to this form of product differentiation, there is actually no clear evidence on how big the environmental and social markets are likely to become (Deere, 1999).

At present, certification is voluntary and higher prices for certified fish products are possible but at significant costs. Roheim (2003) says that this can be problematic for producers from developing country who not may afford the certification expenses and may result in a two-tiered market -- one for developed large-scale fisheries and the other for uncertified developing country products.

While certification and labeling schemes has the potential to offer the opportunity of higher prices for fisheries products and access to niche markets, there are concerns over the possible negative impacts on developing country producers. These are grouped in a study by Gardiner and Viswanathan (2004) as follows: (i) legitimacy and credibility concerns since the schemes were principally designed by and for developed country large-scale fisheries and not for small-scale tropical fisheries; (ii) feasibility and equity of certification in developing country situations (e.g. accessing credit and monitoring capabilities); and (iii) potential distortions to existing practices and livelihoods caused by price changes (e.g. gender role distortions and displacements).

There is currently a lack of internationally agreed guidelines on product labeling and certification, choice of information and transparency of process, the role of government in voluntary labeling and certification, and special requirements of developing countries in adopting eco-labeling of fishery products. Hence, the relationship between WTO rules and voluntary labeling schemes has to be clarified.

Last March 2005, the FAO issued guidelines for the eco-labeling of fish and fishery products (FAO, 2005c). These outline the general principles that should govern eco-labeling schemes, which include the need for reliable, independent auditing,

transparency of standard setting and accountability and the need for standards to be grounded on science. They also lay down minimum requirements and criteria for assessing whether a fishery should be certified and an eco-label awarded based on FAO's Code of Conduct for Responsible Fisheries (CCRF).

- ***Traceability***

Traceability refers the ability to trace, follow and uniquely identify a product unit or batch through all stages of production, processing and distribution. It shows the path followed by a unit or batch through all the intermediate steps of the product flow and the supply chain (Roheim and Sutinen, 2006). It can be utilized in the food chain with safety (i.e., risk management), quality, bio-security or business management objectives (FAO-GlobeFish, 2004). An integrated program for developing infrastructure is required in order to understand and address the requirements of the 'farm-to-fork' principle.

Traceability is a demanding practice intended to determine in detail how the product is grown (including the feeds and chemicals used), processed, packaged, handled and shipped to country destinations. Among the requirements are that the residue level of substances such chemicals, toxins, and antibiotics on the final products conform to standards. The traceability requirements of retailers may also include environmental and social information on their suppliers. Similar to the case of certification and labeling, stringent requirements can impose a huge cost burden that small producers may not afford. Yet if more affluent and environmentally conscious consumers are willing to pay higher prices for organic, eco-labeled or country of origin labeled seafood products, it would make investment in traceability regulations more worthwhile.

3.2.3 Anti-Dumping Measures

As tariff barriers in the seafood sector have dropped, developed countries have increasingly turned to use of countervailing and antidumping petitions as a means to erect trade barriers to seafood imports from both developed and developing countries. The WTO Anti-Dumping Agreement defines dumping as "the exporting of produce at less than production cost to the material detriment of competitor industries in the importing country." The aggrieved importing country may impose import bans and/or compensating duties (duty orders) on the so-called "rogue products" in legitimate protection of their own industry. Theoretically, this is a technical issue that should be subject to economic logic and legal argument. In practice, however, it can be highly political, arbitrary and is raised at the behest of an industry finding itself unable to compete for harsh but fair economic reasons. Where countries are members of the WTO, an official WTO Anti-Dumping Agreement regulates the measures taken after an investigation is carried out. Non-WTO members are at a disadvantage and this is where the existence of bilateral agreements would come in useful.

In the WTO, the Anti-Dumping Agreement regulates how countries can react to dumping but it does not per se determine if exporters of a given country are dumping or not. The WTO regulates only how an importing country can react to alleged dumping,

how the investigation should be undertaken, what is the minimum threshold for price difference and the market share of imports necessary in order to allow for the introduction of anti-dumping duties.

Dumping of fish products tends to be blamed on developing countries by developed countries primarily because the main trade flows in the fisheries sector are from the developing world to the developed world. Whereas in the past, fish processing in developing countries, such as tuna canning, was the focus of attention of fisheries-related anti-dumping investigations, aquaculture is now dominating the scene (Bostock, Greenhalgh and Kleiuh, 2004). The US has a track record of countervailing and anti-dumping suits in seafood products, including several against developing countries. This is very much evident in the anti-dumping cases filed regarding catfish against Vietnam and the shrimp case versus Southeast Asia, South Asia, and South America.

3.2.4 Subsidies

FAO (2004) define subsidies "as narrowly as government financial transfers to the industry and as broadly as any government action that modifies the potential profits earned by the firm in the short, medium or long term". The Agreement on Subsidies and Countervailing Measures (SCM) of 1994 constitutes the existing international legal regime governing subsidies in the fishery sector. The WTO's definition of subsidies in the SCM Agreement covers:

- specific financial transfers from state to the industry;
- the state foregoing normally collectable revenue (e.g. tax free fuel);
- provision of services or investments to industry;
- state purchases of industry outputs other than on commercial terms; and
- all forms of state income or price support

Regardless of the definition used, subsidies can alter the actions of firms/producers in ways that interfere with international trade and affect fishing effort and, ultimately, the sustainability of the fish stock. Under the SCM, subsidies are categorized in relation to the rights of members to make complaints and take countervailing measures:

- *prohibited*: export enhancing subsidies or subsidies giving preference to domestic producers or grants tied to the use of domestically produced goods
- *actionable*: a subsidy that may be challenged on the basis of causing 'adverse effects' to the interests of other WTO members

Those that violate the conditions of the international SCM Agreement are clearly actionable under current WTO rules. However, not all subsidies fall into this class. The problems of non-actionable subsidies arise when the context in which they were implemented changes to the extent that they become a threat to stock sustainability. This concurs with the observation of Bostock, Greenhalgh and Kleiuh (2004) that the

definition of subsidies in the context of the SCM is not broad enough, as it does not take into account issues related to public goods and the management of open access resources.

Discussions on subsidies tend to focus on the fisheries sectors of developed countries primarily because of their scale (and likely greater impact) as well as the ease of access to data. However, there are also some fishing subsidies in developing countries, such as:

- port facilities owned and managed by the public sector;
- subsidies lending and credit provision (e.g., to adopt new technology in aquaculture);
- sales tax exemptions for inputs used by the fishing industry; and
- subsidized fishing inputs in the form of import tax exemptions

The primary concern is not on the subsidies per se but their effect on production, consumption and international trade. At the same time, do the subsidies encourage firms and fishers to take actions that are detrimental to the stocks of fish that they catch? While there are certainly other factors that trigger declines in fish stock, the extent to which subsidies actually affect over fishing is at the center of discussions at the WTO.

As early as June 1999, five nations made representation to the WTO's Committee on Trade and the Environment urging governments to pursue work with the WTO to achieve the gradual elimination of environment-damaging and trade-distorting fishery subsidies. It is argued that fishing subsidies have trade effects greater than other sectors. The open access nature of many fishing grounds and the migration of fish between areas are highlighted and are argued to have implications beyond limitations on competitiveness. Among the issues arising are:

- Countries that do not subsidize and restrain total catch to maintain the resource lose the extra catch to countries that subsidize and do not restrain total catch;
- Competition from subsidized distant water fleets can make it economically unviable for developing countries to develop their own fisheries and, therefore, to realize the benefits of their own 200-mile zone of fishery jurisdiction; and
- Subsidies can contribute to stock depletion, with negative economic, trade and environmental effects for other countries that have an interest in the stock.

The first submission to the WTO was followed by a second phase submission by eight members[1] in April 2002. They made a submission noting that commercial fisheries are often exploited or potentially exploited by more than one nation. Consequently, fishery subsidies have implications for trade far beyond the distortion of competitive relationships. In most industries, subsidies that encourage production impinge on trade only at the market level. That is, they have no effect on the trading partners' ability to produce the goods. With shared fishery resources, a trading partner's ability to produce fish products may be hindered if one country subsidizes the fishery to the extent that the

[1] Australia, Chile, Ecuador, Iceland, New Zealand, Peru, the Philippines and the United States

resource is diminished. As such, the eight countries supported the Doha Declaration's appeal for strengthening the WTO's disciplines with regard to fisheries.

Meanwhile, WTO members (particularly Japan) opposed to the submissions on fisheries subsidies argue that the issue is better dealt with through improved fisheries management rather than simple elimination of subsidies, the jurisdiction of which is under the United Nations Convention on the Law of the Sea rather than WTO. There were also suggestions to give time to the new UN Fish Stocks Agreement to see if it will prove effective as the Agreement was intended to solve the problems that the eight nations raised. Hence, from October 2002 to July 2003 there was a second flurry of correspondence addressed to the WTO's Negotiating Group on Rules. The United States proposed a "traffic light" system whereby a certain category of subsidies would face a red light (i.e. they would be forbidden) and a second category of subsidies would face an amber light where the subsidy would be considered as presumptively harmful. The EU presented an alternative proposal, which stressed a simple dichotomy of subsidies into "prohibited" and "permitted" classes. In addition, a group of "small vulnerable coastal states" has sought differential treatment on such matters as access fees, development assistance, fiscal incentives to domestication and fisheries development, and artisanal fisheries. A summary of the submissions regarding subsidies is shown in Annex 2.

4.0 Domestic Constraints

Countervailing duties and non-tariff barriers often constitute demand-side constraints, which limit market access. Supply side constraints act similarly. Domestic infrastructure, production processes, supply chains, national priorities, economic and trade policies, and institutional arrangements are just some of the supply-side challenges that would impinge on a country's capacity to reap the benefits of liberalization as well as mitigate its detrimental effects. Some suffer from the absence of basic infrastructure and services while others have limited ability to respond proactively to new developments.

4.1 Infrastructure Requirements

Production and consumption patterns of fish and fishery products have been influenced by improvements in handling, transportation, storage and distribution facilities, marketing systems, and food science and technology. This resulted in increased efficiency, cost reduction, greater variety of products and quality assurance. The said improvements in relevant supply chain technologies have had a positive effect on the fisheries industry in developed countries. Unfortunately, many developing countries still suffer from poor road conditions and other storage, handling and transport infrastructure problems (e.g., lack of high quality water and ice, irregular electricity supply, poor pre-processing phase infrastructure and transport facilities).

Being major fish producers, one cannot over-emphasize the value of adequate fishery infrastructure such as fish landing centers, post-harvest and processing facilities, roads network, reliable electricity, potable water supply, housing, as well as sanitary and environmental engineering works, to developing countries. As fish is highly perishable, the faster it is frozen or processed, the lesser the post-harvest losses. A road network and dependable transport system would enable the fisher folks especially the artisanal fishers to get fair market returns and the consumers to available of good quality fish at reasonable prices.

In countries with a large domestic market for fish, it makes no sense to perpetuate a dichotomy between the quality and effectiveness of domestic marketing versus export marketing (Ahmed, 2006). A sound and viable trade infrastructure for the domestic market lays the groundwork for enhancing the capacity of a country to trade internationally. Hence, the narrower the gap between the two, the greater strides a country can make in international trade.

4.2 Compliance with International Standards

At the national level, the trading countries and the organizations/institutions dealing with standardization activities are encouraged to follow international standards, guidelines and recommendations for both domestic and global trade. Whereas complying with international and export market standards would yield benefits, it implies significant

costs, which arise at different points along the supply chain. Production costs can increase considerably at landing and aquaculture sites, while substantial processing costs can result from upgrading of buildings, monitoring, purchasing new equipment, and training and employing qualified staff. The industry is also likely to incur costs due to the need for increased inspection, certification capacity and quality of services. In fact, the entire supply chain would experience costs for updated quality systems, support for their chain partners, risks of product bans, rejection of products and re-packaging.

On the other hand, poor safety standards, including non-compliance to international standards can bring forth loses. One would be in the form of fish spoilage, product rejection, detention and recalls, and decreased capacity due to temporary or long-term factory closures. This can in turn result in adverse publicity for the industry and even the cessation of exports. Another would be fish-borne illnesses, which can cost billions of dollars because of high adverse health effects, loss of productivity and accompanying medical expenses. As such, safety and quality control is in the interest of governments, public health authorities, producers, processors and exporters. Increased market access due to compliance with one country's standards may imply higher prices and more value-added production. Improved image as a trusted supplier reduces risks, lowers price competition and encourages joint interest in the supply chain. This was the case of the Indian processors which invested US$13.5 million or 1.7% of the value of their exports over three years in order to comply with EU hygiene standards and did not suffer the restrictions that their Thai and Chinese competitors did in 2002 and 2003 (Dey, et al., 2005).

Regrettably, perception of benefits often pale in comparison with the costs, which are more apparent and measurable. The costs vary widely on a case-by-case basis between countries and among products and facilities due to differences in historical factors and strategies of compliance. Furthermore, these costs must often be met in the short run while benefits tend to accrue in the long run, may be intangible or even accrue outside the industry.

4.2.1 Implementation of Health Safety and TBT Regulations in Developing Countries

An important element of international standard guidelines is the compliance with HACCP, a management system for food safety, which major exporting countries around the world have adopted. Some developing countries have made progress towards implementing the HACCP measures in spite of heavy investment requirements to install and make operational the related equipment.

Based on results of an FAO survey (as cited in Dey et al., 2002), countries can be categorized based on their compliance status of HACCP procedures. Among the developing countries Uruguay, Brazil, Chile, Ecuador, Thailand, India, Malaysia, Philippines, Indonesia, Argentina, Peru, Cuba, Morocco, Sri Lanka, Vietnam and Bangladesh have introduced HACCP procedures. In the second group of countries, the private sector is taking the lead voluntarily in trying to introduce HACCP processes for

fish and seafood export. These include Madagascar, Venezuela, Honduras, Tunisia, Myanmar and Portugal. The third group consists of countries including Russia and China, where governments have agreed to follow HACCP requirements, but have not yet defined the process. Remaining countries where the status of seafood HACCP is unclear include Pakistan, Iran, Colombia, Panama, and most African states.

Needless to say, progress has been made in HACCP implementation but problems still remain in terms of inadequate capacity and proper management of the inspection system. Problems remain in most of the developing countries where more than one ministry or department is involved in fish inspection and quality control activities. For example, in Thailand, two government institutions and private laboratories are responsible for the HACCP implementation. Depending on the diversity of fishery resources and the nature of HACCP application, different government agencies and organizations with various degrees of legal and administrative authority are closely associated with the HACCP application. In many cases, this resulted in the overlap of administrative authorities and brought forth administrative conflicts among regulatory agencies. This situation is further complicated by the narrow sectoral focus of many agencies, the legal loopholes as well as a low degree of law enforcement (Dey et al., 2002).

4.2.2 Costs of Compliance with Health Safety Standards

Complying with the food safety and quality assurance processes necessitates significant investment to implement the HACCP process. Table 4.1 shows some estimates. This indicates a wide variation in the costs, with installation of HACCP plants in Malaysia being the most expensive. An average HACCP compliant plant is estimated to need US$34,875 to US$71,429 per year for maintenance purposes. It is also noted that the higher installation cost does not mean higher average cost per kg of fish processing or testing. This was evident in Thailand where cost of processing fish and fishery products appeared lowest per kg, which shows its efficiency in utilizing the HACCP process. In a study on Bangladesh, Cato and Santos (1998) showed that to install a HACCP plant, a developing country like Bangladesh needed 9.4% of its export revenue from fish and 1.26% of the same to maintain the HACCP plant each year. Note, however, that the figures are only ballpark estimates and in practice, costs would tend to vary among products, facilities and compliance methodologies.

Table 4.1: Cost Estimates of Implementing HACCP in Selected Countries (in US$)

	Thailand	India	Bangladesh	Malaysia
Cost per year of a plant	47,619 – 71,429	41,237	34,875	
Total investment of a plant	380,952 – 404,762	309,278	277,155	3,000,000
Cost per kg. of fish processed	0.010 – 0.014	0.21 – 0.28	0.0327 – 0.0899	

Source: Dey, et. Al (2002)

Cato and Santos (1998), Calzadilla-Sarmiento (2002) and UNIDO (2002) identified several constraints on the developing countries in complying with SPS and TBT agreements, including:

- insufficient technical expertise, absence of adequately trained work force and lack of financial resources to bankroll the required facilities;
- deficient organizational fish inspection framework. In particular, lack of a clear line of command and accountability due to the involvement of two or more authorities, which causes conflicts and hampers the quality of work;
- outdated regulations, which are unable to meet the demand of international and domestic market requirements. Not only are regulations weak, they are not fully enforced; and
- poor capacity of fish inspectors to perform their duty due to the lack of training in HACCP

Bostock, Greenhalgh and Kleiuh (2004) point out that stricter enforcement of SPS and TBT regulations, particularly at the early stages of the supply chain, may result in the marginalization of small producers from export markets. This seems to corroborate with the findings of Manarungsan et al. (2004) regarding some evidence that two-tiered markets may emerge because of the SPS and TBT regulations. That is, larger industries that are able to comply with the regulations will tend to supply higher end markets, while smaller companies and suppliers with insufficient capital investment to implement appropriate management systems will tend to supply local markets and countries with less stringent requirements. This indicates that fish suppliers would have to look into the net benefits of catering in the different market segments and that the differential application of standards may even support the expansion of the South-South trade. As such, SPS and other requirements should be addressed in the broader context of competitiveness, as progress in certain aspects such as quality control and logistics management may be adequate to satisfy SPS requirements (Ahmed, 2006).

Economies of scale and costs in meeting safety standards vary across countries and among individual producers/ exporters within each country, with higher unit cost of compliance expected for small-scale producers. The increasing exposure of small producers and processors to the costly food safety requirements undoubtedly implies their need for support to be able to compete effectively. Issues of scale can be addressed by appropriate government policies, which link together small-scale producers and provide technical assistance, investment opportunities and appropriate institutional arrangements. Technical assistance is needed for capacity building through strengthening the regulatory framework, and installation and upgrading of the testing facilities to meet international standards. Concurrently, coordination and linkage among the regulatory and enforcement institutions would enable smooth implementation of the health safety program.

4.3 Domestic Government Policies

With rapid developments in international trade rules and changes in technology, domestic trade policies in developing countries tend to fall behind. There are also instances where several government policies would work at cross-purposes. Hence, the trading environment suffers from structural rigidities. In the case of the Philippines, for example, export restrictions on milkfish fry designed to protect overexploitation of wild-

captured milkfish fry resources continue to restrict local milkfish hatchery operators from producing milkfish fingerling for export as bait in tuna fisheries in the Pacific Ocean. This restriction was circumvented by recruiting the experts and manpower involved in the production of milkfish fry. The market is now captured by countries such as Indonesia and Taiwan and, ironically, these countries took advantage of economies of scale in the hatchery production, enabling them to export hatchery bred milkfish fry to aquaculture producers in the Philippines.

Ahmed (2006) observed that many developing fishery nations also fail to promote national policies that uphold certain minimum standards of living for fish producers and workers and ensure their basic health and safety through measures such as minimum wages, infrastructure and facilities. Government infrastructure support and incentives usually go to the processing industry or exporters instead of the primary producers or fish workers.

Corruption and poor governance are likewise areas of concern that need to be addressed. Demands for illegal payments for fishing licenses, permits, or access rights by politicians and public servants, are probably the most pervasive form of alleged corruption in the fisheries sector (ADB, 2006). Poor governance is seen as one of the main causes of the present poor condition of fisheries. As such, new approaches to governance emphasize partnerships with a range of organizations to improve fisheries management and stakeholder participation and empowerment.

4.4 Resource Management

It is often mentioned that the growth of developing countries spurred by trade demand may lead to over-exploitation and environmental damage. Questions are being raised as to whether they are mining their resource stocks in pursuit for immediate gains from the high demand for fish and fishery products in developed countries. Obviously, the management system in place would affect resource sustainability. If an open access system exists, harvesting and exporting efforts are likely to rise, resulting in the decline of fish stocks in the short term and perhaps loss from trade in the long run.

The most important international initiative contributing to the transition of the fisheries sector worldwide was the adoption in 1982 of the United Nations Convention on the Law of the Sea (UNCLOS) granting coastal states the legal rights to regulate and manage fish resources up to 200 nautical miles from the coast. Even though this law came formally into effect only in November 1994, its earlier adoption by many countries has had a number of effects. One, the extension of jurisdiction redistributed fisheries resources away from distant industrialized fishing countries to the coastal countries, enabling them to obtain benefits from developed nations through license fees and joint ventures. It also encouraged the development of the coastal countries' own industrial fishing fleets, thus increasing the contribution to the country's economic and social objectives. Second, it allowed them to exercise greater management control over their fishery resources. Due to the extension of jurisdiction, structural changes in the industry

have occurred. It resulted in the transfer of boat titles, investments in new boats, and proliferation of joint ventures between countries with fisheries resources but limited capacity to exploit these resources, and other countries with fishing fleets. However, a major difficulty that many developing countries have in realizing benefits from these developments involves the monitoring and controlling the activities of the foreign or local fleets to ensure compliance with agreements and country regulations. Most countries have not developed sufficient capacity and knowledge to manage their fishery resources sustainably. In addition, illegal fishing and poaching from foreign fleets continue to be a problem for countries like the Philippines.

Management approaches to fisheries have moved from a narrow, predator-prey relationship to one based on accounting for effects on other parts of the ecosystem in which a fishery is embedded, and accounting largely for institutional, economic, political, and social objectives. Some of these approaches include integrated coastal resource management, which seeks the elimination of conflicts in the utilization of coastal resources and space among different sectors and controlling the impact of human activities on the coastal environment; rights-based and community-based systems that provide exclusive or preferential access to aquatic resources by individuals or groups; and co-management, in which government and resource users share responsibility for managing the resources.

The Code of Conduct for Responsible Fisheries (CCRF) would complement and contribute in the implementation of the precautionary and ecosystem based approaches to fisheries. It is acknowledged that the sustainable use of the world's aquatic resources can only be achieved if both the impacts of the ecosystem on the living resources and the impacts of the fishery on the ecosystem are identified and as far as possible, understood. The growing emphasis on ecosystem-based approaches recognizes that inter-species relationships must be taken into account together with the environmental factors affecting species and habitats. Hence, an effective monitoring system will be required to ensure that the state of the ecosystem can be followed through time and can be compared with reference points, allowing for corrective action when necessary.

Despite several international and regional programs helping lay the foundation for coastal resources management, the capacity to implement such approaches remains insufficient throughout the region due to lack of financial resources, capacity and expertise to continue when the external support is discontinued as well as competition with other economic and social priorities and issues. What is even more disturbing is that in spite of the development of resource management policies in different countries, the decline in fish stocks continue to occur because of lack of implementing regulations and effective enforcement.

Similarly, as marine fisheries appear to have reached the maximum sustainable levels of production, a much greater contribution is now expected from aquaculture. However, despite its revenue potential, aquaculture (particularly coastal aquaculture or mariculture) can exacerbate environmental degradation specifically in the conversion of mangrove areas into ponds and as a pollution source. It can also be a party to

intersectoral water-use conflicts. The December 2004 tsunami, which devastated coastal communities in countries like Indonesia, Thailand, India and Sri Lanka, brought forth the trade-off between increasing aquaculture areas and compromising the resilience of coastal communities against natural calamities. Along with increased vulnerability of coastal and surrounding rural communities, marine biodiversity is in serious decline, and there is an escalating dispossession of the small-scale and artisanal fishing sector (GRAIN, 2006). There is likewise a concern that as more areas get devoted to aquaculture, more fisher folk become displaced from their livelihoods. Modernization efforts and policies that favor commercial operators with large capital would tend to drive off small-scale fisher folk from their fishing areas or end up as aquaculture farm workers. As such, special consideration should be given to the vulnerability of small-scale fisheries.

5.0 Progress and Outlook for Fisheries Issues in ASEAN

The ASEAN has long recognized the significance of fisheries and aquaculture in the economic development in the region and has taken steps towards fostering cooperation among its member countries for over three decades now. At present, the fisheries sector is an important pillar for the ASEAN Cooperation in Food, Agriculture and Forestry with specific guidelines set forth under the *Resolution on Sustainable Fisheries for Food Security for the ASEAN Region* and the *Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region*, both issued during the Millennium Summit in 2001.

In strengthening its fisheries cooperation program, ASEAN has also established partnership with the Southeast Asian Fisheries Development Center (SEAFDEC) since 1994 to promote sustainable management and utilization of fisheries resources in the region. The close collaboration enabled ASEAN and SEAFDEC member countries to address issues of common interest collectively, including food security and trade related issues in fisheries, both regionally and internationally. In the ASEAN mechanism, the cooperation programs and activities concerning fisheries are under the purview of the ASEAN Sectoral Working Group on Fisheries (ASWGFi), which is a subsidiary body under the ASEAN Ministers on Agriculture and Forestry (AMAF).

The areas for cooperation in the fisheries sector have been designed towards facilitating the realization of free trade through the elimination of tariffs and non-tariff barriers in support of the AFTA, which was intended to increase the region's competitive advantage as a production base for the world market. A roadmap for the integration of the fisheries sector through the adoption of liberalization and facilitation measures in the area of trade in goods, services and investment and the promotion of private sector participation was subsequently prepared (See Annex 3). It tackles both general issues that cut across sectors and those that are specific to fisheries. The initiatives can be broadly categorized into: (i) Effective implementation of CEPT scheme with a view of tariff elimination; (ii) Elimination of non-tariff barriers; (iii) Improvement of rules of origin and customs cooperation; (iv) Development of standards and conformances; and (v) Encouragement of investments and logistical improvements. While specific action programs have been subsequently identified, the resulting outputs and outcomes require scrutiny.

5.1 Tariffs in the ASEAN Member Countries

Existing levels of tariff protection for fisheries products vary across ASEAN countries. Under the AFTA, tariff rates are lower. There are virtually no tariffs on key agriculture and food products, including fisheries, in markets where agriculture is of less importance, namely Singapore and Brunei Darussalam. However, this does not automatically reflect greater liberalization as not all traded products are listed and thus, not subject to commitments. Where listed they tend to be products for which trade is low. The fish products in the negative list are in Annex 4. Furthermore, some

commitments are yet to be fully realized, particularly for the CLMV countries (i.e., Cambodia, Lao PDR, Myanmar and Vietnam). The WTO Most Favored Nation (MFN) and Common Effective Preferential Tariff (CEPT) rates for the ASEAN member countries are shown in Table 5.1.

It would be useful to know the progress of the implementation of the tariff cuts that have already been agreed upon and what the proportion of trade within ASEAN is that actually takes advantage of the CEPT. However, as cited in the July 29, 2004 issue of *The Economist*, Denis Hew of the Institute of Southeast Asian Studies in Singapore said that many business executives are reluctant to complete the arduous paperwork involved or simply do not realize that concessionary tariffs exist. For countries with low tariffs in general, such as Singapore, the difference between the CEPT and the ordinary rate may not be substantial while in countries with high tariffs like Myanmar, the authorities are reluctant to cut into their own revenue by promoting the CEPT.

The CEPT is the mechanism by which tariffs on goods traded within the ASEAN region, which meet a 40% ASEAN content requirement, will be reduced to 0-5%. The fisheries products constitute a substantial proportion of the tariff lines that are in the CEPT Scheme. As of April 2003, the total tariff lines for fisheries products are 995, composed of 897 tariff lines in Inclusion List (IL), 93 tariff lines in Temporary Exclusion List (TEL), and 5 tariff lines in Sensitive List (SL). There is no tariff line in the General Exception List (GEL) for fisheries products.

