



ASIA



# WOMEN IN FISHERIES IN ASIA

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## Abstract

This paper begins with a review of the cultural and political background of selected Asian countries (Bangladesh, Cambodia, Kuwait, India, Indonesia, Iran, Japan, the Lao PDR, Malaysia, Nepal, Philippines, Saudi Arabia, Sri Lanka, Thailand and Vietnam). The focus of the paper is on the importance of the fisheries industry in these economies and the involvement of women in the fisheries industry. Women in most of these countries do not enjoy the basic human rights that their male counterparts enjoy. Issues pertaining to gender inequality in the fisheries sector, and solutions to overcome some of these issues are also discussed.

## Introduction

The degree of participation of women in the fisheries sector is an overall reflection of the cultures, the laws of the country and the priority given by the state to ensure gender equity. Generally, women in Asia, especially those from depressed fisheries households, participate actively in many fisheries activities, including aquaculture. However, the lower status accorded to women in many Asian societies means that their contribution to fisheries is undervalued and unrecognized.

This paper examines the situation and prospects of women in fisheries in selected countries in the Asia Region. Although a more complete inclusion of the Asian countries would have been ideal, the non-availability for this engagement of colleagues in non-included countries did not make this possible. Therefore the snapshots on women in fisheries will cover: the Mekong Region which includes Cambodia, the Lao PDR, Thailand and Vietnam; the Islamic countries of Indonesia, Malaysia, Saudi Arabia, Kuwait, Iran; and South Asia which includes India, Bangladesh, Sri Lanka, Nepal; the Philippines; and Japan.

## Background on the Countries Selected for Asia

### Mekong Region

**Cambodia:** Cambodia has