In an effort to improve and strengthen the rules governing the implementation of the CEPT Scheme, to make the scheme more attractive to regional businessmen and prospective investors, the CEPT Rules of Origin and its Operational Certification Procedures have been revised and implemented since January 1, 2004. Among the features of the revised version are: (i) a standardized method of calculating local/ASEAN content; (ii) a set of principles for determining the cost of ASEAN origin and the guidelines for costing methodologies; (iii) treatment of locally-procured materials; and (iv) improved verification process, including on-site verification. In order to promote greater utilization of the CEPT-AFTA Scheme, substantial transformation has also been adopted as an alternative rule in determining origin for CEPT products. Still, it would be constructive to document the experiences of the business sector under the revised scheme.

In principle, the free trade area would also eliminate the quantitative restrictions and other non-tariff barriers for manufactured and agricultural products. Nonetheless, non-tariff barriers remain in almost all ASEAN economies and for some products, they appear more important than tariff barriers.

Table 5.1: MFN and CEPT Rates of ASEAN Member Countries (in %)

		Brunei			Cambodia			Indonesia		
AHTN	Description	MFN Rates	CEPT Rates		MFN Rates	CEPT Rates		MFN Rates	CEPT Rates	
			2005	2006		2005	2006		2005	2006
0301	Live fish	0	0	0	0 to 15	nc to 7	nc to 7	0 to 15	0	
0302	Fish, fresh or chilled, excluding fish fillets and other fish meat of heading 03.04.	0	0	0	15	7 to 15	7 to11	5	0	
0303	Fish, frozen, excluding fish fillets and other fish meat of heading 03.04.	0	0	0	15	nc to15	nc to 11	5	0	
0304	Fish fillets and other fish meat (whether or not minced), fresh, chilled or frozen.	0	0	0	35	20	20	5	0	
0305	Fish, dried, salted or in brine; smoked fish, whether or not cooked before or during the smoking process; flours, meals and pellets of fish, fit for human consumption.	0	0	0	35	20	20	0 to 5	0	
0306	Crustaceans, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine; crustaceans, in shell, cooked by steaming or by boiling in water, whether or not chilled, frozen, dried, salted or in brine; flours, meals and pellets of crustaceans, fit for human consumption.	0	0	0	0 to 15	0 to 15	1 to 15	5	0	
0307	Molluscs, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine; aquatic invertebrates other than crustaceans and molluscs, live, fresh, chilled, frozen, dried, salted or in brine; flours, meals and pellets of aquatic invertebrates other than crustaceans, fit for human consumption.	0	0	0	15	15	11 to 15	5	0	
1504	Fats and oils and their fractions, of fish or marine mammals, whether or not refined but not chemically modified.	0	0	0	7	7	7	5	0 to 5	
1603	Extracts and juices of meat, fish or crustaceans, molluscs or other aquatic invertebrates.	0	0	0	35	20	20	5	5	
1604	Prepared or preserved fish; caviar and caviar substitutes prepared from fish eggs preserved.	0	0	0	7 to 35	nc to 20	nc to 20	5	0 to 5	
1605	Crustaceans, molluscs and other aquatic invertebrates, prepared or preserved	0	0	0	35	20	20	5	0 to 5	
2104	Soups and broths and preparations therefor; homogenized composite food preparations.	0	0	0	35	nc to 20	nc to 20	5	0	

		Laos			Malaysia			Myanmar		
AHTN	Description	MFN Rates	CEPT Rates		MFN Rates	CEPT Rates		MFN Rates	CEPT Rates	
			2005	2006		2005	2006		2005	2006
0301	Live fish	5 to 20	nc to 5	nc to 3	0	0		0	0	0
0302	Fish, fresh or chilled, excluding fish fillets and other fish meat of heading 03.04.	10	5	3	0	0		10	5	5
0303	Fish, frozen, excluding fish fillets and other fish meat of heading 03.04.	10 to 20	5	3	0	0		10	5	5
0304	Fish fillets and other fish meat (whether or not minced), fresh, chilled or frozen.	10	5	3	0	0		10	5	5
0305	Fish, dried, salted or in brine; smoked fish, whether or not cooked before or during the smoking process; flours, meals and pellets of fish, fit for human consumption.	10	7	6	0 to 8	0 to 5		1 to 10	1 to 5	1 to 5
0306	Crustaceans, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine; crustaceans, in shell, cooked by steaming or by boiling in water, whether or not chilled, frozen, dried, salted or in brine; flours, meals and pellets of crustaceans, fit for human consumption.	10	3	2	0 to 8	0 to 5		0 to 10	0 to 5	0 to 5
0307	Molluscs, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine; aquatic invertebrates other than crustaceans and molluscs, live, fresh, chilled, frozen, dried, salted or in brine; flours, meals and pellets of aquatic invertebrates other than crustaceans, fit for human consumption.	10	3	2	0 to 20	0		0 to 10	0 to 5	0 to 5
1504	Fats and oils and their fractions, of fish or marine mammals, whether or not refined but not chemically modified.	5	3	2	5 to 15	0 to 5		1 to 1.5	1 to 1.5	1 to 1.5
1603	Extracts and juices of meat, fish or crustaceans, molluscs or other aquatic invertebrates.	10	5	3	20	5		15	10	10
1604	Prepared or preserved fish; caviar and caviar substitutes prepared from fish eggs preserved.	30	5	3	0 to 20	0 to 5		7.5 to 10	5	5
1605	Crustaceans, molluscs and other aquatic invertebrates, prepared or preserved	30	5	3	0 to 8	0 to 5		10	5	5
2104	Soups and broths and preparations therefor; homogenized composite food preparations.	10	6	5	0 to 20	0 to 5		15	15	10

		Philippines			Singapore		
AHTN	Description	MFN Rates	CEPT Rates		MFN Rates	CEPT Rates	
			2005	2006		2005	2006
0301	Live fish	1 to 7	0 to 3		0	0	
0302	Fish, fresh or chilled, excluding fish fillets and other fish meat of heading 03.04.	5 to 10	0 to 5		0	0	
0303	Fish, frozen, excluding fish fillets and other fish meat of heading 03.04.	5 to 10	0 to 5		0	0	
0304	Fish fillets and other fish meat (whether or not minced), fresh, chilled or frozen.	7	5		0	0	
0305	Fish, dried, salted or in brine; smoked fish, whether or not cooked before or during the smoking process; flours, meals and pellets of fish, fit for human consumption.	10 to 15	5		0	0	
0306	Crustaceans, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine; crustaceans, in shell, cooked by steaming or by boiling in water, whether or not chilled, frozen, dried, salted or in brine; flours, meals and pellets of crustaceans, fit for human consumption.	5 to 15	0 to 5		0	0	
0307	Molluscs, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine; aquatic invertebrates other than crustaceans and molluscs, live, fresh, chilled, frozen, dried, salted or in brine; flours, meals and pellets of aquatic invertebrates other than crustaceans, fit for human consumption.	3 to 10	0 to 5		0	0	
1504	Fats and oils and their fractions, of fish or marine mammals, whether or not refined but not chemically modified.	3	0		0	0	
1603	Extracts and juices of meat, fish or crustaceans, molluscs or other aquatic invertebrates.	3	0		0	0	
1604	Prepared or preserved fish; caviar and caviar substitutes prepared from fish eggs preserved.	10 to 15	5		0	0	
1605	Crustaceans, molluscs and other aquatic invertebrates, prepared or preserved	10 to 15	5		0	0	
2104	Soups and broths and preparations therefor; homogenized composite food preparations.	7 to 15	0 to 5		0	0	

		Thailand			Vietnam		
AHTN	Description	MFN Rates	CEPT Rates		MFN Rates	CEPT Rates	
			2005	2006		2005	2006
0301	Live fish	30	5		0 to 30	0 to 10	0 to 5
0302	Fish, fresh or chilled, excluding fish fillets and other fish meat of heading 03.04.	5 to 30	5		30	5	5
0303	Fish, frozen, excluding fish fillets and other fish meat of heading 03.04.	5 to 30	0 to 5		30	5	5
0304	Fish fillets and other fish meat (whether or not minced), fresh, chilled or frozen.	5	5		30	5	5
0305	Fish, dried, salted or in brine; smoked fish, whether or not cooked before or during the smoking process; flours, meals and pellets of fish, fit for human consumption.	5 to 30	5		30	5	5
0306	Crustaceans, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine; crustaceans, in shell, cooked by steaming or by boiling in water, whether or not chilled, frozen, dried, salted or in brine; flours, meals and pellets of crustaceans, fit for human consumption.	5	5		0 to 30	0 to 5	0 to 5
0307	Molluscs, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine; aquatic invertebrates other than crustaceans and molluscs, live, fresh, chilled, frozen, dried, salted or in brine; flours, meals and pellets of aquatic invertebrates other than crustaceans, fit for human consumption.	5 to 30	5		30	5	5
1504	Fats and oils and their fractions, of fish or marine mammals, whether or not refined but not chemically modified.	10	0 to 5		10	5	5
1603	Extracts and juices of meat, fish or crustaceans, molluscs or other aquatic invertebrates.	30	5		50	5	5
1604	Prepared or preserved fish; caviar and caviar substitutes prepared from fish eggs preserved.	10 to 30	5		50	10	5
1605	Crustaceans, molluscs and other aquatic invertebrates, prepared or preserved	20	0 to 5		50	10	5
2104	Soups and broths and preparations therefor; homogenized composite food preparations.	20 to 30	5		40	5	5

Source: ASEAN Secretariat website
nc= no commitments

5.2 Initiatives for Addressing Non-tariff Measures

Through working with SEAFDEC, three major guidelines governing fisheries and aquaculture in the regional setting were prepared, namely: (i) Regional Guidelines for Responsible Fisheries in Southeast Asia: Fisheries Management (2003); (ii) Regional Guidelines for Responsible Aquaculture in Southeast Asia (2001); and, (iii) Regional Guidelines for Responsible Fisheries Operations in Southeast Asia (1999). These have been intended to cover and facilitate actions for the implementation of the CCRF in Southeast Asia. The CCRF was adopted at the FAO Conference on 31 October 1995 and provides necessary framework for national and international efforts to ensure sustainable exploitation of aquatic living resource in harmony with the environment.

In addition to the aforementioned, the other areas of collaboration between ASEAN and SEAFDEC for sustainable management of fisheries resources in this region are:

- Upgrading of Traditional Fish Processing Industry in Southeast Asian Countries;
- Conservation and Management of Sea Turtles in Southeast Asian Countries;
- Promotion of Mangrove-friendly Aquaculture in Southeast Asian Countries;
- Development of Fish Diseases Diagnostical Inspection Methodologies for Artificially-bred Seeds;
- Development of the Monitoring System of the Aquatic Environment for Substances Contained in Fish Bodies; and
- Improvement of Fisheries Statistics in the Region

Similarly, formal cooperation with the Network of Aquaculture Centre in Asia and the Pacific (NACA) was forged in order to promote the application of appropriate technologies for sustainable aquaculture development and aquatic resources management. An ASEAN fishery reference laboratory is also being set-up in Myanmar to assist in the improvement and promotion of the region's fishery production by addressing some of the trade barrier issues affecting the AFTA. The laboratory, expected to be completed in 2007, was proposed in the 2003 ASEAN Summit.

5.2.1 Fisheries Subsidies

The presence of subsidies in fisheries is one of the significant trade-related issues being addressed by the ASEAN Sectoral Working Group on Fisheries and has been discussed as a regular agenda item in the program on "Fish Trade and Environment" under the ASEAN-SEAFDEC Fisheries Consultative Group (FCG) meetings. The issue of subsidies in fisheries is one of the priorities to be addressed under the *Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region.* ASEAN and SEAFDEC have been tasked to assess the impact of government subsidies on fisheries, particularly on the needs of small-scale fisheries in the ASEAN region and sustainable fisheries in collaboration with international technical organizations such as the FAO and WTO.

Earlier discussions regarding subsidies during the Regional Technical Consultation (RTC) on Fish Trade in ASEAN Region and the Technical Session of the "Millennium Conference" both held in Bangkok, Thailand in 2001 yielded these recommendations, which also served as basis for policy consideration on fish trade by the ASEAN-SEAFDEC countries:

- Remove subsidies which are shown to contribute to unsustainable fisheries practices, especially those encouraging expansion of fishing capacity for fully exploited resources;
- Review, in collaboration with international technical organizations such as FAO, the empirical effect of fishery subsidies on essential social and developmental issues, particularly in support of the poor and disadvantaged of the ASEAN region, and effective fisheries management;
- Develop a regional policy on fisheries subsidies, considering the regional specific requirements, and produce regional guidelines for fisheries subsidies;
- On the basis of the regional guidelines, promote a harmonized regional position on fisheries subsidies, at both national and international fora;
- Carry-out in-depth empirical studies of the effect of fisheries subsidies on resource sustainability and trade in fish and fishery products, whenever information on these effects is missing or doubtful, and before deciding on removal of fisheries subsidies;
- Assemble and review available experience on how to phase out subsidies, including an evaluation of any lessons that can be learned from the experience obtained in removing agricultural subsidies;
- Conduct a census of fishery subsidies throughout all sub-sectors of the fishery sector at suitable intervals; and,
- Develop an ASEAN consensus on what would constitute a suitable categorization of fisheries subsidies to be used in forthcoming WTO negotiations on fishery subsidies

In the recent ASEAN-SEAFDEC RTC on International Fish Trade Related Issues held on February 20-22, 2006, the status of the fisheries subsidies negotiations at the WTO was discussed. Japan stressed that a general-ban (or top-down approach) on fisheries subsidies may cause serious limitation of providing fisheries subsidies not only for developed countries but also for developing countries in the future even if they consider it necessary (Refer to Annex 2 for the various views and proposals regarding fishery subsidies). Japan proposes a bottom-up approach wherein only subsidies that have direct negative impacts on fisheries resources are prohibited as this would be more amenable to the needs of each country. It was argued that this approach is more logical as fisheries subsidies negotiation started with an aim to supplement the global effort to achieve sustainable fisheries. As the issue would have substantial impacts on the fisheries sector particularly for small-scale fisheries, it was recommended that careful follow-up of the progress of negotiation and further representation of fisheries managers in the process of policy coordination for WTO negotiations would be desirable and encouraged.

On a related note, it was announced during the 38th SEAFDEC Council Meeting that the legal text on fishery subsidies under the WTO is still under going preparation and would likely be finalized by the end of 2006. Apparently, in the proposed set-up, subsidies relevant to small-scale fisheries would be exempt due to its contribution to poverty alleviation and people's livelihood. Hence, member countries should identify common characteristics of small-scale fisheries in the region and develop some criteria for prohibited fisheries subsidies.

In the ASEAN member countries, most fisheries activities are on small-scale and non-industrial levels. As such, ASEAN governments hold the view that public sector support is a vital incentive to change unsustainable fishing practices, does not promote over-fishing and is not considered to cause significant trade distortions. Moreover, the level of subsidies in ASEAN is low compared to other regions/countries primarily because of inadequate funds. Nevertheless, further study on the extent and impact of subsidies is required. A large proportion of government transfers to the fisheries sector in ASEAN Member Countries are necessary for basic infrastructure development, to keep pace with emerging global product standards, to promote change toward sustainable practices, for poverty alleviation, or for other social reasons. A harmonized ASEAN position on fisheries subsidies will be of value in the on-going international debate.

5.2.2 Environment and Resource Management

The growing concern regarding decline in fish stocks and general deterioration of the coastal and marine environment of the East Asian seas led to increases in multilateral environmental agreements wherein many ASEAN member countries joined in. Another added pressure is the inevitable expansion of aquaculture especially since its predictable supply is ideally suited for supermarket chains, which are expected to provide an increasingly large portion of world food demand in the future (Ahmed, 2006). Marine fish and shrimp culture pose the danger of encroaching into valuable mangroves, polluting the coastal waters with loads of organic matter, increasing pressure on wild stocks through the capture of gravid females and seeds, as well as the harvest of fish used for feeding the cultured organisms.

- ***Commercial Aquatic Species***

The draft MOU between CITES and FAO intended to strengthen collaboration on commercially exploited aquatic species is hampered by the view that some of the CITES listed species have potentially serious negative impact on normal fishing activities and the economies of coastal communities. To accommodate both parties' interests, a "compromise text" was subsequently drafted and is under review. In addition, to avoid inclusion of commercial aquatic species without adequate scientific basis in the list, it was recommended that ASEAN and SEAFDEC member countries look into the revised draft MOU prepared by CITES and develop a national, if possibly a regional, coordinated position. Data gathering and conduct of studies are encouraged to serve as inputs in sustainable resource management and utilization covering relevant aquatic species

identified under CITES such as sharks, sea cucumbers and sea turtles as well as those proposed for inclusion in the CITES listing.

- ***Marine Protected Areas (MPAs)***

Although the discussions at the Convention of Biodiversity (CBD) on the establishment of MPAs on the high seas remain unresolved, the ASEAN-SEAFDEC consultation viewed the establishment of MPAs as a fisheries management tool, which regional fisheries management organizations (RFMOs) can adopt for the high seas in their areas of responsibility. There are concerns, however, that the concept is being promoted to deter the activities of fishing fleets in the high seas. Member countries, therefore, are encouraged to monitor the progress and determine the potential impacts and necessary intervention on the issue.

- ***Moratorium on the High Seas Bottom Trawling***

The moratorium on trawling in the high seas has been demanded by some environmental NGOs and countries at meetings of the United Nations General Assembly (UNGA) since 2004 given its supposed adverse impacts on vulnerable marine ecosystems. However, there are oppositions on the grounds that if the moratorium on trawling in the high seas pushes through, the countries might also lose their rationale for protecting their Exclusive Economic Zone (EEZ) bottom trawling, which in turn will have adverse effect on food security and the development of local communities. Similar to the stance regarding MPAs, the consultation yielded the view that the issues on bottom high sea trawling operations should come under the jurisdiction of RFMOs, which have expertise in fisheries management. FAO already started a study on deep-sea fisheries management, including an assessment of the effects of fishing on deepwater fish populations and their ecosystems, in accordance with the agreement by the FAO Committee on Fisheries in 2005 to see if there is sufficient scientific evidence to back the proposal. At the 38th SEAFDEC Council Meeting, Japan expressed its opposition of the prohibition of high seas bottom trawling and requested other SEAFDEC member countries to coordinate with their respective Ministry of Foreign Affairs to support the position of Japan during the UN Informal Consultative Process on the Law of the Sea in June 2006.

5.2.3 Quality and Safety of Fish and Fishery Products

Concerns on compliance with the increasingly stringent quality and safety standards boils down into two main issues: first, that they will weaken the competitive advantage already gained by many developing countries; and second, that they will lead to insurmountable barriers to trade for new entrants, especially since regulations often shift the burden of responsibility to the exporting processor or trader.

To date, efforts have also been directed towards the harmonization and standardization of measures and regulations such as the harmonization of SPS measures on fish and fishery products and Protocol 8 on SPS Measures to Implement the ASEAN

Framework Agreement on Facilitation of Goods in Transit. Protocol 8 provides for the harmonization and simplification of customs procedures, the establishment of a customs transit system, establishment of SPS measures to facilitate the movement of goods and ensure their compliance with relevant laws and regulations. ASEAN also adopted the "Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals" and the "Beijing Consensus and Implementation Strategy" as tools to reduce the risk of disease due to transboundary movement of live aquatic animals. These guidelines are intended to provide a platform for greater cooperation and implementation of aquatic animal health management measures within the region and extend support sustainable aquaculture. There are also continuing work on harmonization and testing and quarantine procedures for groupers in the area of aquaculture development.

To further promote aquaculture, some member countries have translated into their respective languages the "ASEAN Manual on Good Shrimp Farm Management Practices" for use by their shrimp farmers. This was complemented by the issuance of the "Manual on the Harmonization of Hatchery Production of *Penaeus Monodon* (tiger prawn)" and "Practical Guidelines for the Development of High Health *Penaeus Monodon Broodstock"*.

The issue of Fish Meal and Bovine Spongiform Encephalopathy (BSE-Mad Cow Disease) brought forth concerns particularly on its effect on international fish trade and consumer perception of fish safety quality. The presentation during the 26th Session of FAO Committee on Fisheries indicated that there are no epidemiological evidence of Bovine Spongiform Encephalophaty (BSE – Mad Cow Disease) being transmitted to ruminants or other animals by fishmeal and likewise to humans, but FAO had been requested by its members to continue monitoring the relationship between fishmeal and BSE.

A major concern raised lies in the antibiotic contamination in fish and fishery products as this hampers exports to European and US markets, which require lower levels of antibiotic residues in fishery products. Similar problems were noted with the detection of formalin in other products. The contamination is in violation with national regulations and needs to be resolved at the national level. The consultation noted that there were two projects currently implemented under Japanese Trust Fund by SEAFDEC MFRD that could further assist in the matter, namely: (1) the training of member countries staff in laboratory detection of antibiotics and chemical contaminants, and (2) a regional survey to determine antibiotic residues in fish and fishery products.

Another issue that might require greater attention is the contamination issue of malachite green in fishery products. It was noted that malachite green could be detected by high performance liquid chromatography (HPLC) and liquid chromatography-mass spectrometer-mass spectrometer (LC-MS-MS). In response to this concern, it was suggested that more information on linkage between probiotics and heavy metals released during the decomposition of organic matter be gathered.

Whereas the above issues related to the safety of fish and fishery products should be primarily addressed by concerned countries by strengthening the enforcement of existing regulations, these could also be tackled through the implementation of relevant measures under the ASEAN Roadmap for Fisheries Integration as well as the ASEAN Food Safety Network and SEAFDEC Fish and Fishery Products Safety Network. Moreover, the growing awareness of the importance of HACCP based system applied in many countries highlights the need for an integrated, multidisciplinary approach to safety and quality involving the entire food chain.

5.2.4 Eco-labelling of Fish and Fishery Products

A regional study on eco-labelling for aquatic products was undertaken by SEAFDEC with technical and financial support from the Swedish Board of Fisheries and the Swedish International Development Cooperation Agency (Sida). This was intended to survey the current status of sustainable development of fisheries and aquaculture production in the ASEAN countries, and to identify opportunities to apply eco-labelling in the context of the region. The results indicate that there is recognition that eco-labelling is in accordance with the principles of environmental sustainability. In addition, products originating from community-based fisheries or purse seine fisheries as well as those from extensive, poly-culture or low-input aquaculture production systems can qualify for eco-labelling. However, there are apprehensions on its practical implementation given the nature of fisheries and aquaculture activities in the region and the costs associated with the certification system.

The outcomes and recommendations of the study were presented at the ASEAN-SEAFDEC RTC on International Fish Trade and Related Issues 2006, and the following clarifications and suggestions were made:

- Contributions to eco-labelling work in the region must be used as a tool to promote sustainable fisheries practices;
- There has to be clear understanding and definition of eco-labelling in the regional context, development of appropriate criteria and standards, setting up/identification of accrediting and certifying bodies, and roles of stakeholders especially the government and industry as well as dialogues among all concerned stakeholders in the process. This would include capacity and awareness building and implementation of pilot studies to provide basis for future in-depth discussion;
- Member countries and SEAFDEC to conduct a study on potential difficulties and impacts of the FAO international guidelines for eco-labelling for fish and fishery products from marine capture fisheries and prepare necessary inputs for future development by FAO;
- Market studies should be carried-out to determine market opportunities in relation to eco-labelled products; and,
- Discussion among relevant international/regional organizations working in the region (e.g. FAO RAP, NACA, MRC, etc.) and the ASEAN Secretariat should be promoted when developing regional eco-labelling schemes.

At the same time, as per the suggestion put forth in the 8th ASEAN-SEAFDEC Fisheries Consultative Group, a regional strategy on eco-labelling need to be developed taking into account the following:

- the role of government in addressing issues of eco-labelling both in terms of being a market driven incentive and a tool to promote sustainable practices;
- active participation in future amendments/development of initiatives related to eco-labelling at relevant international fora;
- specificity and uniqueness of fisheries in the ASEAN and SEAFDEC Member countries; and
- practicality of any labeling scheme and readiness of fisheries sub-sectors or fishery products

It should be noted that while the CCRF provides a basis for sustainable fisheries practices, eco-labelling – when worked out in consultation with the industry, fisher folks and fish farmers – has the potential to contribute to better fisheries practices while considering ecosystem and social dimensions of fisheries in a tropical region, build awareness among consumers and create new market opportunities for a small segment of the fisheries sector. At the same, given the diversity of fish species being produced and marketed in the region, the practicality and realism of establishing an eco-labelling system needs to be studied.

5.2.5 Traceability

The traceability requirement in key markets for fish products is viewed with some apprehension and some developing countries require extra time in meeting these requirements. At the same time, the lack of a unified definition of traceability at the Codex Alimentarius level can potentially create some confusion and it was suggested that FAO needs to coordinate further with the CAC.

Thailand launched a pilot project on computerized traceability focusing on the products from aquaculture shrimp farms. By sharing the outcome of such a pilot project, it could serve as a basis to develop similar work in other countries.

5.3 Implementation of Fisheries Policies and Programs

Based on the foregoing, it is apparent that there has been substantial discussion and efforts expended already in order to forge cooperation and integration in the fisheries sector within ASEAN. Nonetheless, there are certain constraints encountered in the formulation of policy recommendations and common/coordinated positions on fisheries issues. For example, the ASEAN-SEAFDEC Secretariat identified insufficient in-country coordination on the formulated policy and positions, conflicts of policy interests among concerned national agencies, limited participation of the member countries in international fora and information gap between national representatives who participated in ASEAN and SEAFDEC related meetings, as bottlenecks. Hence, it becomes important

to work on coordinated/common positions among the member countries while at the same time supporting individual country's interests in fisheries.

While noting that SEAFDEC cannot, on its own, to develop a fisheries policy as well as speak on behalf of any member country at international fora, it is recognized that the institution has the capacity to assist the member countries particularly on the conduct of comprehensive review of priority issues and areas for consideration, develop information package to promote awareness on the issues, and provide technical support to the member countries.

An assessment of the work program based on the ASEAN Roadmap for Fisheries Integration (Annex 3), particularly the outputs and outcomes from the various activities would facilitate not only tracking the progress towards attaining the objectives of enhancing fisheries trade but also identify and address potential problems and risks that may arise in the implementation of the said activities. That is, for each of the activities identified, what are the verifiable outputs and what have been the outcomes. For example, there have been several outputs such as the guidelines and manuals and it would be useful to find out how they have been disseminated and put into use. Moreover, given the series of discussions on the various concerns, putting the recommendations into concrete actions within the timeframe would be paramount. The point is to have a clear understanding of the remaining issues that need to be addressed, what is available on the ground to resolve the problems and then determine the best way to fill existing gaps.

6.0 Strengthening Linkages in ASEAN Fisheries

Liberalization of international fish trade offers many opportunities as well as new safety and quality challenges. Risk-based scientific tools need to be applied so that the fish safety standards reflect the most effective scientific methods available to protect public health. Furthermore, information and awareness programs can improve transparency and consumer education. Progress in this area would require enhanced international cooperation in promoting scientific collaboration, harmonization, equivalency schemes and standard-setting mechanisms that are based on scientific principles.

Given that one of the reasons cited for the opposition against tariff reduction or its elimination is to protect the fisheries resources, tariff reduction and harmonization of tariff structure amongst countries need to be pursued with the necessary provisions to safeguard resources from overexploitation. The removal of tariff escalation and tariff peaks, on the other hand, will provide developing countries the incentive to innovate and increase production of value-added or processed products. At the same time, binding tariffs to the extent possible will bring about a predictable business environment and contribute to boosting investors' confidence. In the process, they will be able to take advantage of the comparatively lower operational costs and add value to exports. More transparent and predictable tariff regimes also help stimulate investment in processing, implementation of standards and create a policy environment and awareness for better resource management. There are also changes taking place in the global marketing of fish and fishery products that producers in developing countries need to consider and adapt.

To comply with international safety and quality standards, the governments should be proactive in assisting the private sector to find solutions. To ensure that the poor fisher folks and small producers will also enjoy the gains from trade liberalization, pro-poor interventions such as better technology extension service and access to credit and markets, are essential. This should also include risk and exposure assessment and building national capacity to implement risk assessment as part of the regulatory decision-making process before the formulation of regulations. Risk assessment is a systematic process, which provides a basis for environmental management by determining specific impacts of human activity on the ecosystems and the human health. On the other hand, risk management involves selecting the appropriate management options to minimize the identified risks. The results can be used in decisions and actions affecting the marine and coastal environment.

The International Trade Strategies Pty Ltd., and Center for Food and Agribusiness, (2004) indicated that some private sector representatives felt that ASEAN rules and regulations were not considered transparent and they are often unaware of what ASEAN standards were and whether national governments have implemented them. Hence, there is a general sentiment that ASEAN has to improve communicating its policies and agreements. At the same time, there are those who believe that the benefits of AFTA had been undermined by local barriers to trade and protectionist policies of member states.

In order to optimize the impact of the aforementioned initiatives, the affected stakeholders, notably the private sector, need to be more actively involved in the consultations and decision-making.

6.1 Subsidies

Fisheries subsidies are acknowledged to have both positive and negative impacts, which are very site and context specific. While there seems to be a view that subsidies lead to overexploitation of fish stocks, which in turn have negative social and economic implications, this may not necessarily be the case. It is recognized that the removal of subsidies alone cannot resolve the problem of overexploited fisheries. A crucial factor in this regard is the existence of an effective fisheries management system. Fisheries access agreements are often associated with a range of subsidized elements such as payment of the access fee. These may create distortions in the market, which can negatively impact on national efforts to increase economic benefits derived from trade. At present, the work of the WTO negotiating group on rules for fishing subsidies has reached a critical new phase and it is possible that the new fishing subsidies rules will be based on the 'traffic light' approach of the Agreement on Subsidies and Countervailing Measures (SCM). This development will inevitably affect ASEAN trade initiatives. As shown in Annex 1, several countries have their respective set of subsidies and they need to be reviewed in terms of how they will fit into the new order of things.

As mere reliance on the assumption that well-managed fisheries can counteract the impact of subsidies may be misleading, the lowering of artificially high capacity that subsidies have brought about in the past should be considered. Exceptions may only be considered for non-distortionary subsidies intended to assist developing country investment in fisheries and if a capacity enhancing subsidy is targeted at artisanal fishery operating within the confines of an under-exploited and well-managed fishery. Special and differential treatment for developing countries is needed in the subsidies agreements given the high levels of poverty and poor infrastructure in these areas and the limited capacity of producers to invest in systems upgrading.

6.2 Food Safety and Quality Measures

Access to safe, contamination-and radiation-free food is a legitimate claim and naturally sought by consumers. Producers, particularly those in developing countries, need to accept that they would have to act and comply with the safety requirements of importing countries lest they risk rejection of their products and lose market share. Maintaining high quality food and fish can be viewed as a competitive strategy to stay ahead of competitors. By not addressing health, safety, quality and environmental issues, a company's position in the market place and subsequently, its profitability can be threatened by such risks as: (i) challenges to its operating license; (ii) disruption to its supply chain; (iii) damage to its name; (iv) loss of market due consumer boycotts; (v)

fines and claims for damages; (vii) lower ratings in the financial markets; and, (vi) poor staff morale.

Improved harmonization of SPS and TBT requirements and standards is necessary at the international level. To the extent possible, the Codex Alimentarius should be used as the baseline for harmonized standard, taking note of the necessary adjustments for the region's peculiarities. Unfortunately, numerous small fishers and producers may find it difficult to access HACCP processing plants. Cooperation between donors, international agencies, national agencies and private entrepreneurs is desirable to make optimal use of resources allocated to HACCP-related activities.

As indicated in the brief profiles in Annex 1, several countries have made progress in the implementation of fish safety and quality programs. However, not all have the capacity to do. There is a view that given the high cost of investments associated with SPS and TBT regulations, companies would have to choose which market segments to cater to and with it, bear the associated cost of complying with the standards set forth in them (Manarungsan et al., 2004 and Ahmed, 2006). That is, countries that have less stringent standards or longer implementation periods can even be targeted for export. In addition, the differential application of standards may even contribute in expanding South-South trade. SPS and other requirements need to be viewed in the broader context of competitiveness as progress in certain aspects such as quality control and logistics management may be adequate to satisfy SPS requirements. The observation set forth in World Bank (2005) is that this will likely continue as a result of an emerging tendency, particularly in the private sector, to package together safety, quality, and environmental and social standards.

Zugarramurdi (2003) noted that the cost of applying HACCP based system in the seafood processing plants depend on a number of variables such as the type of product, market requirements, current and future legislation, existing facilities, plant size, initial operating conditions, present and future level of qualities. Hence, it is difficult to estimate the costs due to the diversity of the systems and that there is no single HACCP plan for all fish processors. The costs previously cited in Section 5 show the range of values others have spent for their HACCP initiatives. Industries that apply a HACCP program should consider adopting an integrated approach with quality or environmental management systems such as ISO9000, ISO14000 and ISO22000. These systems are required to bring the benefits of ensuring food safety and improving the business itself. Integrating these systems can strengthen the focus on customer and food safety requirements, while at the same time reduce administration and increase overall profitability.

As food safety standards develop rapidly, it is essential to have improved information flows among stakeholders in the food supply chain – producers, traders, exporters, government agencies, policy-makers and donors. These include better access to scientific and technical information to foster coherence in the standard setting process. For example, there is substantial information obtained in the various research projects and the consultations but is it able to reach all the relevant parties and stakeholders and to

what extent is the information able to influence their decisions and actions? The result of the harmonization of SPS measures on fish and fishery products and Protocol 8 on SPS Measures to Implement the ASEAN Framework Agreement on Facilitation of Goods in Transit need to be well understood by the affected parties. Increased transparency will encourage industry to invest in health and safety measures, which may also help to gain certification for food safety and eco-labeling schemes.

Technical assistance would likewise be needed to build capacity and strengthen the regulatory framework together with the installation and upgrading of testing and monitoring facilities and other necessary infrastructure to meet international standards. Establishing a coordinating mechanism and forging linkages would enable better understanding among relevant institutions, including the private sector, improve decision-making and greater awareness of operational priorities.

6.3 Trash Fish

"Trash fish" or "low value fish" are broadly used terms referring to fish species that by virtue of their small size or low consumer preference have little or no commercial value (Sugiyama, Staples, Funge-Smith, 2004). A major issue for ASEAN member countries is the increasing demand for low value fish for processing into fishmeal or oil for aquaculture and other animal feeds. With the expansion of aquaculture not just for domestic food security needs but for earning foreign currency as well, there is added stress on the already overexploited fish stock. Fish farming has tended to become more intensive. This trend also involves a shift from the culture of herbivorous and filter-feeding fish to the culture of carnivorous species.

There is concern that the sustainability of fish meant for fishmeal may be under stress. The globalized nature of the market for industrial fish products will lead to ascension of prices, particularly if fishmeal remains a large component of feed in aquaculture operations producing, for example, shrimp and salmon. The higher prices will then have a negative impact on the food security of some nations as the price of feed for terrestrial livestock rises.

SEAFDEC estimates that about seven kilogram of low value fish is needed to produce just one kilogram of marketable carnivorous fish. Sourcing the required volume of fish would be a contentious issue. Over the last decade, the price of low value fish has risen and it is predicted to increase even further over the next years due to the increased demand for fishmeal and oil. Considering current conditions, even though average fish prices are on an upswing, the growth rate of fishmeal prices can easily outstrip it.

Sometimes trash fish are landed by large industrial vessels at a single port and usually in a poor state of preservation, so its utilization becomes very limited. With better post-harvest handling and processing, a better return for this limited resource may ensue. Moreover, if they were given a chance to grow to a larger size, some trash fish

(i.e., those that are juvenile of commercially important fish species) would provide much more benefits in production and value. As such, there is considerable pressure on aquaculture to reduce its reliance on feeds containing fishmeal and to increase the efficiency of the current usage of this resource. Instead of looking at capture fisheries and aquaculture as separate sectors, policymakers must pay serious attention to a balanced development between capture fisheries and aquaculture.

6.4 Marketing and Value Addition

While developing countries are often hampered by technical and financing possibilities, customer relations and marketing, they have a comparative advantage with regard to natural resources and cost of production. Still, to be competitive in the future, they need to take an active role in meeting stricter requirements on hygiene, quality and safety. They also need to improve their value adding production and marketing. The focus of the value adding should be on the entire value chain, particularly on vertical integration through cooperation with other developing countries. Similarly, existing marketing channels through the large marketing companies could be used to help smaller producers market their products. For example, established ASEAN companies who have penetrated big markets such as those of the EU should be encouraged to cooperate with new and upcoming companies. These markets have high purchasing power but are highly quality conscious with excessive food safety and traceability standards, which newcomers may not have a chance to enter on their own. The big companies can also undertake contract growing with other fish farmers for high value products in order to take advantage of "time windows of opportunities" that may occasionally arise. This, however, can be challenging in terms of ensuring economies of scale, quality of product, reliability of delivery and maintaining costs. Given this concern, it becomes important to pay attention to the technical requirements in production as well as in the harvesting, handling, storage and distribution needs of specific fish and fish products.

Sub-regional initiatives under Brunei-Indonesia-Malaysia-the Philippines East ASEAN Growth Area (BIMP-EAGA) can be used as examples for making use of opportunities at hand. Under BIMP-EAGA, seaweed development can be further enhanced in the sub-region, particularly for Sulu and Tawi-Tawi (Philippines), North Sulawesi (Indonesia) and Sabah (Malaysia). The area is estimated to account for 80% of the total supply of *euchema cottonii* seaweeds. The supply chain in the Philippine side is well established with Zamboanga and Cebu City as processing centers. Another EAGA initiative is the fishing access agreement between Indonesia and the Philippines, wherein boats from the Philippines are allowed to fish for tuna in Indonesian waters. The joint logistics among tuna canners in Bitung, Indonesia and in General Santos, Philippines is another example. Tuna canners in North Sulawesi and Mindanao benefit from cheaper shipping rates by consolidating their shipments for onward shipment to overseas markets in General Santos City. Other logistical routes are Zamboanga (Philippines) - Sandakan (East Malaysia); and Davao (Philippines) – Manado (Indonesia). A major concern is how to sustain the amount of cargo and passengers in these routes in order to make them viable. In the area of customs, immigration, quarantine and security (CIQS), the

challenges are the need for in-country understanding of procedures given "too many actors at every port" as well as lack of information exchange among countries of individual country CIQS rules (International Trade Strategies Pty Ltd., and Center for Food and Agribusiness, 2004). This is where the simplification of customs procedures and rules of origin becomes significant.

Furthermore, because of squeezed food processing margins, there is increased consolidation and concentration taking place. One consequence is that processors develop their own distribution systems and with these, there are also "market entry" barriers that they have to go through. Partnerships also are developing along the distribution chain. This would require studying the impact of vertical concentration in marketing channels with specific attention to supermarkets and its impact on the levels of production, processing and wholesaling.

Food production systems in Southeast Asia have to work within changing demands from both local and international consumers. At the same time, facilities and systems to enable efficient production, handling processing and distribution and distribution will have to evolve to keep up with demand for higher value-added and processed products from the increasingly affluent population, which also value convenience and food safety.

Reviews can be conducted for regulatory interventions in supply chains, including marketing controls on a comparative basis between different countries producing the same product with the aim of identifying opportunities for improving efficiency. A key component of this should be to identify means of improving the capacity of fishers to develop supply chain initiatives. This can be through improved vertical coordination, group marketing and supply initiatives, cooperative associations and other complementary activities.

Austria (2004) noted that the weak integration in the ASEAN agri-sector, including fisheries, could be explained by the fact that current production and technology entails simple transformation of raw materials that are not suited to division across economies in the region. Deeper integration can be achieved if member economies will increase the value-added of these sectors through further industrial processing. Each economy can specialize in the production of a particular manufacturing product for exports to the rest of the region. Specialization can lead to economies of scale in production and hence, lower cost.

The above suggestion concurs with the observation in Zugarramurdi (2003b) that the fishery sector's profitability can be increased if an effective evaluation is conducted on which type of value-added products is more convenient for each country. Factors such as available technology, labor productivity, availability of resources, quality assurance level, financing, level of development of clusters and association through the value chain should be analyzed since their combination would define the advantages and weaknesses of each case. She, however, cautions that there are examples showing that further processing does not always give a higher value-added. The test is whether the

added value is sufficient to cover the added costs and if there is a willingness to pay for it.

In a study of four products exported to the EU and US, which represented a variety of product forms, processing methods and market segment, it was observed that more processing in order to have higher value-added products do not necessarily result in higher profits for seafood processors (Gudmundsson, 2003). Given the fact that seafood products are increasingly exported as fresh products directly to the US or EU markets, it fishers and primary processors might get better income if they focused instead on efficient marketing channels, high quality and improved handling, and shorter marketing channels in order to obtain higher share of the retail value in the future.

The issue of catch certification and food quality assurance are also creating incentives that alter harvesting, production and marketing strategies. There are a limited number of eco-labelled fish products available at present. The Philippine blue crab fishery is an example of how the market can influence fishers to adopt certain resource management practices. In this case, a fishers association was able to supply the processing company with raw materials according to the specifications of the buying company. The company refuses to buy small crabs or gravid females. While recognizing that this may be a unique example and not necessarily easily acceptable to other sites or countries, this is nonetheless a step forward. On the other hand, even if there is a market in more affluent economies, there is an information gap on whether there is a demand for such products in ASEAN and empirical studies on their actual impact on developing countries trade flows are encouraged. Hence, certification and labeling for the region's fisheries may take a while before it takes sail.

6.5 Halal Certification

Halal is an Arabic term meaning lawful or permissible. While the term is used to describe anything permissible under Islamic Law including behavior, speech, manner of dressing, and conduct, it is most frequently applied to food or the Islamic dietary laws. Muslims, around the world, as part of their religious belief, are extremely concerned that the food they eat and the products they use are *halal*. They reject anything containing or contaminated with alcohol or pork as *haram* (not permissible). Towards this end, they often carefully examine the ingredient list of products before buying them. If there is any suspicion of *haram* ingredients, most Muslims will avoid the purchase of such items. Besides the ingredients, it is also the process of manufacture that makes a particular item *haram* for Muslims. To help Muslims determine whether a product is *halal* or otherwise, there are several Islamic organizations across the world that certify such products.

There is a growing global market for *halal* food, which is estimated to be US$150 billion per annum.[2] At the same time, there are non-Muslims who prefer foodstuff bearing *halal* certification for health reasons. Victoria Foods Corporation,

[2] http://www.aseansources.com/jsp/malaysia_food_products.jsp

one of the leading producers of canned fish products in the Philippines, reported that an increasing number of health-conscious individuals are looking for *halal* products they believe are not only safe but also healthy for consumption.[3] Hence, *halal* certification would enhance the market potential for food products from ASEAN member countries.

Halal certification is not as simple as just determining whether a product can be taken by a Muslim. It involves trust and responsibility on the part of the certifying body. The CAC, responsible for introducing the Joint FAO/WHO Food Standards Programme, cited Malaysia as a global example where *halal* food is concerned. Malaysia has developed a *halal* certification, a total quality health, and sanitary system that involves adopting procedures for slaughtering, processing, and other related operations as prescribed by Islamic rules under the Department of Islamic Development (JAKIM), which is based on the MS 1500:2004 "*Halal* Food-Production, Preparation, Handling and Storage-General Guidelines (First Revision)". It certifies raw materials, ingredients, and products based on quality, sanitary and safety considerations. Malaysia's knowledge and capability in this area should be tapped by other countries that have similar special requirements in order to take advantage of the growing demand.

6.6 Public-Private Partnerships

Public-private partnership (PPP) mechanisms have become an option for governments worldwide to improve service delivery, attract investment, reduce costs, and increase accountability. It is also linked to the policy-making process and can facilitate efforts to enhance trade. The mechanism engages the energy and financial power of the private sector, whilst approaching development with the social responsibility of the public sector. Appropriate institutional structures and participatory mechanisms will be required to enable such partnerships to function effectively. Public and private views should be integrated proactively to address such issues as trade-related infrastructure and compliance with international standards. Closer cooperation between the public and private sectors may be tapped in several activities such as:

- assessing existing patterns within the supply chain – from production, harvesting, post-harvest handling and processing – and technical capacity to comply with health and sanitary standards;
- evaluating the costs and benefits of food safety standards and other regulatory measures to the stakeholders in developing countries; and,
- enhancing the capacity of developing country institutions to assess fisheries trade policies and linking them to fish supply chains, related institutions and stakeholders, and processing industries to establish a comprehensive institutional network to manage fish and seafood quality at a lower cost

[3] http://www.islamicawakening.com/viewnews.php?newsID=5765&

Encouraging investments in the fisheries sectors, like any other successful investment, requires predictability. While there is a willingness to assume a certain degree of risk, caution drives the landscape. Investors recognize the limitations of the governments; however, they would be more likely to invest if governments worked to create more predictable and consistent business environments. There is a need to promote transparency so investors are not bogged down by rules, regulations and corruption. There should be consistency in regulatory and legal/judicial frameworks.

PPP closely linked to policy would facilitate efforts to accommodate trade measures. Appropriate institutional structures and participatory mechanisms are needed to enable such partnerships to function effectively. There is a need to design appropriate administrative procedures, standards and rules, which increase transparency. Aside from the private sector and government, NGOs and multilateral donor agencies could be involved in PPP.

More coordination and cooperation including monitoring at the national level would help to find internal solutions to institutional problems and new challenges on the global seafood market. It may also facilitate participation, thus contributing to increased ownership and more responsibility taken over by individuals. As a result, representatives can better express their views thus, leading to effective participation. Relevant international organizations should also work in tandem with the private sector and developing countries to transfer know how on production, management and marketing and facilitate joint ventures between companies in developed and developing countries.

6.7 Information, Education and Participation

The ASEAN initiatives have been supportive in stimulating trade and market access for its members. However, there are weaknesses including those in communication, awareness building and in-country capacity to respond to emerging global requirements and sustainable resource management. As a result, governments become reactive to trade measures instead of becoming proactive.

In terms of communication and participation, effort should be made to enable developing country stakeholders to readily access the complex language of trade negotiations and to better understand the implication of the trade agreements. There should be more venues for consultations especially on issues that directly affect the stakeholders.

Developing countries also need to address wide-ranging capacity building needs including building skills in negotiation processes, technical areas related to compliance, identifying trade opportunities, information on institutional approaches and procedures as well as legal matters. Training and awareness building initiatives should be practical and comprehensible (e.g. seminars, workshops, guidelines and manuals that avoid too much jargon). Rigorous consultation with primary stakeholders is necessary in order that capacity building and information needs are responsive and accessible.

7.0 Recommendations for Advancing ASEAN+ 3 Fisheries Trade Negotiations

Since its inception in 1997, the ASEAN+3 has undertaken several measures to expand and deepen cooperation among the involved East Asian countries. Concrete steps toward achieving the goals of closer integration and overcoming commonly held challenges are taking place. It is expected that the growing interaction among the ASEAN+3 countries will contribute in promoting greater dialogue and collective efforts to harness opportunities and meet emerging challenges. Among the medium term measures that have been deemed useful in realizing the East Asian vision of peace, prosperity and progress is the formation of an East Asian Free Trade Area (EAFTA). To move forward, ASEAN countries, China, Japan, and Republic of Korea should explore ways to address the trade-related issues concretely.

To date, trade liberalization efforts within ASEAN are expected to produce some gains in itself. As most of the ASEAN economies are more competitive in the fisheries sector than some of the world's biggest economies, entering into liberalized trade agreements with them has the potential to deliver substantial gains in economic welfare. Nonetheless, as observed by the International Trade Strategies Pty Ltd., and Center for Food and Agribusiness (2004) the extent and value of integration of the ASEAN market through the AFTA is also dependent on the level of global competitiveness of agricultural production inside ASEAN. That observation applies to the fisheries sector as well. Hence, if the removal of intra-ASEAN barriers to trade in fish and fish products will not lead into a level of competitiveness that matches the best in world markets, even if it integrates markets and increases investments, the outcome could even be economically negative for ASEAN countries.

The ASEAN+3 Bilateral Swap Arrangement of the Chiang Mai Initiative may be viewed as a precursor to expanded trade arrangements and greater financial and macroeconomic cooperation and coordination among the ASEAN+3. Successive meetings led to the establishment of the East Asia Vision Group (EAVG) and the East Asia Study Group (EASG). Among the recommendations arising from the work of the EAVG and EASG was the establishment of an EAFTA and liberalization of trade. Free trade areas are increasingly recognized as a means to expand trade and investment opportunities, promote economic growth and sustainable development, and catalyze other forms of cooperation among countries of the region. Other recommendations arising from the EAVG and EASG that are likewise relevant to the fisheries sector are: (i) the implementation of the Framework Agreement on the ASEAN Investment Area (AIA); (ii) joint endeavors to ensure more effective management of water resources and fisheries; and (iii) closer regional marine environmental cooperation.

The envisaged scope of the EAFTA is quite comprehensive. In terms of trade in goods, it goes beyond the removal of tariffs and non-tariff barriers to include trade facilitation measures such as conformity of standards and procedures, and it also covers trade in services.

The AIA initially extended national treatment and opened up almost all industries for foreign direct investments (FDIs), with the exception of those in the Temporary Exclusion List and the Sensitive List. The AIA also expanded its coverage by including services incidental to the manufacturing, agriculture, forestry, fishery, and mining sectors. That is, ASEAN countries are committed to opening up the aforementioned sectors and to granting national treatment to ASEAN investors by 2010 and to all investors by 2020, with each country having some exceptions. In order to attract larger volumes of FDIs, full realization of the AIA would be advanced from 2020 to 2010 for the first six member countries of ASEAN and to 2015 for the newer member countries.

East Asian countries should also encourage investment among them and dismantle trade barriers because trade and investment are virtually inseparable elements, crucial in the process of deepening and broadening regional economic cooperation. In this regard, the EASG recommended that the formation of an EAFTA go hand in hand with the establishment of an East Asian Investment Area by expanding the AIA.

Another area of concern that affects the fisheries sector is the promotion of regional marine environmental cooperation. Given its vast coastline and major shipping sea-lanes, the East Asian region's rich marine resources have long been central to its development because the resources provide food, employment, and income. In many parts of the region, rapid economic development have taken place in coastal areas at the expense of the environment, from upstream pollution, domestic and industrial effluent, more areas of landfill, increased dredging, and the erosion of coastlines and coastal habitats. Over-fishing, excessive exploitation of the coral reef, sea grass and mangroves and expansion of aquaculture farms have further damaged the marine environment and coastal resources in the region. Moreover, oil spills have become serious along major shipping routes in recent years.

The previous sections have discussed the actions taken by ASEAN member countries towards the integration process in the fisheries sector and what are the remaining gaps that need to be addressed. The recommendations would be building on the on-going work on the fisheries sector of ASEAN and extend it to cover for fisheries trade negotiations with China, Japan and RO Korea.

Specific recommendations for inclusion in the trade negotiations are presented in concert with the goal of enhancing fisheries trade through supporting the commonly cited objectives such as:

- Support regional collaboration through the harmonization of trade policies, including tariffs and non-tariff measures such as product quality, safety and sanitary measures with international standards, and establishment of harmonized guidelines for fish inspection and quality control systems;
- Promote and ensure the socio-economic and environmental sustainability of the region's coastal and marine resources;
- Address certification and eco-labeling concerns in trading fish and fishery products;

- Assess the impacts of subsidies on sustainable fisheries; and
- Increase the capacity of developing countries in technical, institutional and legal areas affecting fisheries management

Recommendation 1: Harmonize SPS measures and procedures with international standards

One of the most serious difficulties facing exporters is the different quality and safety standards and policies imposed by importers. These disparities concern regulations, standards and procedures, including border controls where seafood products can be rejected, destroyed or detained. In order to promote harmonization and equivalence among seafood-trading nations, such differences need to be reduced, and ultimately removed, and replaced by international control systems and standards based on scientific techniques such as risk assessment. A good starting point would be to review the cases of detentions and rejections of fish exports wherein the insights that would be obtained can be used to focus work on the issues for international harmonization and promotion of equivalence among trading partners. This can also be beneficial in efforts to reduce seafood wastages and fish borne illnesses.

Most of the ASEAN+3 countries have their own systems governing quality and fish safety; but promoting fish safety and quality programs as well as the development of harmonized systems and standards at par with international standards is essential to improve trade competitiveness and maintain market shares. That is, food standards need to be harmonized with global standards to facilitate trade and protect consumer health. Recognizing that developing countries face problems in complying with standards for health and safety regulations in fish trade such as SPS measures and procedures for administering, there is a need to support their establishment and implementation.

Whereas strengthening fish inspection and implementing HACCP-based safety and quality systems has helped many developing countries secure and expand market shares for their seafood export, much remains to be done to generalize HACCP systems and promote a harmonized approach to fish control in international trade. One of the difficulties encountered is that HACCP is often mandated within the fish-processing sector making it difficult to implement control measures in the production phase. Hence, activities in the fish breeding side must also be linked to HACCP initiatives. In addition, the conduct of risk and exposure assessment is desirable before the formulation of regulations. Building national capacity to implement risk analysis as part of the regulatory decision making process is recommended. A major concern usually leveled against the development of standards is the lack of transparency and opportunities for participation, including those relating to sustainability issues. To avoid this, the progress pertaining to the standards would be communicated with the relevant institutions in each country for their review and concurrence. The experience of Malaysia in establishing its National Food Safety Framework would be useful in strengthening the ASEAN's risk assessment capacity in support of food safety measures.

Specific action programs recommended include the following:

- establishment of SPS measures that reflect standards agreed in relevant international institutions such as the Codex Alimentarius;
- identification of the requirements to implement a fish and fisheries products safety program encompassing the HACCP and COCF to determine the training, the information and networking needs;
- provision of special and differential treatment for lesser developed countries, to be matched by appropriate technical assistance (e.g. from STDF, FAO, WHO, WB and WTO in enhancing expertise and capacity to analyze and prepare regional SPS standards);
- establishment of a pool of experts who will spearhead the preparation of common fish safety and quality standards and monitoring system suitable to the region's needs;
- promotion and support seafood trade risk assessment; and
- strengthening of the implementation of ASEAN's "Protocol 8 on SPS Measures to Implement the ASEAN Framework Agreement on Facilitation of Goods in Transit"

Recommendation 2: Implement coastal resources development and management strategies and guidelines

Coastal and marine ecosystems perform a variety of ecological, economic and social functions. They serve as sinks for wastes from land-based sources, provide sustenance and livelihood, maintain water cycles, regulate climatic conditions and maintain the complex ecological balance of coastal and marine ecosystems.

ASEAN Vision 2020 is reflective of the desire of ASEAN to pursue a more sustainable path to development. However, there is a fundamental concern that protecting the environment could be easily used for trade protectionist purposes. Hence, providing ample guidelines and assistance to fisheries sector to enhance their contribution to the region's current food security and livelihood requirements, without impinging on the next generation, is challenging. The issuance of the CCRF by the FAO provides necessary framework for national and international efforts to ensure sustainable exploitation of aquatic living resource in harmony with the environment. This includes the promotion of trade in fish and fishery products that would contribute to social and environmental sustainability.

Three major guidelines governing fisheries and aquaculture in the regional setting were prepared earlier, namely: (i) Regional Guidelines for Responsible Fisheries in Southeast Asia: Fisheries Management (2003); (ii) Regional Guidelines for Responsible Aquaculture in Southeast Asia (2001); and, (iii) Regional Guidelines for Responsible Fisheries Operations in Southeast Asia (1999). The next step is to operationalize these guidelines and strengthen their implementation. In addition, the implementation of the provisions of the CITES has to be improved as a means to stop trade in endangered and

rare aquatic species, on top of the need to regulate the growing marine aquarium fish trade. This would involve communication and participation as well as capacity building programs for all the stakeholders.

Access agreements under the EEZs should work towards resource conservation and maximization of the economic benefits under effective management systems. This should not only enable coastal developing states to benefit economically from sustainable and efficient exploitation, but would also permit local fisheries better access to resources and improve supply to the local population. Rents from fisheries agreements accruing to governments should be deployed in providing essential services in support of fisheries management (e.g. responsive research, capacity building) and pro-poor measures.

Integrated coastal resources management should be incorporated into local, national and regional policies, legislation and agreements. This includes establishing acceptable rights-based systems and managing fisheries capacity with strong partnership between the management authorities and fishing communities. Through building capacity in the sustainable development and management of marine and coastal resources, especially at the local government level, local stakeholders from different sectors of society can work in partnership to address issues of mutual concern. To this end, the implementation of coastal resources development and management approaches that adhere to the principles of sustainable use of coastal and marine resources and responsible fisheries is essential.

Recommended action programs include:

- implementation of national and regional arrangements such as the:
    - *Regional Guidelines for Responsible Fisheries in Southeast Asia: Fisheries Management* (2003); *Regional Guidelines for Responsible Aquaculture in Southeast Asia* (2001); and, *Regional Guidelines for Responsible Fisheries Operations in Southeast Asia* (1999)
    - *Sustainable Development Strategy for the Seas of East Asia: Regional Implementation of the World Summit on Sustainable Development Requirements on Sustainable Development Requirements for the Coasts and Oceans (2003)*

- application of ecosystem management approach, inclusive of fisheries management, to planning and development of coastal and marine areas at the local level

Recommendation 3: Harmonize customs procedures and simplify rules of origin

ASEAN has developed and implemented a revised CEPT Rules of Origin and Operational Certification Procedures since January 2004. However, Pangestu and Gooptu (2003) mentioned that a survey of business people revealed problems that ASEAN and other investors have encountered in doing business in China, which includes

insufficient trade facilitation measures and complex import procedures. Hence, in order to harmonize ASEAN procedures with those prevailing in Japan, China and RO Korea, a review on the implementation of the revised scheme needs to be conducted and set of rules including standardized documentation requirements and procedures be devised with a view that unclear regulations lead to more unpredictability and uncertainty at the point of entry. More uncertainty leads to higher risks and costs for importers and for consumers.

Recommendation 4: Develop regional policy and guidelines for fisheries subsidies

Most developing countries lack the resources to subsidize their fleets so whether these subsidies can seriously affect trade patterns would be difficult to determine. What seems to be worrisome are subsidies provided to fishing fleets of developed countries operating in the high seas or in other nation's EEZ as this can impede the ability of many developing countries to develop their fishing industry and match the prices given the scale of the subsidized operations of bigger foreign fleets. Such subsidies may create distortions in the market, which can have negative impact on national efforts to increase economic benefits derived from fisheries trade.

In the international front, negotiations on the rules for fishing subsidies are underway. There is a strong argument for the reduction and eventual elimination for capacity and effort enhancing subsidies with exceptions for artisanal fisheries. Japan put forward a restricted list of prohibited subsidies that contribute to overcapacity of shipping fleets, in contrast to the "blanket ban" (with limited exceptions) on all subsidies proposed by the "Friends of Fish" that includes the US and New Zealand. The outcome of the negotiations would bear into ASEAN+3 decision regarding subsidies.

An assessment of the impacts of subsidies on sustainable fisheries with a view of reducing and eventually eliminating all capacity and effort-enhancing subsidies that promote overexploitation of the fisheries resources would be useful. Exceptions may only be considered if a capacity-enhancing subsidy is targeted at artisanal or small-scale fisheries operating within the confines of an under-exploited and well-managed fishery. In addition to these, discussions on subsidies must take into account its bearing on the livelihood of the various stakeholders. Allowance for developing countries to use subsidies may be considered; for example, in the form of easy credit for investment in new equipment and processed systems to enhance their fisheries sector post-harvest capacities so that they can meet international trade requirements and standards.

Recommended action programs should:

- assess the effect of fisheries subsidies on resource sustainability and trade in fish and fishery products;
- remove capacity and effort-enhancing subsidies that contribute and promote overexploitation of the fisheries resources and unsustainable fisheries practices (e.g., support given to construction and operation of distant water fishing fleets) but exceptions may be considered for assistance extended to artisanal or small-

scale fisheries operating within the confines of an under-exploited and well-managed fishery; and,

- allow subsidies/incentives which promote sustainable utilization of fisheries and support the poor and disadvantaged communities (e.g., fisheries resource management initiatives; re-training of fisher folks; infrastructure and facilities for fish processing)

Recommendation 5: Develop and promote fish and fishery product brands that support responsible fisheries and food safety practices

Putting up market-based incentives can support better management of fisheries and improved safety practices by creating demand for fish and fishery products harvested from well-managed stocks and processed in sanitary conditions. This is akin to self-interest driven eco-labelling practices that enable paybacks on long-term investment for operators in the business with the added feature of having a potential sustainable impact on fisheries. For example, Thailand's Ministry of Agriculture and Cooperatives (MOAC) launched a quality label called "Q-mark" for certifying agricultural commodities, including fishery products, which meet prescribed standards. The Q-mark logo represents high quality agricultural commodities and ensures safety in consumption. This national logo is awarded on a voluntary basis. Both production systems and agricultural products can apply for the label provided they are in compliance with the standards established by MOAC. The Q-mark is now being promoted internationally to signal consumers of premium quality agricultural products produced and exported from Thailand.

The growing market for *halal* certified fish products must not be ignored. Based on experiences of companies producing and marketing *halal* certified products, having the *halal* logo on their products did not only attract Muslim consumers but non-Muslims as well due to its signaling effect on quality and health assurance. As such, promoting *halal* certification must be considered in certification and labeling initiatives.

Regional cooperation leading to the harmonization and development of fish and fishery brands (or super brands) that would signal quality products must ensure that these would be relevant to local conditions. However, as the compliance costs such as in establishing HACCP plants can be prohibitive and would result in the exclusion of small-scale producers/processors, ways to bring down the associated costs and possible extension of credit to those who lack or have no access to financial resources need to be explored. When appropriate, support measures such as the extension of technical support and subsidies may be designed to encourage participation. Similar to SPS, food safety certification and eco-labelling measures require the presence of an adequate monitoring unit to ensure that companies would adhere to the standards of responsible fishing and food safety. While this is usually within the sphere of influence of government agencies, the support of the private sector and international agencies may be tapped.

One of the recurrent issues regarding certification and eco-labelling is the dearth of studies that estimate market demand for certified fisheries products. Hence, results

from such initiatives would contribute in identifying what would be the actual impacts on the fisheries sector in a developing country and provide directions for policy recommendations.

While keeping in mind the problems associated with certification, there are fish producers who have taken initiatives to comply with environmental standards in order to be competitive in the international market. As certification and labelling can provide incentives for better long-term stewardship and availability of natural resources as well as help countries to fulfill commitments made under international agreements on important environmental imperatives, there has been a growing interest amongst fishing nations. It could also provide new opportunities for attracting capital investments and joint ventures in developing countries. Specific programs for consideration in ASEAN+3 negotiations are:

- provide incentives to firms that support sustainable fisheries management as well as food safety and quality programs involving the entire supply chain – from production, harvesting, post-harvest handling and processing;
- create a platform for greater cooperation by linking small-scale producers with big producers;
- investigate ways of bringing down the costs of certification and compliance, and support to cover certification/compliance costs in particular fisheries, or at least to provide credit to small-scale producers who may otherwise have insufficient access to capital;
- support 'halal' certification for a total quality, health, sanitary and safety system involving procedures prescribed by Islamic rules; and
- establish appropriate regulatory and enforcement measures

Recommendation 6: Implement programs to increase the capacity of developing countries in technical, institutional and legal areas affecting fisheries management

The ASEAN-SEAFDEC collaborative efforts and other joint activities with international organizations and donors have undoubtedly yielded valuable technical inputs. These partnerships must be strengthened and work towards enhancing trade-related capacities such as implementing food quality and safety requirements as well as fisheries management tools and services. There should also be programs geared towards improving aquaculture and post-harvest handling processing and marketing. It should be recognized that to make such specific programs effective, it is vital to improve institutional capacity in support of training, research and cooperation program management.

Effective capacity building also incorporates exchange of information on commodity policies, production, marketing, phytosanitary and quarantine regulations and food quality standards. Consultation with stakeholders, including fisher folks and fish farmers, NGOs and industry is necessary to ensure that capacity building and policy formulation is responsive and inclusive.

Recommended activities include:

- provide training in SPS to enhance capacity to analyze and implement international SPS standards;
- support the establishment of a network of laboratories/institutions handling SPS and certification programs; and,
- more aggressive information dissemination on commodity policies, production, marketing, and food quality standards

8.0 Conclusions

Improved market access for agricultural products, including fisheries products, is undeniably linked to movements in tariffs and non-tariff barriers. While there has been a wave of reductions in tariffs, part of the efforts to improve market access is to work towards the elimination of unnecessary and unjustifiable non-tariff measures. Regional agricultural markets are particularly large in East Asia, so substantial gains would flow from reducing barriers further. For ASEAN+3, these barriers partly are being addressed within the context of regional free trade arrangements.

Experience shows that progress tends to be slow; however, if the ASEAN+3 is to foster deeper economic integration in the region, it would be necessary not just to focus on the item-by-item tariff lines and exclusions but more importantly on ways to increase competition and efficiency, which in turn will bring real economic benefits. Increasingly stringent trade requirements are a major barrier, with East Asian exporters facing difficulties in meeting health and safety standards. The key issues for the fisheries sector are health and safety regulations, notably chemical residue levels; difficulties with understanding and administering technical standards or procedures; and, lack of technical capacity and limited financial resources to comply with increasingly stringent rules imposed by major importing countries. As such, trade facilitation measures including the harmonization of standards and simplification of customs procedures would be crucial.

On the face of it, SPS and TBT measures provide countries and consumers an opportunity to safeguard their interests in crucial areas such as health and hygiene. The respective WTO agreements encourage governments to establish national food safety measures consistent with international standards, guidelines and recommendations. Inevitably, improved harmonization of SPS and TBT requirements and standards would be important in both regional and international levels but there is apprehension that incremental benefits from trade liberalization would be nullified by protectionist use of the said measures. Nonetheless, it would be necessary to developing country players to adapt to the global changes to avoid compromising the export prospects in the main markets. There is some evidence supporting the notion of two-tiered markets emerging because of the SPS and TBT regulations wherein large exporters who can afford the costs of compliance to the strict regulations will supply the higher end markets. On the other hand, small exporters with modest means and cannot afford to implement required systems will tend to supply local markets and countries with less strict requirements. This denotes the need to look into the net benefits of catering in the various market segments.

To comply with international safety and quality standards, the governments should be proactive in assisting the private sector to find solutions. As food safety standards develop rapidly, information flows among stakeholders in the food supply chain requires improvement. These include better access to scientific and technical information to foster coherence in the standard setting process. Cooperation between donors, international agencies, national agencies and private entrepreneurs is desirable to make optimal use of resources allocated to food safety-related activities.

Effective fisheries management should be viewed as a pillar of support for sustainable fisheries trade. Institutional reforms are often cited as requirements for more effective sector governance and while there is no single structure that would fit all countries, there has to be good linkages between central and local government units, especially in cases where the responsibility for fisheries management has been assigned to communities or local government. Hence, they should also be made part of fisheries trade related initiatives.

The present limited capacity of most countries to implement fisheries management effectively would seem to suggest that aquaculture, rather than fishery, should be the focus of attention in some countries, subject to the necessary ecological and economic controls. Nevertheless, it should noted that while aquaculture production is seen as a means of filling-in the gap due to declining marine production, it poses the danger of encroaching into valuable mangroves, polluting the coastal waters, increasing pressure on wild stocks through the capture of gravid females and seeds, as well as the harvest of low value fish used for feeding the cultured organisms. Instead of looking at capture fisheries and aquaculture as separate sectors, policymakers must pay serious attention to a balanced development between capture fisheries and aquaculture.

Lastly, fisheries policy should not focus on increasing production and income from fishing alone. Efforts to promote new technologies have placed increased pressure on the resource. What is needed is to build on the diverse ecosystem characteristics of the coastal zone and promote alternatives to fishing per se as the source of income for coastal residents.

The results of the analysis in this study suggest that reducing trade barriers to fisheries products important to Southeast Asia should be a key trade policy objective. Hence, it is suggested that further trade negotiations cover the following:

- Re-examination of health, food-safety and quality regulation and procedures with a view of harmonizing them with international standards;
- Implementation of coastal resources development and management strategies and guidelines to support sustainable fisheries trade;
- Harmonization of customs procedures and simplification of rules of origin;
- Development of regional policy and guidelines for fisheries subsidies recognizing the needs of the stakeholders;
- Development and promotion of fish and fishery product brands that support responsible fisheries and food safety practices; and
- Implementation of programs to increase the capacity of developing countries in technical, institutional and legal areas affecting fisheries management

The ASEAN initiatives in economic integration have the capacity to help in stimulating trade and market access for its members. As enunciated earlier, weak integration in the fisheries sector is due to the current production and technology, which

entails simple transformation of raw materials that are not suited to division across economies. A more liberal regional trading landscape will encourage further processing and specialization in a regional context, which in turn, could enhance opportunities for exporters. Nonetheless, if the removal of intra-ASEAN barriers to trade in fish and fish products will not lead into a level of competitiveness that matches the best in world markets, even if it integrates markets and increases investment, the outcome could even be economically negative for ASEAN countries. Individual countries should continually strengthen their own comparative and competitive advantages through specialization, value-addition and product innovation taking advantage of support mechanism at hand.

References

Ahmed, M. (2006) Market Access and Trade Liberalisation in Fisheries, ICTSD Natural Resources, International Trade and Sustainable Development Series Issue Paper No. 4, International Centre for Trade and Sustainable Development, Geneva, Switzerland

Ahmed, M. and M.H. Lorica (2002) "Improving Developing Country Food Security Through Aquaculture Development -- Lessons from Asia." *Food Policy* 27:125–141

Asian Development Bank (2006) The Fisheries Policy, SST: REG 2006-07, Operations Evaluation Department, Asian Development Bank, Manila, Philippines

Best, B. (2002) "Coral Reefs in Crisis: Trade in Coral Reef Animals," *Tropical Coasts*, December 2002, Vol.9 No.2, GEF/UNDP/IMO PEMSEA, Quezon City, Philippines

Burke, L., E. Selig and M. Spalding (2002) Reefs at Risk in Southeast Asia, World Resources Institute, USA

Bostock, T., Greenhalgh, P. and U. Kleih (2004) Policy Research - Implications of Liberalization of Fish Trade for Developing Countries: Synthesis Report, Natural Resources Institute, Chatham, UK

Calzadilla-Sarmiento, B. (2002) UNIDO's Activities Related to Standards and Market Access Facilitation: The Case of Victorian Lake project. Paper presented at the United Nations Conference on Trade and Development held in Geneva, May 16–17, 2002

Cato, J.C and A.L.D Santos (1998) Costs to Upgrade the Bangladesh Frozen Shrimp Processing Sector to Adequate Technical and Sanitary Standards and to Maintain HACCP Program. Presented during the poster session at the "Economics of HACCP" Conference, Washington, D.C, USA, June 15 -16, 1998

Deere, C. (1999) Eco-labelling and Sustainable Fisheries. Rome: Food and Agriculture Organization of the United Nations/World Conservation Union

Delgado, C.L., N. Wada, M.W. Rosegrant, S. Meijer and M. Ahmed (2003a) Fish to 2020: Supply and Demand in Changing Global Markets. Washington, D.C.: International Food Policy Research Institute, and Penang, Malaysia: WorldFish Center

Delgado, C.L., N. Wada, M.W. Rosegrant, S. Meijer and M. Ahmed (2003b) Outlook for Fish to 2020 – Meeting Global Demand. Washington D.C.: International Food Policy Research Institute, and Penang, Malaysia: WorldFish Center

Department of Agriculture – Bureau of Fisheries and Aquatic Resources (2004). In Turbulent Seas: The Status of Philippine Marine Fisheries. Coastal Resource Management Project, Cebu City, the Philippines

Department of Fisheries, 2001. Trade, Marketing and Processing of Fisheries and Fisheries Product Review, Technical Paper no. 6 Department of Fisheries, Cambodia

Dey, M., M. Ahmed, K. Jahan , and M. Rab (2002) Liberalization vs. Barriers: Experiences from the Leading Fish Exporting Countries, Policy Research and Impact Assessment Program, WorldFish Center, Penang, Malaysia

Dey, M., M.A. Rab, K.M. Jahan, A. Nisapa, A. Kumar and M. Ahmed (2005) "Food Safety Standards and Regulatory Measures: Implications for Selected Fish Exporting Asian Countries." Aquaculture Economics and Management 9(1-2): 217-236 (January-August)

Espejo-Hermes, J. 2004. Trends and status of fish processing technology. pp. 122–126. in In Turbulent Seas: The Status of Philippine Marine Fisheries. Coastal Resource Management Project, Cebu City, the Philippines

FAO (2002) The State of the World Fisheries and Aquaculture 2002. Food and Agriculture Organization of the United Nations. Rome, Italy

FAO (2002c). Code of Conduct for Responsible Fisheries. Rome, Italy: FAO. Available online at http://www.fao.org/fi/agreem/ codecond/codecon.asp.

FAO (2004) State of the World Fisheries and Aquaculture 2004. Rome, Italy: FAO

FAO (2005a) Future Prospects for Fish and Fishery Products – Medium-Term Projections to the Years 2010 and 2015. Fishery Information, Data and Statistics Unit, FAO Fisheries Department, Rome, Italy

FAO (2005b) Understanding the Codex Alimentarius, FAO, Rome, Italy

FAO (2005c) Guidelines for the Eco-labelling of Fish and Fishery Products from Marine Capture Fisheries. Rome, Italy: FAO. Available online at ftp://ftp.fao.org/docrep/fao/008/ a0116t/a0116t00.pdf

FAO-Globefish (2000) "Effect of World Trade Organisation Regulations on World Fish Trade." FAO-GLOBEFISH Research Programme, Vol. 65, Rome, Italy: FAO

Gardiner, P. and Viswanathan, K. (2004) Eco-labelling and Fisheries Management. Penang, Malaysia: WorldFish Centre

GRAIN (2006) Fishing Profits, Farming Disaster: The Cost of Liberalizing Asia's Fisheries, *Seedling*, July 2006 http://www.dev-zone.org/cgi-bin/knowledge/jump.cgi?ID=11281

Green, E. (2002) "Understanding the Trade in East Asian Aquarium Species," *Tropical Coasts*, December 2002, Vol.9 No.2, GEF/UNDP/IMO PEMSEA, Quezon City, Philippines

Gudmundsson, E. (2003) "Revenue Distribution through the Seafood Value Chain," paper presented during Expert Consultation on International Fish Trade, Rio de Janeiro, Brazil, 3 to 5 December 2003, organized by the Food and Agriculture Organization of the United Nations

Holthus, P. and S. Spalding (2002) "Implementing an International Certification System for a Sustainable Marine Aquarium Trade," *Tropical Coasts*, December 2002, Vol.9 No.2, GEF/UNDP/IMO PEMSEA, Quezon City, Philippines

Ingles, J.A. (2004) A review of the capture fisheries provisions of the Fisheries Code: Synthesis of plenary papers and workshop outputs. pp. 10–16. In: WWF-SSME Program. Towards an improved Philippine Fisheries Code: An analysis of the capture fisheries provisions. WWF Sulu-Sulawesi Marine Ecoregion Program. WWF-Philippines, Quezon City

Jaffee, S. (1999). Southern African Agribusiness: Gaining Through Regional Collaboration. World Bank, Washington, D.C., USA

Khan, A. (2002) WTO Agreement on the Application of Sanitary and Phytosanitary Measures: Issues and Future Implication. Paper presented in the National Workshop on Sanitary and Phytosanitary measures, May 2002, Tariff Commission, Dhaka, Bangladesh

Kura, Y., C. Revenga, E. Hoshino and G. Mock (2004) Fishing for Answers: Making Sense of the Global Fish Crisis. World Resources Institute, Washington, D.C., USA

Leadbitter, D. (2004) "Seafood Trade and Market Access: Threats and Opportunities." in A.G. Brown (ed.). Fish, Aquaculture and Food Security. Sustaining Fish as a Food Supply. Gippsland Aquaculture Industry Network, Canberra, Australia. Available online at http://www.crawfordfund.org/awareness/fish_aqua_food.pdf.

Lem, A. (2004) WTO Trade Rules with an Update on the Doha Round Negotiations and a Short Reference to Anti-Dumping Action and the Shrimp Case. FAO, Rome, Italy

Lem, A. (2004b) China, the WTO and World Fish Trade. FAO-Globefish, Rome, Italy. Available online at http://www.globefish.org/index.php?id=2123

Manarungsan, S., J. Naewbanij and T. Rerngjakrabhet (2004) Costs of Compliance to SPS Standards: Thailand Case Studies of Shrimp, Fresh Asparagus, and Frozen Green Soybeans. Washington, D.C.: World Bank

Musonda, F M. and W. Mbowe (2002) The Impact of Implementing SPS and TBT Agreements Case of Fish Export to European Union by Tanzania. Economic and Social Research Foundation, Dar Es Salaam, Tanzania

More Effort Needed, *The Economist*, July 29, 2004

Nao, T. & N. van Zalinge (2001) Challenges in Managing Cambodia's Inland Fisheries: How Can We Meet Them?

National Statistics Office (2005) 2002 Census of Fisheries, Philippines

OECD (2002) Draft review of fisheries, Part 8: Korea. OECD Report No. AGR/FI(2002)11/Part8

Pangestu, M. and S. Gooptu (2003) "New Regionalism: Options for China and East Asia," in East Asia Integrates: A Trade Policy Agenda for Shared Growth, Kathie Krumm and Homi Kharas (eds), World Bank, Washington

PEMSEA (2003) Sustainable Development Strategy for the Seas of East Asia: Regional Implementation of the World Summit on Sustainable Development Requirements for the Coasts and Oceans, PEMSEA, Quezon City, Philippines

Roheim, A.C. (2003) "Trade Liberalisation in Fish Products: Impacts on Sustainability of International Markets and Fish Resources." Washington, D.C.: World Bank

Roheim, C. and J.G. Sutinen (2006) Trade and Marketplace Measures to Promote Sustainable Fishing Practices. Geneva, Switzerland: International Centre for Trade and Sustainable Development and High Seas Task Force

Standards and Trade Development Facility (2006) Background to the STDF Initiative. available online at http://www.standardsfacility.org/background.htm.

Sugiyama, S., D. Staples and S. Funge-Smith (2004) Status and Potential of Fisheries and Aquaculture in Asia and the Pacific, RAP Publication 2004/25, Food and Agriculture Organization of the United Nations Regional Office for Asia and the Pacific, Bangkok

Tietze,U., J. Prado, J-M. Le Ry and R. Lasch (Eds.) (2001) Techno-economic performance of marine capture fisheries and the role of economic incentives, value addition and changes of fleet structure. Findings of a global study and an interregional workshop. FAO Fisheries Technical Paper No. 421, Rome, FAO

Touch S.T. and B.H. Todd (2003) The Inland and Marine Fisheries Trade of Cambodia. Royal Government of Cambodia and Oxfam America

Unnevehr, L. (2000) Food Safety Issues and Fresh Food Product Exports from LDCs. *Agricultural Economics*, Vol. 23, No. 3, September

UNIDO (2002) Successful Capacity Building in Fish Safety/Quality for Trade Facilitation (http:// www.unido.org)

Wabnitz, C., M. Taylor, E. Green and T. Razar (2003) From Ocean to Aquarium: The Global Trade in Marine Ornamental Species, United Nations Environment Program World Conservation Monitoring Center, Cambridge, UK

World Bank (2004) Saving Fish and Fisheries: Towards Sustainable and Equitable Governance of Global Fishing Sector. World Bank Report No. 29090 GLB. Washington, D.C.: The World Bank

World Bank (2005) Food Safety and Agricultural Health Standards. Challenges and Opportunities for Developing Country Exports. Report No. 31207. Poverty Reduction and Economic Management Trade Unit, and Agriculture and Rural Development Department. Washington, D. C.: The World Bank

Zugarramurdi, A. (2003) "Import Requirements and Quality Costs," paper presented during Expert Consultation on International Fish Trade, Rio de Janeiro, Brazil, 3 to 5 December 2003, organized by the Food and Agriculture Organization of the United Nations

Zugarramurdi, A. (2003b) "Competitiveness of Value Adding in Developing Countries," paper presented during Expert Consultation on International Fish Trade, Rio de Janeiro, Brazil, 3 to 5 December 2003, organized by the Food and Agriculture Organization of the United Nations

http://earthtrends.wri.org/pdf_library/country_profiles

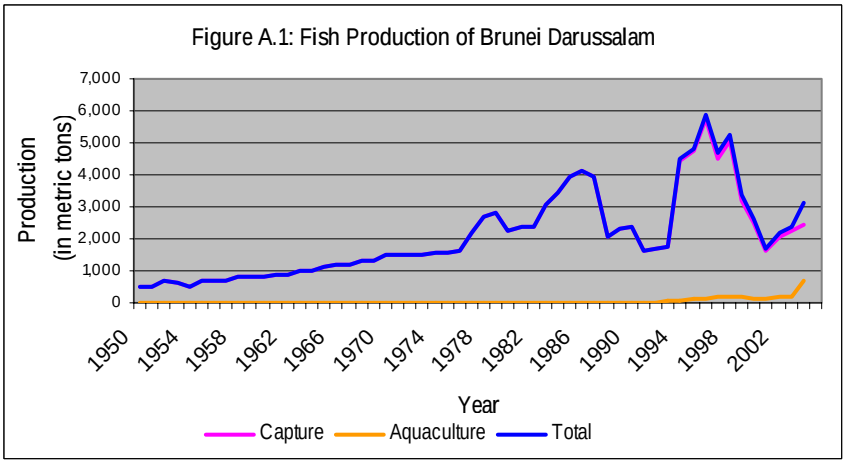
http://www.aseansources.com/jsp/malaysia_food_products.jsp

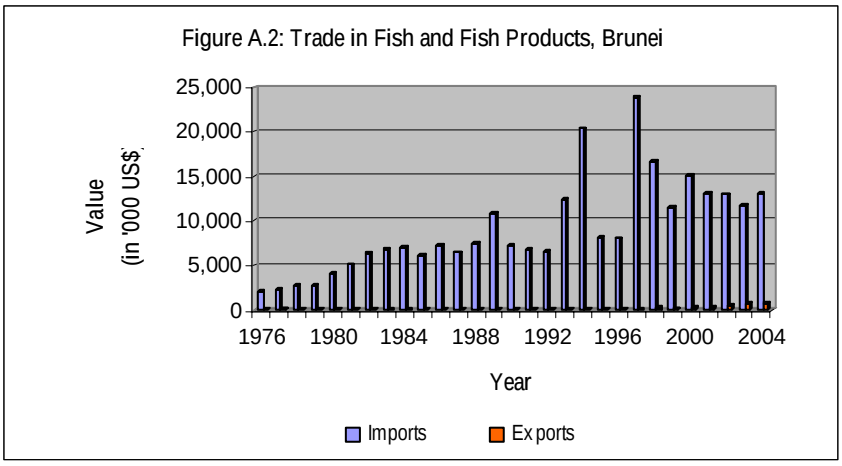
http://www.islamicawakening.com/viewnews.php?newsID=5765&

Brunei Darussalam

The country's agriculture, forestry and fisheries sector is small, accounting for only 3% of GDP in 2000. Nevertheless, Brunei has endeavored to increase self-sufficiency in the production of agricultural products, especially rice, mainly through extensive subsidization of infrastructure and inputs.

The fisheries production figures in 2004 for fish capture (2,428 metric tons) and aquaculture production (708 metric tons) are said to be insufficient to supply the growing domestic needs. Hence, there is heavy reliance on importation, which reached over US$15 million in 2000 and nearly US$13 million in 2004 (Figures A.1 and A.2).



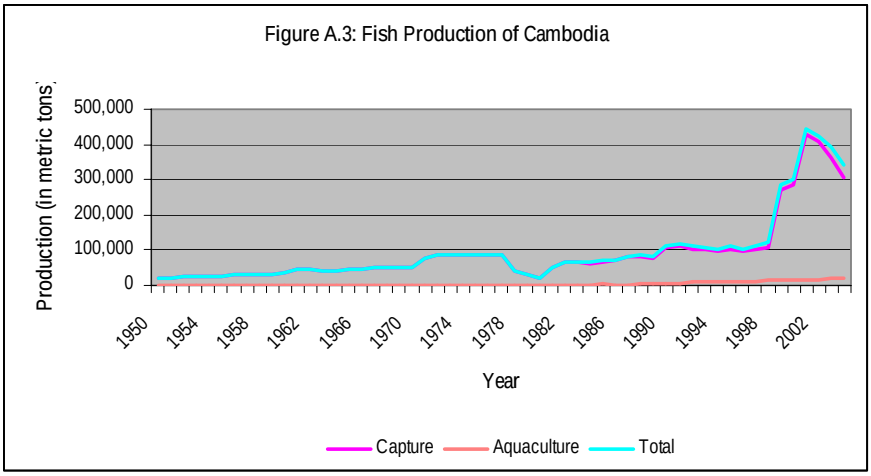


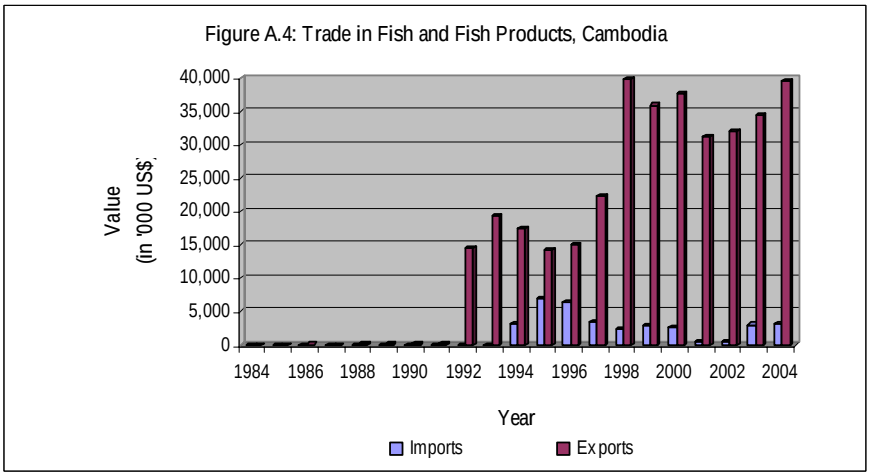
Under the ASEAN CEPT scheme, which is the main instrument of the ASEAN Free-Trade Area, Brunei has been reducing its preferential tariff rates on products included under CEPT; tariff reductions within the 0-5% range on these products was scheduled to be completed in 2002.

Brunei, along with other partners in the region, also participates in other regional agreements such as the Brunei Darussalam, Indonesia, Malaysia, Philippines–East ASEAN Economic Growth Area (BIMP–EAGA), which aims to pool complementary resources in the region to develop priority sectors, including air and maritime linkages, construction, fisheries, and tourism.

Cambodia

The fisheries sector contributed US$442 million or 12% of Cambodia's GDP in 2003. Inland fisheries produce an estimated 295,000-420,000 metric tons of fish each year with an estimated value at landing of between US$150-200 million and a retail value of up to US$500 million (Figure A.3). Until recently, trade in fish commodities was virtually non-existent and insignificant (Figure A.4). At present, domestic consumption of marine fisheries products is low relative to the quantity and value exported. In 2004, the value of fisheries imports and exports were US$ 3.1 million and US$ 39.6 million, respectively. Cambodia's main export markets include Thailand, Singapore, Malaysia, China, Hong Kong, Taiwan, Japan, USA and Australia.





Export of both inland and marine fish is controlled by the Department of Fisheries through the state monopoly company, KAMFIMEX (Kampuchea Fishery Import and Export). The KAMFIMEX Company is a government-mandated monopoly for fish exports. Fish traders can export only under license by the state company and provincial licensees are empowered to collect a 4% fee on the value of all fish exported. Techically, all fish exports must legally go through KAMFIMEX at the export gates. However, because there are unofficial 'export gates' at remote locations, smuggling of fish and fish products, estimated to be about 30% of total exports, exists.

In the past, aquaculture, compared with inland fishery, was of minor significance to the fisheries production of Cambodia. Wild capture fishery has been productive that there was little incentive for the development of aquaculture. Moreover, poor infrastructure limited the distribution of fish feed, fingerlings and other inputs in the industry coupled with lack of funding and qualified personnel for research and development.

While the catch of small-scale and rice field fishers is commercially insignificant, it is of high-importance to the fishing families who directly consume it with only the surplus or the high quality fish sold in the market. Income generated from fishing activities gradually decreased over the last five years due to market constraints, poor freshness preservation technology, habitat destruction, resource depletion and overfishing. Most coastal fishers experienced financial loss and many had to give up their jobs, or change to small-scale gillnetting. In addition, it resulted in the increase of motorized push netters, which is a prohibited gear (Touch and Todd, 2003).

Cambodia's Department of Fisheries is revising the existing Fisheries Law to better suit the present social and economic situation. The revised Fisheries Law will reflect the needs for community participation in fisheries management and emphasize the need of environmental protection and preservation. Complementing the law is the Master Plan for Fisheries 2001-2011, which has three main objectives: 1) Ensure that Cambodia's living aquatic resources are harvested within their sustainable limit and resources use rights and obligations are allocated and enforced within basic principles of democracy and good governance; 2) Make certain that the supply of fish and fishery products keep pace with increasing demands; 3) Reduce the incidence of poverty among vulnerable groups of society, including women, in fisheries communities.

Indonesia

Indonesia is among the world's top producers for both capture fisheries and aquaculture generating a total of over four million metric tons annually since 1995 (Figure A.5). The fishing industry makes a very important contribution to the national diet, providing nearly two-third of the supply of animal protein. Over 5 million people are directly involved in fishing and fish farming. Together with their families, they make up at least 4% of the total population. The fishing industry accounts for about 5% of the agricultural sector and around 2% of the total economy. Exports of fishery products have increased considerable since the 1960s. In 2004, the value of fishery exports was US$1,654.1 million, which is 13 times the value of its fish imports. This is also 4.4% higher than the 2000 figure (Figure A.6).

Figure A.5: Fish Production of Indonesia

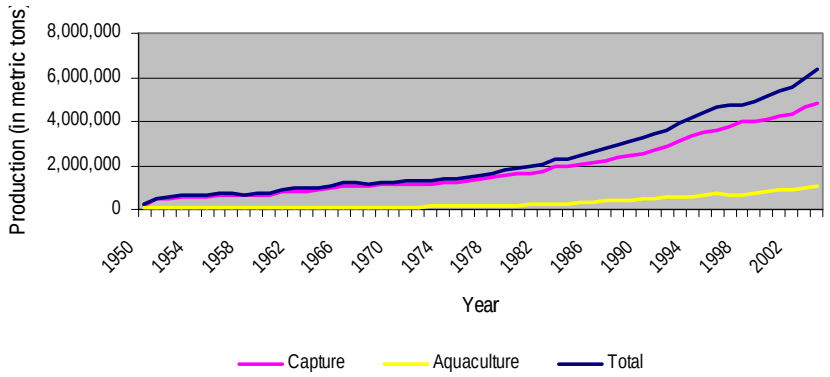
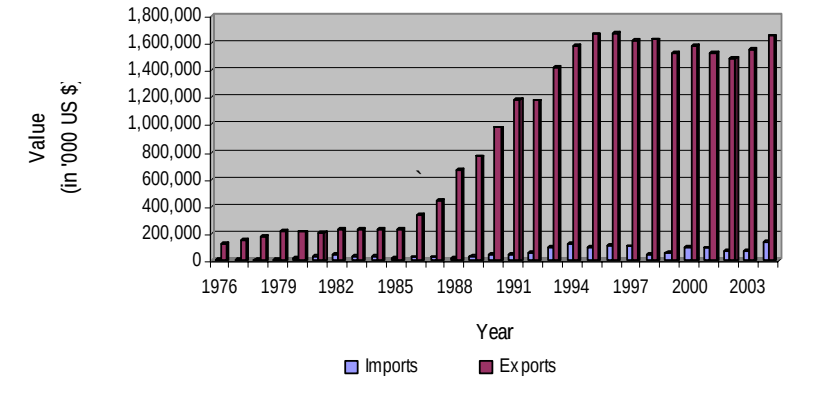


Figure A.6: Trade in Fish and Fish Products, Indonesia



Small-scale operations produce about 94% of total marine fisheries production. Industrial fisheries, however, contribute considerably more in value terms, since they are focused on high-commercial-value shrimp and tuna stocks. About 46% of fish production is consumed fresh. Deficiencies in the number of ice plants and in refrigerated storage and transport facilities, however, hamper the production of high quality products and the distribution of fish to the major markets in the highly populated areas. Given these limitations, most of the balance of the catch is processed and consumed as dried and salted (about 30%) and smoked, boiled or fermented. There are about 8,000 small fish processing operations, generally using traditional methods. Less than one percent of the catch is canned. The canneries utilize pelagics, mostly oil sardines and skipjack. About 4% of total production is frozen for export, mostly shrimp and tuna.

Indonesian fisheries is complex and diverse, reflecting the country's extraordinarily diverse geographic characteristics and great variations in species and population densities. The fisheries of western part of the country, in general,differ from those of the eastern part. In the west, the fisheries take place in the relatively shallow and fertile waters of the Sunda Shelf, in a region where large populations create a high demand. Overfishing occurs simply because there are too many fishermen concentrating on limited resources in inshore areas. Resource management issues have become increasingly important and gave rise to the trawl ban decree of 1980. The ban of trawling in the western part of the country has alleviated pressure on stocks of demersal species, and has provided opportunities for increased catches of shrimp through the use of small-scale fishing gear, such as trammel-nets. In recognition of the imbalance in development between the western and eastern parts of Indonesia, development priorities are directed to the eastern part and the EEZ. To facilitate this development, several fishing ports and landing places have been constructed and developed. The establishment of these ports was intended to attract the private sector and foreign vessels and encourage them to use the ports as their base of operations.

The main objective of the Directorate General of Aquaculture is to increase fishing communities' welfare by optimizing the utilization of fisheries resources through the development of integrated aquaculture zones for both freshwater and brackish water fisheries. This zoning strategy is intended to intensify aquaculture though the development of fisheries entrepreneurship. In general, the strategic aquaculture development program seeks to increase quality fish seed supply through the development of private hatcheries, creating distribution and marketing channels of seeds, providing training to the fish seed farmers, and creating a network of seed information systems. It also seeks to develop a fish farming system that will provide aquaculture technology, process certification of aquaculture products, and provide necessary capital for the industry. Although availability of ample capital is important in encouraging aquaculture activities, the high risks of aquaculture due to crop failure and, in some instances, misuse of credit, discourages banks from offering credit.

Past policies of the country promoted fisheries development to support national economic growth by encouraging domestic consumption and exports of fisheries products as well as promoting private and foreign investment in the fisheries sector. Joint ventures are directed to integrate fishing industries, which are beyond the reach of small-scale fisheries, particularly in the EEZ. Presidential Decree No. 23 of 1982 provides high priority to small-scale farmers and cooperatives to develop mariculture, and allows both foreign and domestic private investment to encourage modern technology adoption, although in some instances (e.g. shrimp hatcheries) foreign investment is restricted. To avoid unfair competition between large-scale and small-scale operators, the government applies the Nucleus Estate and Smallholder (NES) approach which encourages cooperation between private companies or state-owned fisheries enterprises, and fishermen and fish farmers. This approach is intended to create a relationship of interdependency between small-scale and large-scale operators, which should help to achieve economic objectives on a mutually beneficial basis.

Lao People's Democratic Republic

Lao PDR is a landlocked country bordering China, Myanmar, Thailand, Cambodia and Vietnam. The Mekong River and its tributaries are the main source of capture fisheries. Catch in these areas represent over 60% of all landings but there are speculations that a proportion of the catch is landed in Thailand due to higher market prices. It is difficult to estimate to what extent fish landings become part of commercial trade and to what extent they remain part of subsistence consumption as fish markets exist in urban areas only.

Until recently, trade data show little import and export with imports consisting of catfish and mackerel from Thailand and to a lesser extent, Vietnam (Figures A.7 and A.8). There is a dearth of fisheries statistics but according to old estimates, it is assumed that commercial fisheries contribute 4% to GDP, and subsistence fisheries contribute another 2%.

Figure A.7: Fish Production of Lao PDR

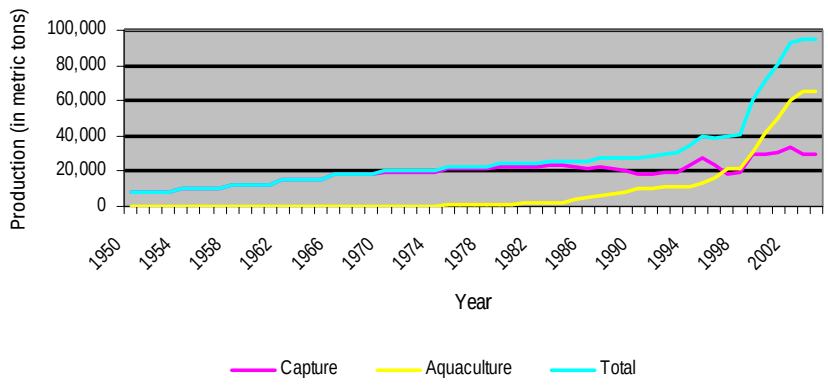
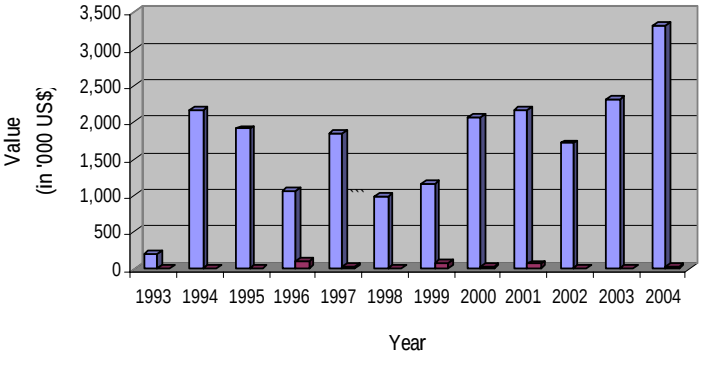


Figure A.8: Trade in Fish and Fish Products, Lao PDR



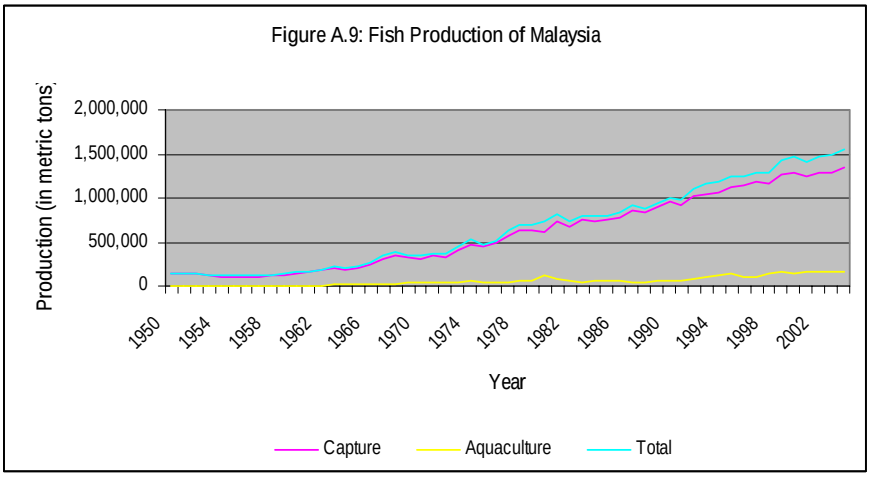
Aquaculture has little tradition in Lao although some ethnic groups practice rice-fish culture. A number of initiatives, mostly during the 1980s, have improved farming techniques, but the country's production is still limited. Aquaculture has a good potential for both rural and peri-urban development, but requires the following in order to flourish:

- Development of small, farmer-based fish fry and fingerling production operations;
- Improved use of on-farm resources for feed and fertilization ;
- Farmer confidence to make low level investment in basic inputs such as fingerlings and lime; and
- Access to credit and formulated fish feed in peri-urban areas.

Malaysia

Similar to its neighbors, the three main contributions of fisheries to Malaysia's economy are as a source of food supply, generator of employment opportunities and income, and as foreign exchange earner, particularly for the rural population. Fish is generally acceptable to all the ethnic groups in the country and plays a key role as a source of protein in the diet of many people. Nationally, it accounts for about 22% of the total protein intake and 50% of the animal protein supply. It is estimated that in 2000, the fishing industry (capture fisheries and aquaculture) provided direct employment to some 100,666 fishers, and to numerous others in the secondary and tertiary sectors. The majority of the fisher folks are in Peninsular Malaysia, Sabah and Sarawak.

Malaysian fisheries production increased steadily throughout the 1970s, from 310,000 tons in 1971 to 649,000 tons in 1981 but growth gradually tapered off in the subsequent years (See Figure A.9).



Although the catch statistics showed a significant increase from the 504,849 tons registered in 1986, the proportion of commercial fish landings to the total marine landing declined from 80% to 72% between 1985 and 1997. Moreover, the sharp increase in fish landings in 1987 was attributed to the launching of the deep-sea fishing program, whereby entrepreneurs were encouraged to venture into the deeper waters of the EEZ to fish. In 2004, production from fish capture was estimated at 1,340 million metric tons while aquaculture production contributed 171,270 metric tons.

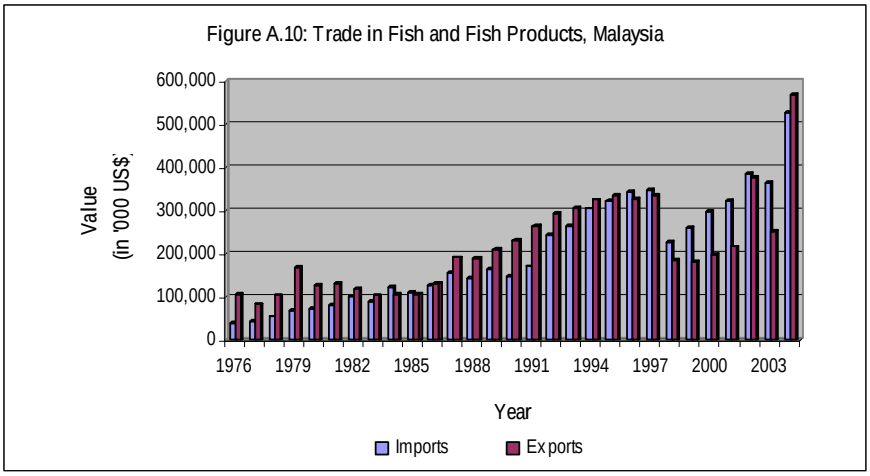
About 70% of the fish landed in Malaysia is used for direct human consumption, mostly as fresh and chilled fish. The other 30% is processed and converted into fertilizer and fishmeal. From being a net exporter since the 1970s, Malaysia became a net importer of fish beginning in 1996 (Figure A.10). Hence, the fisheries trade surplus of US$41.3 million in 2004 was a pleasant surprise. Main imports are fresh, frozen marine fish and fish fry of freshwater and marine fish from neighboring countries, in particular Thailand, and canned fish (mackerel, sardine and horse mackerel) from Chile and Japan. The demand for fish and fisheries products is expected to continue to increase substantially owing to high population growth and increasing per income.

The fish processing industry is largely export-oriented and encompasses the processing of prawns, canning of fish, and the production of surimi products. Most

aquaculture farms in Malaysia are currently undertaking prawn farming and processing to cater to the large overseas demand. Some companies have moved into the production of higher value-added products including breaded and battered products, as well as food supplements.

Recognized as a modern Islamic country, Malaysia has the added advantage of becoming an important base for the production of *halal* food (food suitable for Muslim consumption). There is a growing global market for *halal* food, which is estimated to be RM 560 billion (USD 150 billion) per annum. The *halal* certification in Malaysia under the Department of Islamic Development (JAKIM) is currently based on the MS 1500:2004 "Halal Food-Production, Preparation, Handling and Storage-General Guidelines (First Revision)", which incorporated the GMP, food manufacturing and hygienic sanitary requirements. This *halal* certification would enhance the market potential for food products from Malaysia.

Figure A.10: Trade in Fish and Fish Products, Malaysia



The Malaysian fishing industry is dominated by the small-scale sector, scattered along its coast. This settlement pattern is influenced by shelter and easy access to the sea. Marine fisheries from the inshore waters off the coast of Malaysia is still the most important sub-sector, as it contributes 80% of total fish production and supports 80% of the fisheries labor force. In 1981, Malaysia introduced a Fisheries Comprehensive Licensing Policy (FCLP), which aims at ensuring a more equitable allocation of resources, reducing conflict between traditional and commercial fishermen, preventing the overexploitation of the inshore fisheries resources, restructuring of the ownership pattern of the fishing units in accordance with the New Economic Policy, and promoting deep-sea and distant-water fishing.

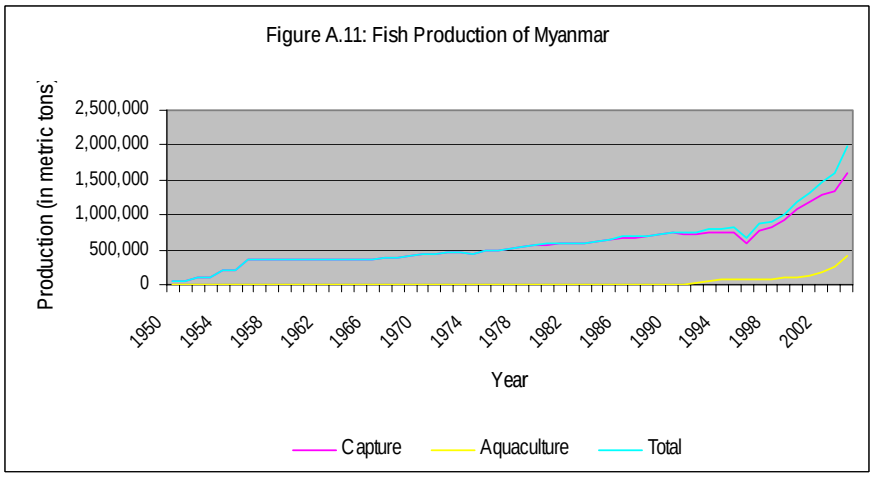
Under the Malaysian Fisheries Act 1985, it is mandatory that owners of fishing vessels obtain permission from the Department of Fisheries if they wish to increase vessel tonnage or engine power. Any increase in the size of fishing vessels or engine power will result in additional fishing effort. As such, there is a moratorium on the issuance of new licenses in the inshore fishing zone between 0 to 30 nautical miles from the shore. The exploitation of the offshore fishing zone beyond 30 nautical miles from the shore by vessels of 70 GRT and above is promoted. The policy to encourage deep-sea fishing in the Malaysian EEZ was initiated after Malaysia declared her EEZ in 1980 and after the passage of the Exclusive Economic Zone Act in 1984.

The fisheries sector has been identified as a priority sector under Malaysia's Third National Agricultural Policy III (NAP III) for the period 1999-2010. It seeks to advance the fisheries sector to an efficient commercial industry with emphasis on deep-sea fishing and aquaculture. The utilization of the fisheries resources in the offshore areas will be increased to the optimum sustainable level while aquaculture will be aggressively developed to supplement production from capture fisheries. The NAP IIII seeks to promote intensive aquaculture technology through private sector participation and to follow a zoning strategy supplemented with the necessary infrastructure and other support services. Under the NAP III, research and development will be intensified to develop new culture systems, genetically improved fish species, and fish feed and fry production. Some 50,000 hectares of land have been identified as potential areas for an Aquaculture Industrial Zone.

Suitable finance policy and investment incentives exist for fisheries development in Malaysia. For example, fish farmers and fishermen are eligible to get credit from all the financial institutions through the Agricultural Credit Financing Scheme and the Fund for Food Scheme. At the same time, under the Promotion of Investment Act 1986 and the Income Tax Act 1967, the government allows tax and other investment incentives for certain fisheries products and activities, including spawning, breeding and culturing of aquatic products, offshore fishing, harvesting and processing of aquatic products, and processing of aquaculture feeds.

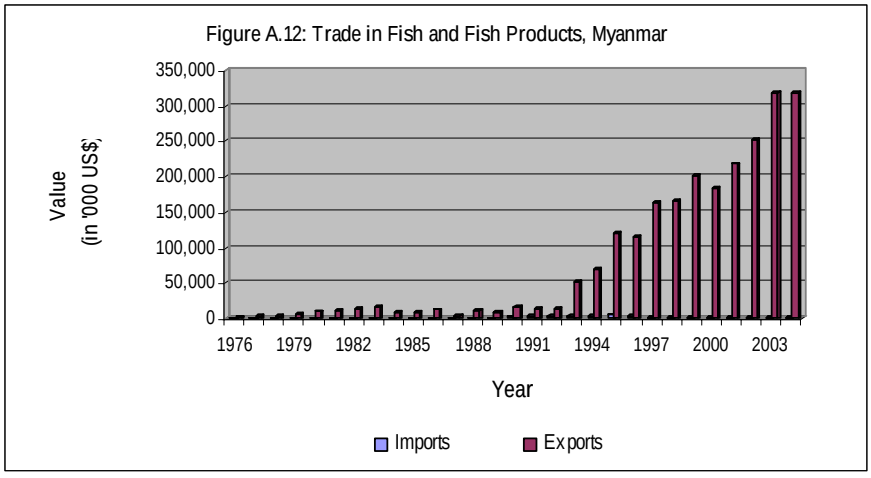
Myanmar

In 2003–2004, the livestock and fisheries sector contributed 8.94% to Myanmar's GDP. The sector provides employment for more than 7.98 million fulltime and 2.6 million part-time workers, including almost 30,000 fish and shrimp farmers. Most of the fishing communities are located along the coast and includes significant number of poor households dependent on fisheries activities and aquatic products for income and food.



Evidently, the growth in fish production remains dependent on capture fisheries (See Figure A.11). About 80% of the fish landed in Myanmar are used for direct human consumption, and around 10% is processed into fishmeal.

In 2004, the value of Myanmar's imports and exports were registered at US$1.27 million and US$318.51 million, respectively. Exports grew rapidly during the past 20 years (Figure A.12). Total shrimp exports continue to rise with Japan taking about 2% of the country's shrimp production in recent years. Among ASEAN countries, around 20% goes to Indonesia while Thailand has taken about 8%. These markets provide opportunities for expansion. Similarly, the removal of import tax on shrimp exported to China at the beginning of 2004 will help promote trade between Myanmar and China.



National fish production is expected to develop at a medium pace for the next few years. The increase in marine fish production can be achieved by better exploitation of the potential resources in the EEZ, and the increase in fish landing is expected primarily

to derive from deep-sea fishing. Production from aquaculture is likewise a major source of increased fish production.

The Fisheries Law of 1905 was the only legislation regulating fishery management and the fishing industry of Myanmar until it was amended in 1954, and was finally repealed through the passage of the "Law Relating to the Fishing Rights of Foreign Fishing Vessels" in 1989. After that, the government promulgated three other fisheries laws, namely the "Aquaculture Fisheries Law" in 1989, "Myanmar Marine Fisheries Law" in 1990, and "Freshwater Fisheries Law" in 1991.

The challenge for the country is to manage its fisheries in such a way as to ensure optimum and sustainable use of aquatic resources. Major constraints and areas for development identified include lack of awareness concerning status of fisheries resources; insufficient fisheries infrastructure; poor fisheries data reporting system; and lack of adequately trained personnel to support the industry.

Philippines

The Philippines ranked eleventh among the top fish producing countries in the world in 2003, with production of 2.63 million tons of fish, crustaceans, molluscs and aquatic plants (including seaweed), accounting for 2.2% of global production. This was valued at US$1,832 million and represented 2.2% of the country's GDP. However, globally in the last 20 years, the Philippines' ranking in world aquaculture production steadily slid from 4th place in 1985 to 12th at present. From 5% of global farmed fish supply, the Philippines now contributes only a little over 1% of world production. Nonetheless, both capture fisheries and aquaculture production continue to grow (Figure A.13).

Figure A.13: Fish Production of the Philippines

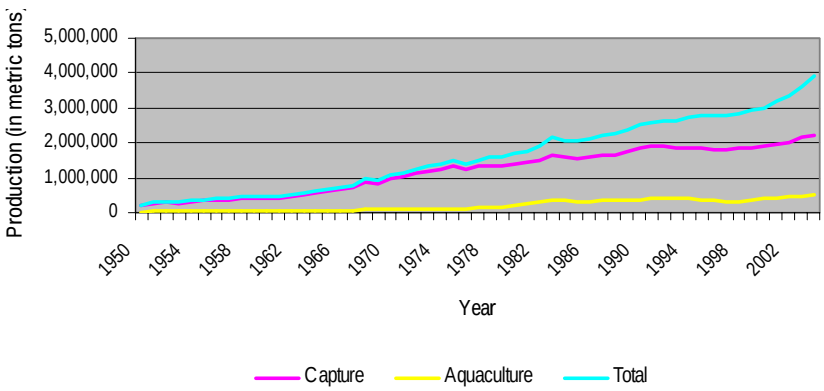
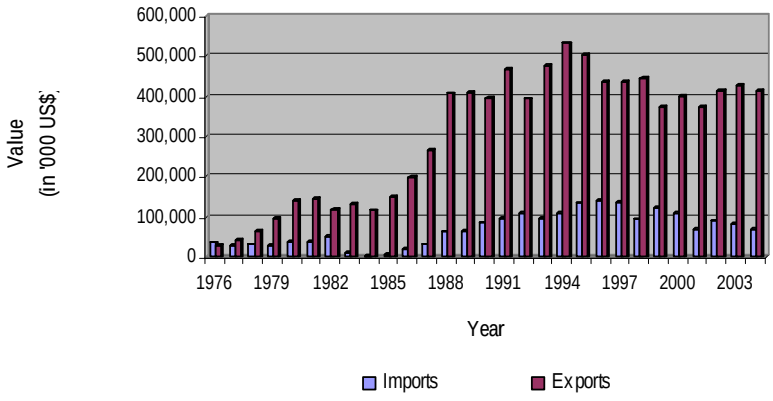


Figure A.14: Trade in Fish and Fish Products, Philippines



In 2003, total exports of fish and fishery products amounted to 143,324 tons, which was valued at over US$ 413.7 million (Figure A.14). When combined, the earnings of the top three fishery exports (tuna, shrimp and seaweed) contributed around 70% of total fishery products exports. The Philippines is the world's largest producer of *carageenophyte* seaweed. The top export destinations are Japan, United States, Spain, China, France, Republic of Korea and Denmark. For the past several years, aside from its own production, the Philippines has been importing large quantities of pelagic species such as tuna (mainly from Indonesia). Large quantities of fishmeal are also imported (mostly from Peru and the United States) for feed preparations.

A live reef food fish trade (LRFFT) in the Philippines developed in response to a demand for live food fish, initially from Hong Kong and Taiwan (Province of China), and

later on, from mainland PR China. Live food fish is conventionally caught using hook-and-line fishing gear. However, LRFFT has been closely associated with the problem of cyanide fishing, which was first detected in the aquarium trade.

Significant changes in international trade policy, quality and safety criteria have put pressure on the fish processing industry to improve the products that are being manufactured. Like many countries, the Philippines have adopted the HACCP system for food safety management. Despite this, it continues to face challenges regarding access of its fishery products in international markets.

Espejo-Hermes (2004) provided an overview of the trends and status of fish processing technology in the Philippines. In general, there is a growing demand for mechanization in the fish processing industry brought about by the need to reduce cost and to manufacture products of consistent quality. The use of modern freezing and canning equipment in processing plants is rising and that majority of the canneries in the country meet international standards in terms of product quality, styles of pack and packaging. In addition, value-added products in the form of fillets, comminuted and surimi-based products and ready-to-heat main fish dishes are growing in demand. However, there is still room for upgrading in the value-added-product industry in terms of technology and quality standards, including in-plant hygiene and sanitation. Traditional processing of traditional products, such as salted, dried, smoked and fermented fish, is still widely practiced. The processors are generally small-scale, family establishments that have limited capital and do not receive assistance from government agencies and financing institutions. The processing methods they employ vary considerably, resulting in inconsistent quality and limited shelf-life of finished products. There are very few local processing plants that make use of modern technology (mechanized smokehouses and dryers) and have made progress in improving quality standards. Only those that export their products have improved processing practices, equipment, hygiene and sanitation in the plants. Hence, the fish processing industry is hampered by poor quality of raw material, inconsistent quality of products, lack of appropriate safety standards for traditional products (e.g. inappropriate use of additives), and insufficient capital to improve the enterprise. Post-harvest support facilities (i.e. access to salt, ice and cold storage) are lacking in strategic locations in many areas. There is a need for more private-sector participation in providing such facilities.

To support the Philippine fisheries industry, a Comprehensive National Fisheries Industry Development Plan (CNFIDP) is being prepared. Among the issues that need to be addressed include the inadequate programs for research and development, extension work and lack of commercial impact. This situation results in: (i) poor adoption of new technologies by the industry; (ii) loss of competitiveness with other animal farming industries and in the export market; and (iii) wastage of valuable Research and Development (R&D) and Extension resources. The proposed solution includes: (i) focusing government programs of R&D and Extension towards immediate needs of the aquaculture sector; and (ii) increasing R&D and Extension investments from the private sector.

Under the Agricultural and Fisheries Modernization Act (AFMA) of 1997, the government pledges provisions for credit to help farmers and fishers who are engaged in production, processing and trading. The Philippine Fisheries Code of 1998 provides at least 10% of the credit and guarantee funds for post harvest and marketing projects to enhance fish farmers' competitiveness. There are provisions for subsidized credit for the fishers and farmers who engage in food and non-food production, processing and trading. The commercial fishers are eligible for subsidized long-term loans and tax and duty exemption to acquire or improve fishing vessels and related equipment. The duty and tax rebates are also applicable to fuel consumption for commercial fisheries. The loan amount varies by individual and cooperative borrowers and the interest subsidy is 15% for individual borrowers and 32% for cooperative borrowers.

At present, the *Ginintuang Masaganang Ani-Countrywide Assistance for Rural Employment and Services* (GMA-CARES) Program for Fisheries is being implemented. The credit components of the program include: i) Income Augmentation and Livelihood for self-reliant farmers/fishers, ii) Seaweed and Fish Culture Program, iii) Agri-Fishery Mechanization Credit and Guarantee Program. These program components provide credit access to agri-based small fishers, producers, manufacturers, and traders of fish and seaweed; and for the acquisition of machines and equipment. The loan amount varies, depending on the acquisition cost of the fishery equipment with 12% interest rate.

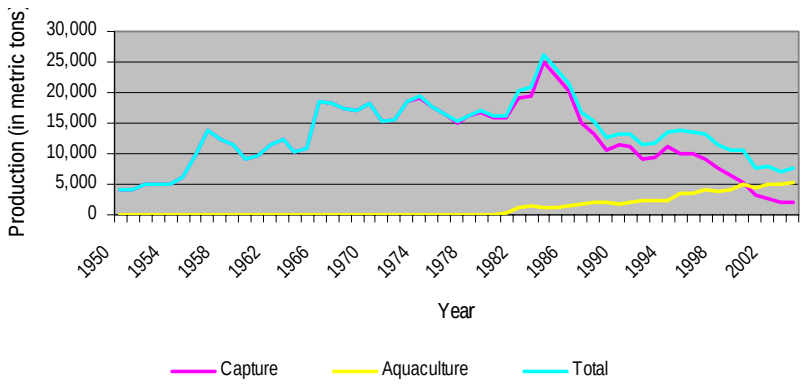
As an archipelagic state with over 2.2 million km^2 of highly productive seas, the Philippines is fortunate to have vast fishery resources at its disposal. However, all of the country's main fish species and marine organisms are showing signs of overfishing. In some areas, not only has the volume of catch been reduced but quality has also deteriorated. The principal stocks exploited in the Philippines are small pelagics, tuna and other large pelagic fishes, demersal fishes and invertebrates. The small pelagic fisheries comprise an important segment of the country's fisheries industry. Small pelagics are considered the main source of inexpensive animal protein for lower-income groups in the Philippines. Fish contributes around 22.4% of the total protein intake of the average Filipino. In addition to being a source of foreign exchange and daily subsistence, there were 2,009,300 fishing and aquafarm operators operating in the country the 2002 Census of Fisheries (NSO, 2005).

The Philippine Fisheries Code (Republic Act 8550), which consolidates all laws pertaining to the country's fisheries sector was signed into law in February 1998. The Code declares as a state policy that achieving food security is the main consideration in the development, management, and conservation of fisheries and aquatic resources. Its provisions reflect a strong adherence to long-term sustainability, fully recognizing its multiple dimensions and complex elements in the fisheries context through several prohibitive and regulatory measures seeking to balance protection with reasonable and responsible use (Ingles, 2004). The most significant policy shift in the past decade has been the introduction of joint management mechanisms of the fisheries sector, involving both the central government and the municipalities, and the government and the local fishers.

Singapore

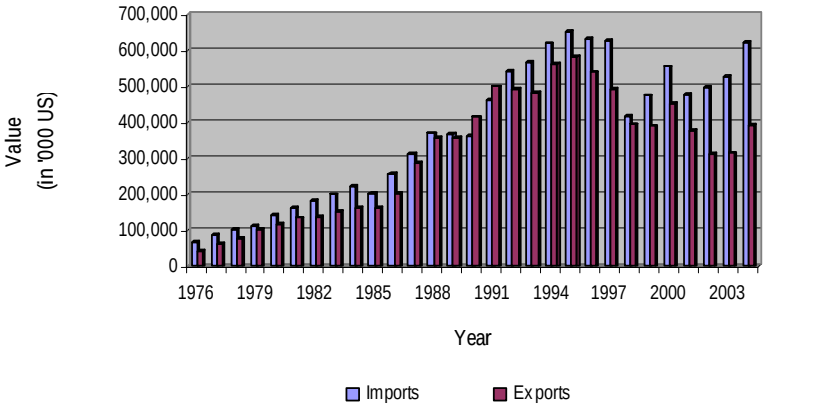
With limited agricultural and water resources, there is limited scope for the development of Singapore's fisheries, although fish is an important component of the Singaporean diet. The country relies mainly on imports for domestic consumption. In 2000, Singapore's fisheries sector from fish capture and aquaculture production reached 2,173 and 5,406 metric tons, respectively. While aquaculture continues to show modest growth, capture fisheries had been declining since 1985 (Figure A.15).

Figure A.15: Fish Production of Singapore



Singapore, due to its strategic location in Southeast Asia, adequate transportation facilities, overall economic growth and significant increases in disposable income of the population, has become an important seafood business centre and main distribution hub in the region. It supports a substantial market for a variety of live, fresh, frozen and cured fish and fishery products. At the same time, it serves as an export market for fish and fishery products from Southeast Asian countries as well as a transshipment base for fishery products from around the world. Data indicate that about US$623 million worth of seafood was imported by Singapore in 2004 while exported fish products were valued at US$393 million (Figure A.16). Re-exports of seafood from Singapore are increasing and in 1999, total re-export figure was estimated at 75,000 metric tones. Its main markets are Japan, Hong Kong, the Netherlands, Malaysia, Taiwan and China. Re-exports from Singapore to other ASEAN countries are mainly valued-added or high-value fishery products.

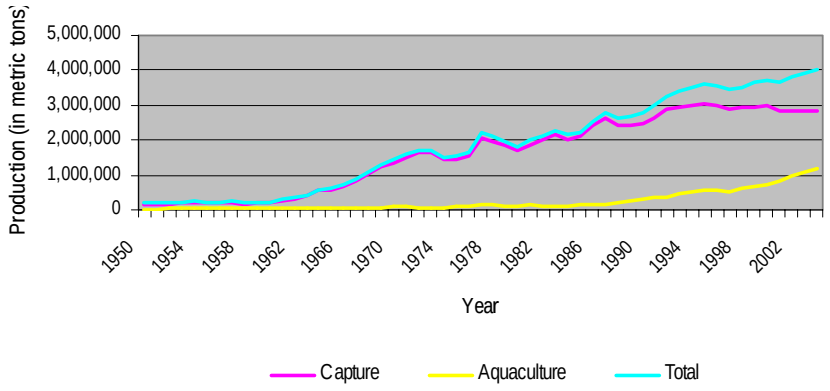
Figure A.16: Trade in Fish and Fish Products, Singapore



Thailand

The current state of Thailand's fishery industry is the result of rapid fisheries and aquaculture development coupled with the advancement in fish processing technologies. Marine fisheries play a significant economic role in Thailand, with capture fisheries contributing 2.8 million tons (71%) to total fisheries production in 2004. Since the early 1990s, the marine fisheries production growth rate has been steady, but reached a plateau in recent times (See Figure A.17).

Figure A.17: Fish Production of Thailand

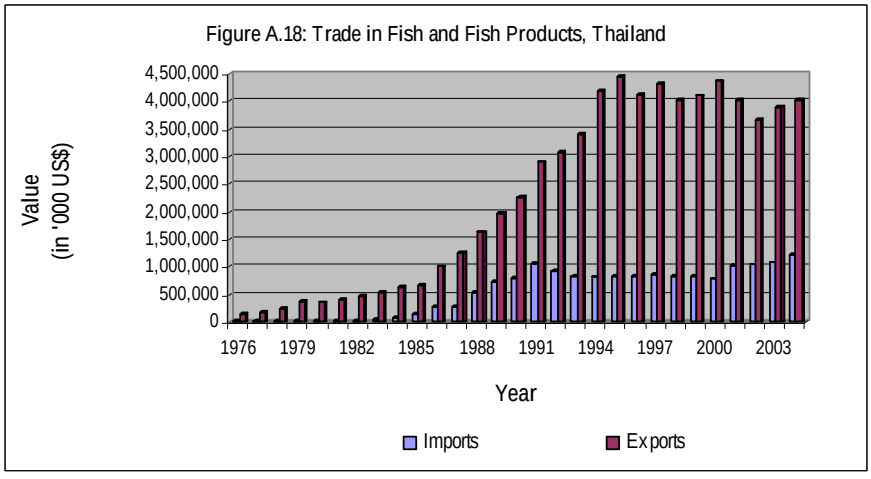


Historically, aquaculture contributes a relatively small portion of total fisheries production. At present, it has a long-term potential for increasing fisheries production for both local and international markets as evidenced in its growing share in fisheries production.

Apart from the over 354,495 individuals directly engaged in fisheries and aquaculture in 2000, there are also a substantial number involved in other fisheries related industries. The rapid expansion of aquaculture, particularly shrimp culture, has generated many other aquaculture-related industries and services, including feeds and feedstuffs, chemicals, fertilizers, accessories, construction and consultation services.

Domestic demand for fish is still increasing as fish gains more popularity as a healthier alternative to livestock or poultry. On the international market, seafood is one of the top industries that generate income for Thailand, making it the world's main

Figure A.18: Trade in Fish and Fish Products, Thailand



fish exporter from 1993 to 2002 (Figure A.18). The main export items are frozen shrimp and canned tuna with major importers including Japan, United Stated and the European Union. In 2004, it exported nearly 1.4 million metric tons of seafood valued at US$4,034 million.

Since 2000, the Department of Fisheries (DOF) has focused on quality-production of aquaculture rather than on quantity production concerns. The DOF together with the Thai aquaculture industry has developed and implemented two kinds of standard, namely the Code of Conduct (CoC) and Good Aquaculture Practice (GAP). CoC standard is to focus on the environmentally friendly production, standard production, and quality and safety--free of antibiotic residues production. The GAP standard, meanwhile, is focused on quality and safety as well as farm sanitation. The two standards are applied to marine shrimp production. The number of CoC and GAP shrimp farm certified are as high as 28,000 farms out of 30,000 farms. In 2004, when the national food safety program was implemented, quality and safety production program were also employed for coastal and freshwater fish culture. The food safety program has been implemented for the whole supply chain production using from-farm-to-table (or processing plant) approach.

Even in the fish processing stage, the DOF has set standard operating practices or protocols for inspections in the form of a procedural and policies manual intended to provide reasonable assurance that the requirements of other countries are satisfactorily met. Inspection at processing plant is based on *Good Manufacturing Practices* (GMP) consisting of general principles of food hygiene. In addition, all processors under DOF approval are also required to implement the HACCP principles. The program emphasizes continuous problem solving and prevention from water to marketing rather than relying solely on analysis of product samples. A GMP inspection focuses on hygienic aspects of plant structure and equipment, personnel hygiene, hygienic facilities, pest control. At present, the numbers of certified fishery processing plants in each category are: 218 frozen plants, 55 canned and 78 traditional plants. Similarly, fishing ports, fish landings and fish distributors also need to comply with GMP standards.

The Ministry of Agriculture and Cooperatives (MOAC) has recently launched a quality label called “Q-mark” for certifying agricultural commodities including fishery products. The Q-mark logo represents high quality agricultural commodities and ensures safety in consumption. This national logo is awarded on a voluntary basis. Both production systems and agricultural products can apply for the label provided they are in compliance with the standards established by MOAC. The Q-mark is now being promoted internationally to signal consumers of premium quality agricultural products produced and exported from Thailand.

Cognizant of the need to protect its marine resources, Thailand has also adopted the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU). The IPOA’s objectives and principles and the implementation of prescribed measures are intended to prevent, deter and eliminate IUU fishing.

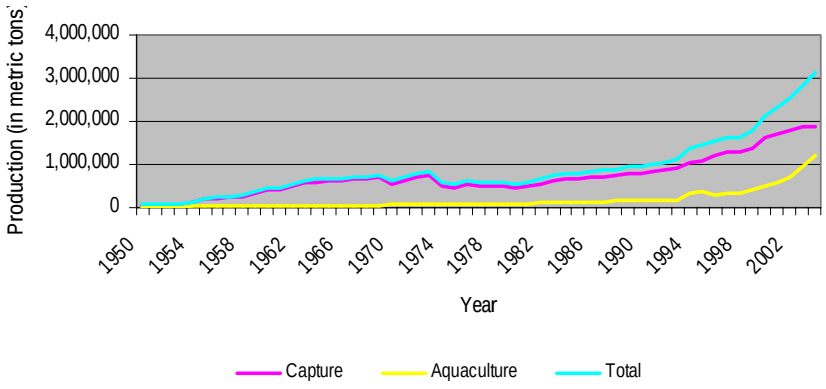
In addition, Thailand's Board of Investment (BOI) promotes investment in agriculture and agricultural products. The BOI listed aquaculture (except shrimp culture), deep sea fishing, fish feed manufacturing, trading centers for fisheries products, agro-industry processing zones, and aquariums and ocean marine services as priority activities for investment promotion. A subsidy scheme to assist small-scale fishers who operate with smaller vessels is in place. The government also provides subsidized credit and price support for the tuna fishers. There is a special interest credit scheme for target fishers to buy and renovate boats, fishing gear, cages and ponds at a lower than market rate of interest (9%). The current policy on fish seed emphasizes standardization and controls over hatcheries. It may be considered that the Thai fishery has enough investment and input policy; however, it has been observed that in some instances implementation is inadequate due to structural bottlenecks and financial constraints. As such, the private sector needs to be encouraged as the principal stakeholder in investment in the fisheries industry.

Vietnam

In Vietnam, the fisheries sector, especially coastal and inland aquaculture, is a priority sector for development. Fish and seafood constitute the second most important agricultural export product for Vietnam – after rice. It is important not only for its foreign exchange contribution but also as a poverty reduction measure among the large rural population. Based on government statistics, over 3.4 million people earn their livelihoods with seafood related industries: with fishing, in aquaculture, or in processing plants.

Vietnam's seafood industry, like the rest of the country's economy, is going through a process of change. Over 2 million tons of fish, shellfish and crustaceans are caught wild or produced in ponds or floating farms annually (Figure A.19). The Vietnamese government has launched a program for the development of the seafood industry, particularly in aquaculture. Aquaculture has advanced to become the core sector of the seafood industry within just a very short time. The growth rates in this sector are impressive. In 1990, aquaculture production amounted to 160,076 metric tons and by 2004, it had risen to 1,198,617 metric tons.

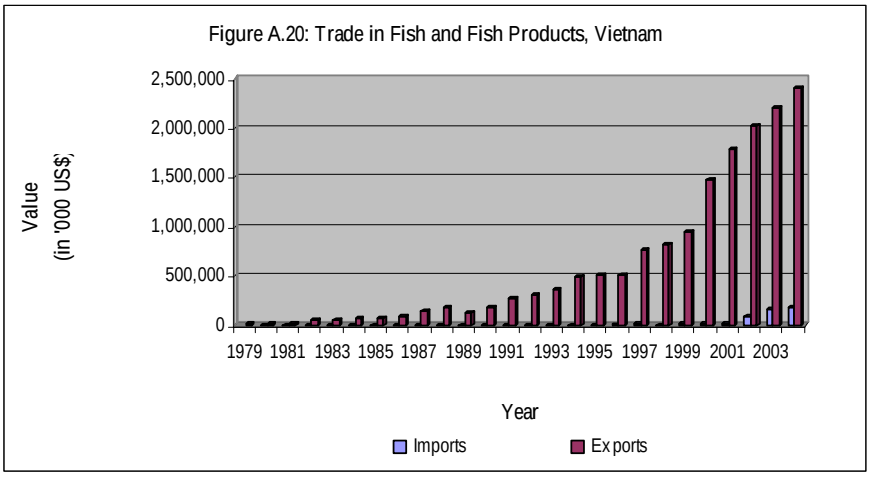
Figure A.19: Fish Production of Vietnam



Vietnam's aquaculture industry mainly produces shrimp, *basa* (a kind of catfish), and various carps, plus some other species. Shrimp is by far the most important aquaculture species. Apart from the shrimp farms, there are also thousands of hatcheries that produce stocking material for the ponds. Lately, *tilapia* is considered the most promising candidate for the future and its production is expected to be increased considerably in the coming years. Fish farm areas doubled during the last decade. By 2002, there were already 955,000 hectares of ponds, which represented a near doubling of what has been allocated for aquaculture in 1990.

From a relatively insignificant sector in the 1980s, Vietnam is one of the world's biggest seafood exporters (See Figure A.20). Just fewer than 539,526 metric tons of seafood products worth nearly US$ 2.4 billion were exported in 2004. Shrimps accounted for half of this, which makes Vietnam among the leading shrimp producers worldwide.

Although the average Vietnamese consumer consumes more seafood than meat, the domestic market is relatively insignificance to the country's seafood processing companies. Aside from the lack of purchasing power for convenience and value-added products, the average consumer prefers fresh products. Hence, majority of processing plants cater to export requirements.



The center of the processing industry is in the south of Vietnam where 70% of all companies are based. The focus of the Vietnamese fish industry is on frozen products. In recent years there have been considerable investments in the modernization and new building of processing plants. About 175 of the more than 300 seafood-processing plants operate in accordance to HACCP standards and about 100 of them have been approved for exports to the EU. Although there are still a lot of state-owned companies in the seafood sector, there is a definite growth in private enterprises. On a national average, the state and provincial governments keep about 30% of company shares in order to enable continued influence of the economy's development. Viewed overall, however, privatization can be expected to trigger additional growth within the seafood industry.

In order to develop the fish industry further, an area of major focus in the country is the improvement of infrastructure. A conservative estimate of about 20% to 30% of catch value is lost due to a lack of transport facilities and cooling capacity (EUROFISH Magazine, 2004). The losses are not only the result of direct spoilage but of insufficient utilization of the latent value potential of the raw material. Tuna, for example, which was caught in sashimi quality, can often only be processed to canned products because of inadequate handling and treatment.

Since 1998, the Vietnamese government has been implementing a policy to give preferential loans to offshore fisher folks to upgrade their vessels to 90 horsepower (hp) and install modern equipment and efficient fishing gear. The government also invested in harbor infrastructure. Private businesses (including foreign-invested businesses) operating in offshore fisheries are given reduced tax reductions during the first 3 years of business.

The dumping allegations leveled by the United States against the imports of certain Vietnamese frozen catfish fillets have hurt the Vietnamese *basa* and *tra* industries. Fortunately, it has recovered and is now looking for new markets.

There are a number of legal instruments covering the fisheries sector in Vietnam. The most important law is the Fisheries Law that went into practice in 2003. Overall, the law aims to improve the fishing activities while avoiding potential environmental damages and preserving the natural fishing resources. Increasing attention is also being paid to environmental aspects during the development of aquaculture. For example, mangrove forests are not permitted for use as farming locations and such regions are partially being reforested. In addition, protection zones are being set up which are closed for shrimp farming in order to protect the rice fields from salt water from the farms.

People's Republic of China

PR China has been a perennial top fish producer. It produces over 40 million tons of fish annually or about 30% of total world production (Figure A.21). Since 2001, over 25 million tons is from the aquaculture sector, the biggest in the world. In 2002, China overtook Thailand as the world's largest exporter of fish and fisheries products with US$4.5 billion worth of exports, or roughly 8% of the world total of US$57.6 billion. It has also become a major fish importer and was ranked as the 8th largest in the world in 2002. Lem (2004b) stated that the growth in country's fish imports compared to its exports is noteworthy considering that just five years ago it was not even among the world's 15 largest importers (See Figure A.22).

Figure A.21: Fish Production of PR China

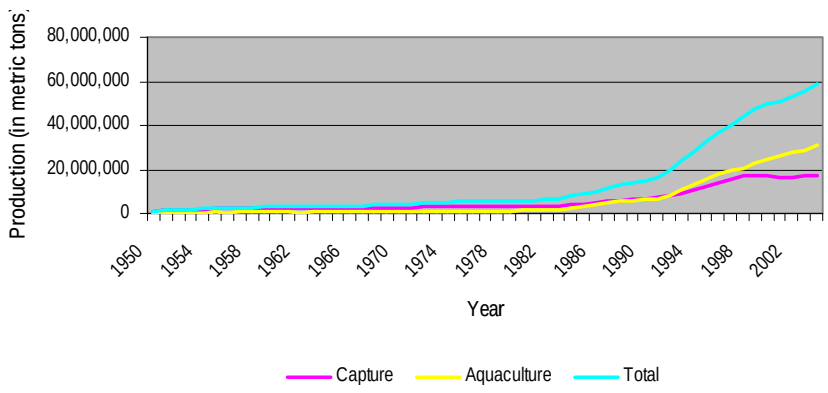
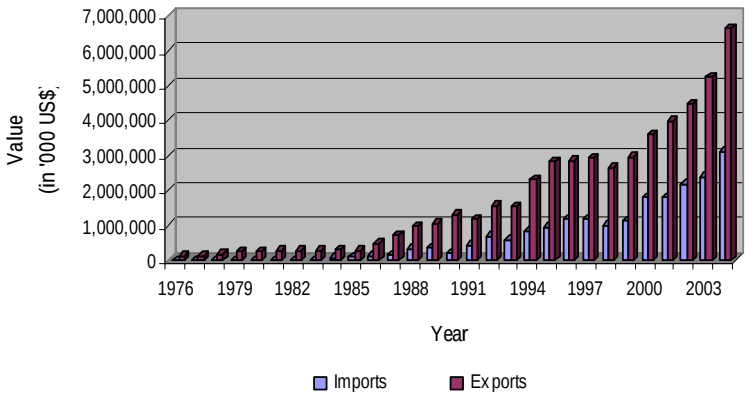


Figure A.22: Trade in Fish and Fish Products, PR China



FAO (2002) attributed the rapid development in China's aquaculture to supportive and proactive government policies, which includes: i) production of high-quality, disease resistant seeds through modern biotechnology; ii) development of new value-added products; (iii) promotion of high-value species; (iv)sponsoring research in fish feeds and nutrition and provision of preferential tariffs on raw materials used in manufacturing feeds; and (v) improvement in the legal and regulatory framework for the development of the sector.

In parallel with its growing production, China has also developed a sizable fish processing industry utilizing both domestic and international supplies. This burgeoning raw material requirement of the processing industry now drives much of the import growth. The Chinese processing industry benefits from economies of scale with

extremely competitive labor and production costs and has come to play a crucial role in supplying international markets for processed fish products such as fish fillets or processed shrimp.

Given its sizeable contribution to world fish trade, the entry of China into the WTO in late 2001 was a significant event. As part of its accession conditions, China lowered its average import tariffs on fish and fishery products from as high as 15.3% in 2001 to 12% in 2002, 11% in 2003, and finally 10.4% in 2004. After 2004, only minor reductions remain to be implemented as part of its current commitments to the WTO.

The reduction of China's import duties on fish and fishery products is beneficial to trade as it makes international suppliers more competitive in the Chinese market and lower prices for the consumers. In addition, harmonization of Chinese standards with international requirements raises the quality and safety of fish products from China in international markets.

Similarly, rising income levels and increasing purchasing power in China have resulted in millions of Chinese consumers enjoying living standards that approach those found in many developed countries. Therefore, China is rapidly emerging as a growing market for imported fish products, which would most likely to be processed in China.

Japan

Marine capture fisheries is the most important sector of Japan's fishing industry. It is divided into distant-water fisheries operated mainly on the high seas, as well as under bilateral agreements in the EEZs of foreign countries; offshore fisheries (operated mainly in the domestic EEZ and under bilateral agreements in the EEZs of neighboring countries); and coastal fisheries (operated mainly in waters adjacent to fishing villages). The production from distant-water and offshore fisheries have been declining in recent years while coastal fisheries maintained a stable supply of marine products (Figure A.23). In 2003, the three subsectors yielded a total of 4.72 million tons of fish (worth US$9,410 million).

Mariculture likewise plays an important role in seafood supply, producing 1.28 million tons in 2003 valued at about US$3,947 million. The main products from mariculture are seaweeds, oysters, scallops, yellowtail and seabream. Production has flattened in the last 10 years after reaching a peak in 1994. This is due to the limited capacity of farms, the decreasing fish price and the excessive supply of cultured fish.

Figure A.23: Fish Production of Japan

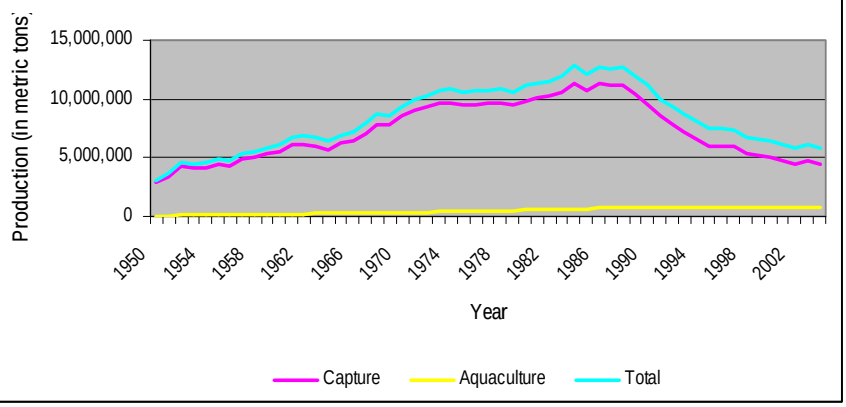
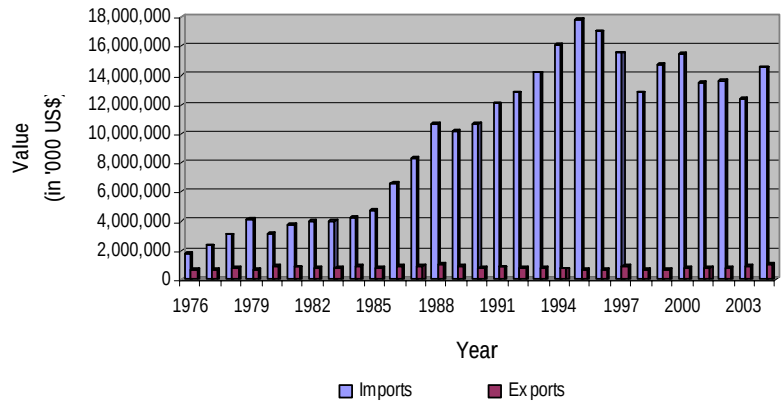


Figure A.24: Trade in Fish and Fish Products, Japan



For 2002, nearly 13% of the Japanese fish catch was used for industrial purposes, including fishmeal to meet the demand for feeds for livestock and aquaculture purposes. Nonetheless, Japan still annually exports small quantities of fish and fishery products, particularly fresh and frozen products. It remains to be the world's largest fish product importer, both in terms of volume and quantity

(Figure A.24). On the other hand, China has been the largest fishery product exporter to Japan since 1998.

Development prospects in the near future for the fishery industry are not bright in Japan. According to the results of a resource assessment conducted in 2004 on major fishery resources in the waters surrounding Japan, the levels of fishery resources are low for more than half of the species or stocks assessed. In addition, the decrease in the number of fishers and their increasing average age pose serious problems, affecting the production structure and closely linked to the sustainable use of fishery resources and the stable supply of fish.

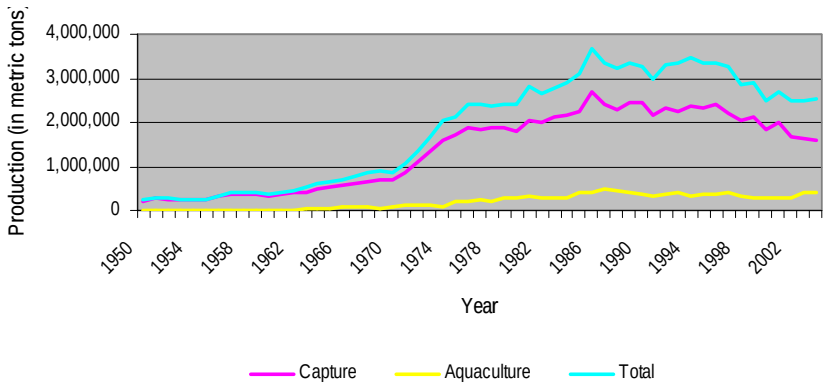
Current Japanese fishery policy is mainly focused on improving the productivity of fisheries and increasing fisheries production. While doing so, emphasis is given to rehabilitation of the state of fishery resources within the EEZ so as to increase fish production while reducing excessive fishing effort. As part of fisheries policies relating to the EEZ, the total allowable catch (TAC) system has been introduced with a view to establishing a framework for the conservation and sustainable utilization of fishery resource. The TAC system is properly implemented in the light of the Law Concerning Conservation and Management of Marine Living Resources, to increase the effectiveness of fisheries management.

Under agreements between relevant fisher groups, resource recovery plans have been developed for deteriorating fish stocks. For example, no-fishing period or bans on catches of small fish and other fishing restrictions have been imposed. Releases of seedlings have been promoted to enhance fishery resources and the environment of fishing grounds have been restored and conserved. Since 2004, resources restoration plans have been developed and implemented. These plans include measures that have severe short-term effects on fishery business management.

Republic of Korea

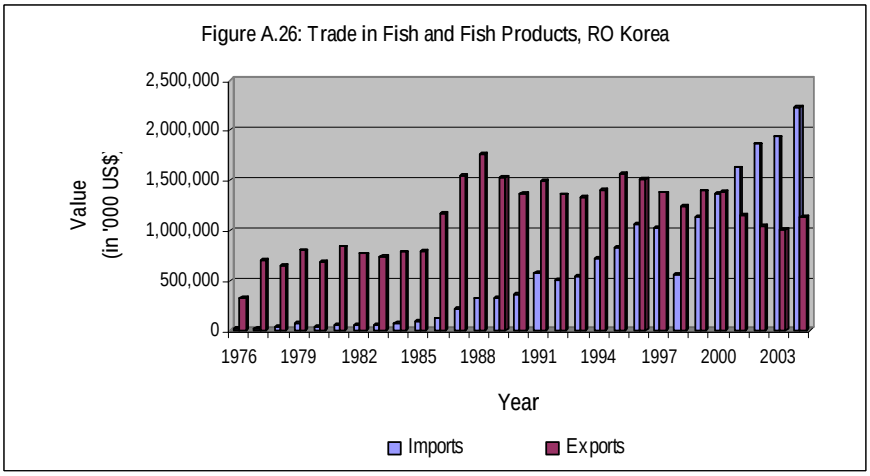
The Republic of Korea produced over 2.5 metric tons of fish in 2004, which is a substantial decline from the figures registered in the mid-1980s until the early 1990s (Figure A.25). About 47% of the total fishery production came from offshore and coastal waters; only 0.2% came from inland waters. With the development of new technologies, aquaculture production, which stagnated and even started to decline during the 1990s, is now rising to account for one quarter of the total fishery production. The Korean government has been pursuing a long-term aquaculture development program through the expansion of cultivating areas and the intensified development of both profitable and unexploited species.

Figure A.25: Fish Production of RO Korea



The value of the country's fish exports and imports were almost equal in 2000 and begun experiencing fish trade deficits starting in 2001 (Figure A.26). This is attributed to declining exports to Japan following Japan's economic depression and increasing imports from China. Although the output of the fishery industry accounts for only a small percentage of the country's GDP, it stimulates the development of services and infrastructure facilities in vessel construction and repair, fishing gear and marine electronics manufacturing (Tietze et al., 2001).

Figure A.26: Trade in Fish and Fish Products, RO Korea



The main legal documents regulating Korean fisheries are the Fishery Act, amended in December, 1995 and the Resources Protection Decree. Since 1994, the chronic overexploitation of marine fishery resources due to over-capacity in coastal and offshore waters has been addressed by imposing a fleet reduction program. This was

intended to reduce the fishing capacity of unprofitable fishing methods due to the loss of fishing grounds resulting from the declaration of the EEZ by other coastal states such as China and Japan (Asianinfo, 2003). At the same time, the program addresses the issue raised in a study, which indicated that Korean fishing fleets had been heavily reliant on government subsidies in order to operate profitably (Tietze et al., 2001). Other difficulties encountered by RO Korea's fishing industry include increasing incidents of marine pollution from all sources and the industrialization and reclamation of coastal areas that negatively affect fish habitats and reduce fishing grounds.

To secure food safety and harmonize with international standards of food quality, the Korean Government has enacted the "Fishery Products Quality Control Act", which integrated the acts on control of fishery products quality and took effect in 2001. The act introduced the HACCP system for seafood handling and processing. Subsequently, the government has also issued a Ministerial decree in accordance to the Act, which sets the HACCP for fishery products and commodities intended for export on 14 March 2002 and the HACCP system will soon cover other producing and processing facilities (OECD, 2002).

Annex 2: Positions on Fisheries Subsidies

Selected WTO Members' Positions on Fisheries Subsidies (as of 10 March 2006)

	Friends of Fish (RL/W/3, 58, 166, 196, GEN/100)	Japan, Taiwan and Korea (RL/W/11, 17, 52, 69, 159, 160, 164, 172, 47, GEN/92, W/201, 202)	Small Vulnerable Coastal States (SVCS) (RL/W/136, 57/Rev.2)	Brazil (RL/W/176, RL/GEN/56, RL/GEN/79, 79/Rev.1)	India (RL/W/203)	EC (RL/W/82, 178)
New disciplines?	There should be new disciplines on fisheries because fisheries subsidies can distort access to productive resources and because of heterogeneous nature of fisheries products, and economic structure of industry, makes applying existing SCM rules difficult.	No need for new disciplines on fisheries subsidies because the principal cause of stock depletion is inadequate management of fisheries resources; and there has been no concrete supporting example that subsidies lead to overexploitation of resources or trade distortions	Fisheries management and conservation issues are best addressed in forums such as the FAO or UNEP rather than in the WTO	Fisheries subsidies cause a damaging distortion in the access to fisheries resources which are not captured by the existing subsidies disciplines – that is, on the ability of competitors to produce and not merely to sell.		
Approach	Top-down: start with a prohibition on all subsidies that benefit the fishing industry and then identify and define the exceptions to the prohibition	Bottom-up: specify which types of subsidies should be made illegal. Important to evaluate each type of existing subsidy to distinguish prohibited from permitted subsidies rather than a "blanket ban". Should be done in a cross-sectoral manner within the SCM agreement.	"The traffic-light approach may not serve to promote conservation of fish stocks" (57). While the traffic light approach is within the ambit of WTO disciplines, it should only address trade related issues.	Top down. Except for inland fisheries, all capture fisheries subsidies programmes should be included in the definition of "fisheries subsidies". The definition of fisheries subsidies must include all financial contributions or income or price support by a government that is given to or on behalf of fishing interests. Fisheries subsidies should be classified based both on their design and effects, according to the context in which they are provided. Subsidies granted for		

	Friends of Fish (RL/W/3, 58, 166, 196, GEN/100)	Japan, Taiwan and Korea (RL/W/11, 17, 52, 69, 159, 160, 164, 172, 47, GEN/92, W/201, 202)	Small Vulnerable Coastal States (SVCS) (RL/W/136, 57/Rev.2)	Brazil (RL/W/176, RL/GEN/56, RL/GEN/79, 79/Rev.1)	India (RL/W/203)	EC (RL/W/82, 178)
				the purchase of foreign access rights should also be covered by the definition of fisheries subsidies, while public service of fisheries management, should, in principle, not be defined as fisheries subsidy. GEN/79/Rev.1: Any fishery subsidy that is not generally available shall be deemed to be specific: 1) any government to government payment for access by domestic fleets to foreign EEZ fisheries or to quotas established by any RFMO; 2) public services of fisheries resource management shall not be considered a fishery subsidy; 3) provision of goods and services by a government under the form of general infrastructure shall be regarded as specific if it is demonstrated that such subsidies have trade and/ or production-distorting effects. Production-distorting effects include any negative effect a fishery subsidy may have on the sustainability of fishing resources.		
Red Light	Subsidies that benefit the fishing industry (positions vary amongst FoF; see subsequent	Subsidies which encourage IUU fishing and fishing vessel construction engaged in		All subsidies that do not fall within the "green box", together with those already prohibited under current disciplines.		Capacity enhancing subsidies, including subsidies for marine fishing fleet renewal

	Friends of Fish (RL/W/3, 58, 166, 196, GEN/100)	Japan, Taiwan and Korea (RL/W/11, 17, 52, 69, 159, 160, 164, 172, 47, GEN/92, W/201, 202)	Small Vulnerable Coastal States (SVCS) (RL/W/136, 57/Rev.2)	Brazil (RL/W/176, RL/GEN/56, RL/GEN/79, 79/Rev.1)	India (RL/W/203)	EC (RL/W/82, 178)
	table)	poorly managed fisheries (164); for fishing vessel modification resulting in capacity enhancement; for shipbuilding yards for fishing vessels; for overseas transfers of fishing vessels to non-contracting parties of regional fisheries management orgs (172). Subsidies that might promote IUU directly or indirectly, and therefore to be prohibited are: subsidies for overseas transfers of fishing vessels to non-CPCs of RFMOs; subsidies to the construction of fishing vessels which have capacity to operate on the high seas without proper authorization for fishing; fishing licenses associated with decommissioned vessels have to be withdrawn (47); subsidies for the construction of new fishing vessels resulting in capacity enhancement (201).		Examples: fisheries subsidies that cause 1) the increase of fishing capacity or effort; 2) IUU fishing; 3) the increase of the domestic supply of fish, threatening the sustainability of the fishing resource. Possible exception: short-term emergency relief and adjustment to fishermen suffering significant loss of income as a result of reductions in fishing caused by conservation measures or unforeseeable natural disasters. There should be a 3 years phase out period for Members to eliminate prohibited subsidies.		and/or the permanent transfer of fishing vessels to third countries, including through the creation of joint enterprises with third country partners.

	Friends of Fish (RL/W/3, 58, 166, 196, GEN/100)	Japan, Taiwan and Korea (RL/W/11, 17, 52, 69, 159, 160, 164, 172, 47, GEN/92, W/201, 202)	Small Vulnerable Coastal States (SVCS) (RL/W/136, 57/Rev.2)	Brazil (RL/W/176, RL/GEN/56, RL/GEN/79, 79/Rev.1)	India (RL/W/203)	EC (RL/W/82, 178)
Amber Light	(positions vary amongst FoF; see subsequent table)					
Green Light	Government expenditure for management frameworks, general infrastructure and access; certain fisheries-related social insurance programmes; and appropriately structured decommissioning subsidies (positions vary amongst FoF; see subsequent table)	Subsidies which promote the conservation and sustainable utilization of fisheries resources; subsidies that have the potential to "exacerbate the status of resources" but do not because of proper fisheries management; relief from natural disaster; structural adjustment assistance and regional development assistance which do not cause deterioration of resources; infrastructure (164); fishing vessel decommissioning; resource enhancement and environmental protection; fisheries resource management; R&D; retraining of fishermen and early retirement schemes.	Fisheries access fees; incentives to local and foreign fishers to supply domestic processing facilities in SVCS; government programmes to raise income levels of artisanal fishers (136); any development assistance to developing coastal states; assistance to artisanal or small-scale fisheries; access fees in fisheries access agreements; fiscal incentives – to facilitate the development of capabilities of small vulnerable coastal states (57/Rev.2) social safety net for fishermen (172), for example relief of natural disasters at sea, subsidies for off-season, unemployment relief and early retirement fund, or subsidies for fishermen reeducation, retraining, or alternative employment (202);	Exhaustive list of non-actionable fisheries subsidies provided that they do not have trade-distorting or production distorting effects through enhancing capacity and overfishing. E.g. subsidies that are aimed at improving conservation and the sustainable use of fisheries resources; subsidies to small scale and artisanal fishing , to fishing port facilities; and to processing facilities provided that such fisheries are not "patently at risk"; payments for access to EEZ of developing countries by RFMOs (79/Rev.1); subsidies for capacity reduction; subsidies aimed at fishermen retraining, to facilitate movement of labor out of the fishery sector, to compensate for suspension of fishing activity and early retirement schemes. (79, 79/Rev.1)		Subsidies to support the retraining of fishermen, early retirement schemes and diversification; limited subsidies for modernization of fishing vessels to improve safety, product quality or working conditions or to promote environmentally friendly methods so long as it does not increase ability to catch fish; subsidies for the scrapping of vessels and reduction of capacity.

	Friends of Fish (RL/W/3, 58, 166, 196, GEN/100)	Japan, Taiwan and Korea (RL/W/11, 17, 52, 69, 159, 160, 164, 172, 47, GEN/92, W/201, 202)	Small Vulnerable Coastal States (SVCS) (RL/W/136, 57/Rev.2)	Brazil (RL/W/176, RL/GEN/56, RL/GEN/79, 79/Rev.1)	India (RL/W/203)	EC (RL/W/82, 178)
			subsidies to small-scale fisheries in the context of a social safety net (GEN/92)			
S&DT	Recognition of need to address needs of Members at different levels of development; calls for identification of other specific areas of concern, but says not to exclude "major players"	Japan welcomes paper from SIDS (136) and says that the topics raised therein should be "fully discussed during the process of the bottom-up negotiation." But later (164) notes that while many developing countries are dependent on fisheries resources in their waters, some of them are also major producers of fisheries products globally; "special consideration" should be given "by allowing some flexibility in the application of the prohibited subsidy category" (172)	They seek S&D treatment to explicitly exclude access fees and development assistance, fiscal incentives to domestication and fisheries development, and artisanal fisheries from the definition of subsidy.	Subsidies permitted for developing countries: (1) Subsidies which increase fishing capacity or effort of Members that are part of a RFMO, within the sustainable level of exploitations as defined by the RFMO GEN/79) and fall within the categories of either fishing vessel construction or repair or vessel modernization or gear acquisition or improvement; (2) supply of fuel, bait or ice; (3) Assistance to disadvantaged regions under certain conditions	Fisheries subsidy disciplines are premised on enhancing the ambit of ASCM from one that has as its primary concern 'trade distortions' to one that seeks to address problems of overfishing and overcapacity. S&DT should therefore have several components to provide adequate policy space to developing countries in addition to those in Art. 27 of SCM.. Words such as artisanal, traditional, small scale are sometimes used interchangeably. While developing a common definition would be difficult, a common understanding on some general	More needs to be done to allow developing country members to achieve development goals; willing to engage constructively in drawing up rules in context of art. 27 of SCM Agreement to take special account of distinct needs of developing countries.(82) Phase-in period of several years for developing countries to set up a comprehensive system for transparency and enforcement during which developing countries would receive technical assistance for setting up such a system. The SCM Committee could manage this time-framed programme (176, 39).

	Friends of Fish (RL/W/3, 58, 166, 196, GEN/100)	Japan, Taiwan and Korea (RL/W/11, 17, 52, 69, 159, 160, 164, 172, 47, GEN/92, W/201, 202)	Small Vulnerable Coastal States (SVCS) (RL/W/136, 57/Rev.2)	Brazil (RL/W/176, RL/GEN/56, RL/GEN/79, 79/Rev.1)	India (RL/W/203)	EC (RL/W/82, 178)
					characteristics applying to such category might be useful. Common characteristics are: traditional fisheries involving fishing households/ small groups; fishing vessel could vary, but use of relatively small fishing vessels without motor or only small out board engines; fishing is confined close to shoreline; fishing gear such a beach sienen gill nets, hook and line, and traps; use of labor intensive technologies; fishing can be both subsistence or commercial	
Involvement/ role of other organisations	Recognized value of categorization work done by other organisations, but as a group hasn't taken a position on this (positions vary amongst FoF; see subsequent table)	Take into account expertise of FAO, OECD, UNEP, APEC (11); points to role of UNCLOS, regional fisheries bodies in fisheries management (11); categorization should be done by other orgs with longer and	Mechanisms to strengthen regional and national fisheries management bodies, and to identify and rehabilitate endangered species, such as those employed by FAO and MEAs would be appropriate for	Possibility of involving the FAO in determining whether a fishery is "patently at risk". Developing countries should not be allowed to use subsidies to enhance capacity beyond the sustainable level of exploitation "within the limits of the fishing managerial schemes established under		Has doubts on whether the Rules group is "well equipped" to deal with the question of the interactions between fisheries subsidies and fisheries management regimes, suggests other fora such as UNEP, OECD, FAO not perhaps

	Friends of Fish (RL/W/3, 58, 166, 196, GEN/100)	Japan, Taiwan and Korea (RL/W/11, 17, 52, 69, 159, 160, 164, 172, 47, GEN/92, W/201, 202)	Small Vulnerable Coastal States (SVCS) (RL/W/136, 57/Rev.2)	Brazil (RL/W/176, RL/GEN/56, RL/GEN/79, 79/Rev.1)	India (RL/W/203)	EC (RL/W/82, 178)
		deeper institutional experience (69); rules group should look into possibility of cooperating with FAO, OECD and possibly giving them the task of categorisation of subsidies	addressing the problem of threatened fish species.	relevant international organizations". (GEN/56) GEN/79: Definition of production-distortion: For fisheries that are subject to RFMOs, a negative effect to the sustainability of fishing resources means exceeding quotas or other rights established by those RFMOs by 5%. For fisheries not subject to RFMOs, this means an annual increase of the volume catch for a specific specie exceeding 3% of the most recent volume catch data covering three years made available by a competent international organization (an RFMO or a multilateral organization) IUU fishing: any vessel is found to be engaged in IUU fishing according to any RFMO, the Member will dispose of a period of 2 months to demonstrate that it took all necessary steps to withdraw the license of that vessel and that the vessel is definitively scrapped. Additionally, the Member shall demonstrate within 6 months from the release of the report by any such RFMO that it had		better. Calls on WTO Secretariat to keep a scoreboard of notifications per Member and per type of programme to be made public.

	Friends of Fish (RL/W/3, 58, 166, 196, GEN/100)	Japan, Taiwan and Korea (RL/W/11, 17, 52, 69, 159, 160, 164, 172, 47, GEN/92, W/201, 202)	Small Vulnerable Coastal States (SVCS) (RL/W/136, 57/Rev.2)	Brazil (RL/W/176, RL/GEN/56, RL/GEN/79, 79/Rev.1)	India (RL/W/203)	EC (RL/W/82, 178)
				taken all necessary steps to improve its management schemes in relation to IUU fishing. If any of the two conditions is not fulfilled, serious prejudice is deemed to exist regarding all non-actionable subsidies by that Member. Membership in a RFMO shall determine whether capacity enhancing subsidies are allowed or not. RFMOs are defined in GEN/79/Rev.1		
Enforcement				Any fishery subsidy shall be notified, otherwise shall be presumed prohibited. Notifications have to contain information regarding a) identification of fisheries in which subsidized fishing takes place; b) the status of the fishery; c) subsidy amounts on a per vessel, per fleet, and per fishery basis; whether fishery is under RFMO management, nature of monitoring and the quantitative limits applicable to the Member; d) steps taken to ensure that subsidy does not contribute to IUU fishing. Yearly updates of notifications shall be provided. Upon request of a Member, the Secretariat shall review a notification report its finding to		Provide options that countries can choose from: (1) domestic control system (ex post monitoring system of the subsidies that are granted to the fisheries sector), including a reporting system for non-prohibited subsidies, or (2) WTO control system (rigorous and continuous screening at the WTO level with requirements for both pre-notification and follow-up reporting of all subsidies given by all levels of government) Follow-up reporting could be yearly and include, for example, data on the amounts

	Friends of Fish (RL/W/3, 58, 166, 196, GEN/100)	Japan, Taiwan and Korea (RL/W/11, 17, 52, 69, 159, 160, 164, 172, 47, GEN/92, W/201, 202)	Small Vulnerable Coastal States (SVCS) (RL/W/136, 57/Rev.2)	Brazil (RL/W/176, RL/GEN/56, RL/GEN/79, 79/Rev.1)	India (RL/W/203)	EC (RL/W/82, 178)
				the Committee of SCM. Committee shall promptly review the Secretariat findings and determine whether the conditions and criteria laid down have not been met. In case of failure by Committee to make a determination as well as the violation of the conditions set out in a notified programme, shall be submitted to binding arbitration requirements (GEN/79/Rev.1) Prevention of circumvention: Rules of origin, the flag of a vessel and government-to-government payments, among others, shall not be used as a means to circumvent Members obligations and responsibilities under the provisions of this Annex.		granted in that year. Any subsidy which is not notified, or reported on, would be presumed prohibited. For both systems, some form of de-minimis rules would have to be introduced, possibly including block pre-notification, pre-authorisation, follow-up reporting and ex post monitoring.

Breakdown of Selected 'Friends of Fish' Positions on Fisheries Subsidies (as of 10 March 2006)

	Common FoF (3, 58, 166)	New Zealand (12, 154, 36, 100)	Chile (115)	US (77, 169, 41)
New Disciplines?	There should be new disciplines on fisheries because fisheries subsidies can distort access to productive resources and because heterogeneous nature of fisheries products, and economic structure of industry, makes applying existing SCM rules difficult	Most of the major subsidizing members are also major consumers and have limited exports but their subsidies can make it harder or impossible for other members' exporters to compete in the subsidising Member's market; difficult to prove the "serious prejudice" in Part III of SCM Agreement because of heterogeneous, diverse nature of fisheries products; no unsubsidised reference prices available	Same: tragedy of the commons is the problem because it is impossible to assign property rights to migratory, dynamic fish populations; extremely difficult to demonstrate damaging trade effects of fisheries subsidies	Same
Approach	Top-down: start with a prohibition on all subsidies that benefit the fishing industry and then identify and define the exceptions to the prohibition	Same (154): A broad prohibition of programmes that have revenue or cost impacts for the industry balanced by exceptions and transitional provisions including S&D provisions; this would minimise risks of circumvention	Same	Same
Red Light	Subsidies that benefit the fishing industry	Subsidies within the meaning of Art 1 of the ASCM that confer a benefit directly or indirectly on any natural or legal person engaged in the harvesting, processing, transport, marketing or sale of the fish and fisheries products listed in Annex IX of this Agreement ("fisheries subsidies") (GEN/100)	Fisheries subsidies of a commercial nature, directly geared towards lowering costs, increasing revenues, raising production or directly promoting overcapacity and overfishing, inc. subsidies designed to transfer a country's ships for operation on the high seas or local waters of third country; contribute to purchase of ships; to help modernize an existing fleet; reduce costs of production factors; positive discrimination in tax treatment; and positive discrimination in access to credit.	Those fishing subsidies that directly promote overcapacity and overfishing, or have other trade-distorting effects
Amber Light			All remaining subsidies that are not in the red light box. When the subsidizing Member has failed to notify an amber light subsidy, it would bear the burden of demonstrating that this subsidy does not	Dark Amber: presumed to be harmful unless the subsidizing government could affirmatively demonstrate that no overcapacity, overfishing or other adverse trade

	Common FoF (3, 58, 166)	New Zealand (12, 154, 36, 100)	Chile (115)	US (77, 169, 41)
			cause trade injury to the complaining Member. For all other subsidies (including for social purposes in small scale fisheries and fisheries management), the complaining Member would have to provide evidence showing adverse trade effects of the subsidy.	effects result, modelled on art. 6.1 of SCM agreement
Green Light	Government expenditure for management frameworks, general infrastructure and access; certain fisheries-related social insurance programmes; and appropriately structured decommissioning subsidies	Management services (as different from capacity reduction and effort reduction programmes and subsidies for conservation which should be treated as separate categories). Three sub-categories of management services: 1) Research to inform fisheries management decision makers (36, GEN/100); 2) Creating and implementing fisheries management systems and 3) Enforcing fisheries management rules (36); subsidies to aquaculture activities provided that…{to be specified to ensure any adverse impacts on wild capture fisheries are addressed}; subsidies for vessel decommissioning and license retirement provided that …{conditions to ensure permanent removal of capacity}; subsidies for conservation related activities; access payments {provisions for additional transparency requirements}; certain infrastructure; certain social insurance programmes (e.g. worker retraining programmes); and natural disaster relief {to extent that it only restores the fishery to its pre-disaster state) (GEN/100)		Vessel decommissioning, (buyback and similar programmes designed to permanently remove overcapacity from fisheries), provided that appropriate programme conditions are attached (41)
Categorisation methodology	Presented a variety of different methodologies in RL/W/58			Using the top-down approach it would be possible to make exceptions based upon the current particular fisheries programs of

	Common FoF (3, 58, 166)	New Zealand (12, 154, 36, 100)	Chile (115)	US (77, 169, 41)
				Members than upon broad categories of subsidies. It is unclear what particular subsidies programs would be encompassed in the categories proposed by OECD, APEC, UNEP and others
S&DT	Recognition of need to address needs of Members at different levels of development; calls for identification of other specific areas of concern, but says not to exclude "major players"	The prohibition shall not apply to fisheries subsidies provided by a developing country Member where such subsidies do not exceed the de minimis level for that Member {To be elaborated, including the possibility of further flexibilities for LDCs} (GEN/100)		
Involvement/ role of other organisations	Recognised value of categorisation work done by other organisations, but as a group hasn't taken a position on this		Supports EC idea that the WTO Secretariat should keep a "scoreboard" of notification received by Members.	Rules group should explore ways to draw upon information and expertise of other orgs, inc. development of relationships with the FAO and regional fisheries management organisations. Group could also find ways to obtain views of NGOs and experts

The Friends of Fish include:
*Chile 3, 58, 166 +115
*Peru 3, 58, 166
*New Zealand 3, 58, 166 +12, 154, 161
Ecuador 3, 166
Philippines 3, 166
US 3 + 77, 169
Iceland 3, 58
Argentina 58, 166
Norway 58
Australia 3
* indicates core group signing on to all 3 FoF documents
+ indicates additional documents submitted by the Member in its individual capacity

NOTE: Links to all Members' submissions on fisheries subsidies are available at http://www.trade-environment.org/page/theme/tewto/para28.htm.

Annex 3: ASEAN Roadmap for the Integration of the Fisheries Sector

No.	Measures	Implementing Body	Timeline
COMMON ISSUES			
I	Tariff Elimination		
1	Eliminate CEPT-AFTA tariffs on all identified products	Coordinating Committee on the Implementation of the CEPT Scheme for AFTA (CCCA)	ASEAN 6: 2007 CLMV: 2012
II	Non-Tariff Measures (NTMs)		
2	Establish the Database of ASEAN NTMs to ensure transparency [1]	CCCA and Senior Officials Meeting - ASEAN Ministers on Agriculture and Forestry (SOM AMAF)	30 June 2004
3	Establish clear criteria to identify measures that are classified as barriers to trade		30 June 2005
4	Establish a clear and definitive work programme for the removal of the barriers.		31 December 2005
5	Adopt the WTO Agreement on Import Licensing Procedures and develop implementation guidelines appropriate for ASEAN.		31 December 2004
III	Rules of Origin		
6	Improve the CEPT Rules of Origin by:	Task Force on CEPT Rules of Origin (ROO-TF)	31 December 2004
	- making it more transparent, predictable and standardised taking into account the best practices of other Regional Trade Agreements including the rules of origin of the WTO; and		
	- adopting substantial transformation as alternative criteria for conferring origin status		
IV	Customs Procedures		
7	Extend the application of the ASEAN Harmonised Tariff Nomenclature (AHTN) for extra-ASEAN trade.	Expert Committee on Customs Matters (ECCM)	on-going
8	Develop a simplified, improved and harmonised customs declaration form.		31 December 2005
9	Ensure full implementation of the Green Lane System for CEPT Products, or similar systems, at entry points of all Member States.		31 December 2004
10	Develop implementation guidelines, as appropriate, for Member States which are not members of the WTO to fulfill the obligations of the WTO Agreement on Customs Valuation		31 December 2004

No.	Measures	Implementing Body	Timeline
11	Adopt service commitment (client charter) by ASEAN customs authorities.		31 December 2004
12	Develop the Single Window approach, including the electronic processing of trade documents at national and regional levels	Inter-Agency Task Force on Single Window	31 December 2005
V	Standards and Conformance		
13	Accelerate the implementation/ development of sectoral Mutual Recognition Arrangements (MRAs), as appropriate	ASEAN Consultative Committee on Standards and Quality (ACCSQ)	beginning 1 January 2005
14	Encourage domestic regulators to recognise test reports issued by testing laboratories which are already accredited by National Accreditation Bodies in ASEAN that are signatories to ILAC and APLAC MRA		on-going
15	Set clear targets and schedules for harmonisation of standards, wherever required; where international standards are not available, and when requested by industry, align national standards among Member States.		31 December 2005
16	Harmonise and/or develop, wherever appropriate, technical regulations for national application.		31 December 2010
17	Ensure compliance with the requirements, rights and obligations of WTO Agreements on Technical Barriers to Trade and the Application of Sanitary and Phytosanitary Measures		on-going
18	Explore development of ASEAN policy on standards and conformance to further facilitate the realisation of the ASEAN Economic Community.		beginning 2005
VI	Logistics Services		
19	Expedite the development of integrated transport logistics services within ASEAN through:	Senior Transport Officials Meeting (STOM)	beginning 2005
	- Promotion of efficient door-to-door cargo transport and cross-border transport facilitation through the expeditious implementation of the ASEAN Framework Agreement on the Facilitation of Goods in Transit, and the ASEAN Framework Agreement on Multimodal Transport;		

No.	Measures	Implementing Body	Timeline
	- Improvement of land transport network infrastructures and services to achieve better inter-connectivity, inter-operability and inter-modality with the national, regional and international maritime and air transport gateways;		
	- Strengthening intra-ASEAN maritime and shipping transport services; and		
	- Establishment of enabling and conducive policy environment for increased private sector involvement and/or public-private partnerships in the development of transport infrastructure and the provision and operation of transport logistics facilities and services.		
VII	Outsourcing and Industrial Complementation		
20	Identify and develop specialisation of production processes, research and development (R&D), and testing facilities based on comparative advantages of individual Member States	Working Group on Industrial Cooperation (WGIC), with inputs from the private sector	on-going
21	Develop guidelines to promote outsourcing arrangements among Member States, as applicable.		
VIII	ASEAN Integration System of Preferences		
22	Endeavour to expand the coverage of the ASEAN Integration System of Preferences (AISP) Scheme by including products in the priority integration sectors	CCCA	on-going
IX	Investments		
23	Accelerate the opening up of sectors currently in the Sensitive List (SL) by transferring these sectors into the Temporary Exclusion List (TEL) under the Framework Agreement on the ASEAN Investment Area, using the ASEAN-X formula.	Coordinating Committee on Investment (CCI	beginning 2004
24	Reduce restrictive investment measures in the SL		beginning 2004
25	Complete the progressive elimination of restrictive investment measures in the TEL		on-going[2]
26	Identify programmes and activities to promote investments in ASEAN		31 December 2005
27	Promote manufacturing processes across		

No.	Measures	Implementing Body	Timeline
	different ASEAN countries to take advantage of their comparative strengths through:		
	- the establishment of a network of ASEAN free trade zones to facilitate outsourcing activities		beginning 2005
	- undertaking more efficient joint ASEAN facilitation and promotion measures to promote FDI		on-going
28	Promote and facilitate joint/cross border investments in manufacturing activities through:		on-going
	- special incentives, where appropriate, to be given by CLMV for investments from ASEAN		
	- special measures, where appropriate to be given by ASEAN 6 to promote and facilitate relocation of investment to CLMV countries especially for labour intensive manufacturing activities		
X	Trade and Investment Promotion		
29	Intensify intra- and extra ASEAN joint promotion efforts regularly	CCI; ASEAN Chambers of Commerce and Industry (ASEAN-CCI); relevant Industry Clubs/ Associations and AMAF	on-going beginning 2005
30	Organise regular private sector initiatives to undertake:	CCI; ASEAN Business Advisory Council (ASEAN-BAC); and ASEAN-CCI	on-going beginning 2005
	- more efficient joint ASEAN facilitation and promotion measures to promote FDI ASEAN selling-buying missions; and		
	- promotional activities to assist CLMV countries		
31	Undertake more effective joint ASEAN facilitation in promotion measures and develop new sources of inward foreign direct investments, particularly from potential countries such as the People's Republic of China, India and the Republic of Korea		on-going
XI	Intra-ASEAN Trade and Investment Statistics		
32	Establish an effective system to monitor intra-ASEAN trade and investment through:	Working Group on Statistics; Working Group on Foreign Direct Investment Statistics; and CCCA	on-going
	- provision of updates to the ASEAN Secretariat of the latest trade (goods and services) and investment statistics		
	- preparation of consolidated industry profile, by the respective associations, which among other		

No.	Measures	Implementing Body	Timeline
	matters, cover information such as production capacity and product range		
XII	Intellectual Property Rights		
33	Expand the scope of ASEAN intellectual property rights cooperation beyond trademarks and patents by including cooperation in copyrights information exchange and enforcement	ASEAN Working Group on Intellectual Property Cooperation (AWGIPC)	31 December 2004
XIII	Movement of Business Persons, Skilled Labour, Talents and Professionals		
34	Develop an ASEAN Agreement to facilitate the movement of business persons, including the adoption of an ASEAN Travel Card, taking into account Member States' domestic laws and regulations.	Directors-General of Immigration Departments and Heads of Consular Affairs Division of the Ministries of Foreign Affairs (DGICM)	31 December 2005
35	Develop an ASEAN Agreement to facilitate the movement of experts, professionals, skilled labor and talents, taking into account Member States' domestic laws and regulations	Coordinating Committee on Services (CCS)	31 December 2005
36	Accelerate completion of MRAs to facilitate free movement of experts, professionals, skilled labor and talents in ASEAN, taking into account Member States' domestic laws and regulations		31 December 2008
XIV	Facilitation of Travel in ASEAN		
37	Harmonise procedures for the issuance of visas to international travelers	DGICM	31 December 2004
38	Provide visa exemption for intra-ASEAN travel by ASEAN nationals		2005
XV	Human Resource Development		
39	Develop and upgrade skills and capacity building through joint trainings and workshops.	Senior Labour Officials Meeting (SLOM)	on-going
SPECIFIC ISSUES			
XVI	Sanitary and Phytosanitary (SPS) and TBT Measures		
	Fisheries Quality and Safety Management System		
40	Develop and apply fisheries quality management system that ensure food safety and support competitive position of ASEAN fisheries products on world markets though the implementation, validation, verification of Hazard Analysis Critical Control Point (HACCP) -based systems and improved laboratories practices, and adapting quality and safety management systems so that	SOM AMAF; ASEAN Sectoral Working Group on Fisheries; and ACCSQ	2005-2006

No.	Measures	Implementing Body	Timeline
	they may be applied to small enterprises in ASEAN		
	Compliance with international good practices and standards		
41	Implement the Codex Code of Practice of Good Animal Feeding and Recommended International Code of Practice for Control of the Use of Veterinary Drugs and the Codex Guidelines for the Establishment of a Regulatory Programme for Control of Veterinary Drug Residues in Foods in ASEAN in order to reduce potential hazards in terms of chemical contamination, mycotoxins and veterinary drugs	SOM AMAF ASEAN Task Force on Codex	2004-2006
42	Prioritise international standards related to fisheries that would be significant for ASEAN trade value and those with potential for ASEAN trade in the future and set specific targets and schedules for harmonisation in ASEAN	ASEAN Working Group on Fisheries	2004-2008
43	Formulate guidelines for the use of chemicals in aquaculture and measures to eliminate the use of harmful chemical.	SOM AMAF	2004-2006
	Promote and strengthen the compliance of fisheries industry to the regional and international requirements		
44	Promotion of HACCP, Good Aquaculture Practice (GAP), Good Hygiene Practices (GHP) for fishery industry, especially SMEs.	Joint efforts between SOM AMAF, ASEAN Expert Group on Food Safety (AEGFS), and ACCSQ Prepared Foodstuff Product Working Group (PFPWG)	on-going
	Strengthening Testing Facilities in ASEAN and Recognition of Testing Result and Product Certification by Regulators		
45	Establishment of ASEAN Reference Testing Laboratories for fisheries products (Microbiology, mycotoxin, pesticide residues; Veterinary Drug Residues; Heavy Metals etc)	Joint efforts between SOM AMAF and ACCSQ	2007
46	Recognition by ASEAN Domestic Regulators for test reports issues by ASEAN Reference Testing Laboratories and those already accredited by national accreditation bodies who are signatories to ILAC, APLAC MRA		beginning 2005
	Harmonisation of sector specific technical regulatory regime in ASEAN		
47	Identify and prioritise SPS and TBT Measures related to fisheries products for harmonisation in ASEAN	SOM AMAF	2004-2005
48	Harmonise identified SPS and TBTs		2005-2009

No.	Measures	Implementing Body	Timeline
	measures including harmonisation of import and export, labeling requirements and marking of compliance.		
	Development and Implementation of MRAs in selected fisheries products		
49	Development and Implementation of MRAs in selected fisheries products	Joint efforts between SOM AMAF and ACCSQ	2005-2010
XVII	Research and Development (R&D)		
50	Strengthen and develop cooperation among ASEAN Member Countries in research and development programme and share technical know-how in the field of aquaculture, capture fisheries, and post harvest technology and inland water management.	SOM AMAF	on-going
51	Conduct regional workshops and seminars on fisheries research and development		
52	Exchange of experts		
XVIII	Human Resource Development (HRD)		
53	Establish short-term and long-term training programmes for fisheries and fisheries-related workers from ASEAN Member Countries within available resources	SOM AMAF	on-going
XIX	Information		
54	Encourage establishment of an ASEAN Early Warning System on Hazards and Outbreaks	SOM AMAF	on-going

[1] The database on ASEAN NTMs has been completed posted in the ASEAN Website.
[2] Timelines as per AIA Agreement (ASEAN-6 = 2010; Vietnam = 2013; Cambodia, Laos and Myanmar = 2015)

Annex 4: Negative List of ASEAN Member Countries for the Fisheries Sector

Cambodia		
No.	**AHTN**	**Description**
1	0303.11.00	- - Sockeye salmon (red salmon) (Oncorhynchus nerka)
2	0303.19.00	- - Other
3	0304.90.00	- Other
4	1604.12.10	- - - In airtight containers
5	1604.12.90	- - - Other
6	1604.13.11	- - - - In airtight containers
7	1604.13.19	- - - - Other
8	1604.13.91	- - - - In airtight containers
9	1604.13.99	- - - - Other
10	1604.20.91	- - - In airtight containers
11	1604.20.99	- - - Other
Indonesia		
No.	**AHTN**	**Description**
1	0306.13.00	- - Shrimps and prawns
2	0306.23.20	- - - Other, live
3	0306.23.30	- - - Fresh or chilled
4	0306.23.40	- - - Dried
5	0306.23.90	- - - Other
6	1604.14.90	- - - Other
7	2104.10.10	- - Containing meat
Malaysia		
No.	**AHTN**	**Description**
1	0301.10.20	- - Other, marine fish
2	0301.10.30	- - Other, freshwater fish
3	0301.99.30	- - - Other marine fish
4	0301.99.40	- - - Other freshwater fish
5	0302.69.10	- - - Marine fish
6	0302.69.20	- - - Freshwater fish
7	0302.70.00	- Livers and roes
8	0303.77.00	- - Sea bass (Dicentrarchus labrax, Dicentrarchus punctatus)
9	0303.79.10	- - - Marine fish
10	0303.79.20	- - - Freshwater fish
11	0303.80.10	- - Livers
12	0303.80.20	- - Roes
13	0304.10.00	- Fresh or chilled
14	0304.20.00	- Frozen fillets
15	0304.90.00	- Other
16	0305.20.00	- Livers and roes of fish, dried, smoked, salted or in brine
17	0305.30.00	- Fish fillets, dried, salted or in brine but not smoked
18	0305.49.00	- - Other
19	0305.59.10	- - - Sharks' fins
20	0305.59.90	- - - Other
21	0305.63.00	- - Anchovies (Engraulis spp.)
22	0305.69.00	- - Other

23	0306.13.00	- - Shrimps and prawns
24	0306.14.00	- - Crabs
25	0306.19.00	- - Other, including flours, meals and pellets of crustaceans, fit for human consumption
26	1604.20.10	- - Sharks' fins, prepared and ready for use
27	1604.20.20	- - Fish sausages
28	1604.20.91	- - - In airtight containers
29	1604.20.99	- - - Other
30	1604.30.10	- - In airtight containers
31	1604.30.90	- - Other
32	1605.10.00	- Crab
33	1605.20.10	- - Shrimps paste
34	1605.20.90	- - Other
35	1605.30.00	- Lobster
36	1605.40.00	- Other crustaceans
Myanmar		
No.	**AHTN**	**Description**
1	0302.11.00	- - Trout (Salmo trutta, Oncorhynchus mykiss, Oncorhynchus clarki, Oncorhynchus aquabonita, Oncorhynchus gilae, Oncorhynchus apache and Oncorhynchuschrysogaster
2	0302.12.00	- - Pacific Salmon (Oncorhynchus nerka, Oncorhynchus gorbuscha,Oncorhynchus keta, Oncorhynchus tschawytscha, Oncorhynchus kisutch, Oncorhynchus masou, and Oncorhynchus rhodurus), Atlantic salmon (Salmo salar) and Danube salmon (Hucho hucho)
3	0302.19.00	- - Other
4	0302.50.00	- Cod (Gadus morhua, Gadus ogac, Gadus macrocephalus), excluding livers and roes
5	0302.65.00	- - Dogfish and other sharks
6	0303.11.00	- - Sockeye salmon (red salmon) (Oncorhynchus nerka)
7	0303.19.00	- - Other
8	0303.21.00	- - Trout (Salmo trutta, Oncorhynchus mykiss, Oncorhynchus clarki, Oncorhynchus aquabonita, Oncorhynchus gilae, Oncorhynchus apache and Oncorhynchus chrysogaster)
9	0303.22.00	- - Atlantic salmon (Salmo salar) and Danube salmon (Hucho hucho)
10	0303.29.00	- - Other
11	0303.45.00	- - Bluefin tunas (Thunnus thynnus)
12	0303.46.00	- - Southern bluefin tunas (Thunnus maccoyii)
13	0303.60.00	- Cod (Gadus morhua, Gadus ogac, Gadus macrocephalus), excluding livers and roes
14	0303.78.00	- - Hake (Merluccius spp. Urophycis spp.)
15	0303.80.10	- - Livers
16	0303.80.20	- - Roes
17	0307.31.10	- - - Live
18	0307.39.10	- - - Frozen
19	0307.39.20	- - - Dried, salted or in brine
20	0307.99.20	- - - Beche-de-mer (trepang), dried, salted or in brine
21	1604.20.10	- - Sharks' fins, prepared and ready for use
22	1604.30.10	- - In airtight containers
23	1604.30.90	- - Other

Philippines		
No.	**AHTN**	**Description**
1	0301.99.11	- - - - For breeding
2	0301.99.19	- - - - Other
3	0301.99.21	- - - - For breeding
4	0301.99.30	- - - Other marine fish
5	0303.43.00	- - Skipjack or stripe-bellied bonito
6	0303.44.00	- - Bigeye tunas (Thunnus obesus)
7	0303.45.00	- - Bluefin tunas (Thunnus thynnus)
8	0303.49.00	- - Other
9	0304.20.00	- Frozen fillets
10	0304.90.00	- Other
11	0305.69.00	- - Other
12	1604.11.10	- - - In airtight containers
13	1604.11.90	- - - Other
14	1605.20.10	- - Shrimps paste
Thailand		
No.	**No.**	**No.**
1	0301.99.29	- - - - Other
2	0301.99.40	- - - Other freshwater fish
3	0302.29.00	- - Other
4	0302.64.00	- - Mackerel (Scomber scombrus, Scomber australasicus, Scomber japonicus)
5	0302.69.10	- - - Marine fish
6	0302.69.20	- - - Freshwater fish
7	0303.74.00	- - Mackerel (Scomber scombrus, Scomber australasicus, Scomber japonicus)
8	0303.77.00	- - Sea bass (Dicentrarchus labrax, Dicentrarchus punctatus)
9	0303.79.10	- - - Marine fish
10	0303.79.20	- - - Freshwater fish
11	0304.10.00	- Fresh or chilled
12	0304.20.00	- Frozen fillets
13	0304.90.00	- Other
14	0305.49.00	- - Other
15	0305.59.10	- - - Sharks' fins
16	0305.59.90	- - - Other
17	0305.69.00	- - Other
18	0306.13.00	- - Shrimps and prawns
19	0306.23.20	- - - Other, live
20	0306.23.30	- - - Fresh or chilled
21	0306.23.40	- - - Dried
22	0306.23.90	- - - Other
23	1604.20.10	- - Sharks' fins, prepared and ready for use
24	1605.20.10	- - Shrimps paste
25	1605.20.90	- - Other
26	1605.90.90	- - Other

Source: ASEAN Secretariat website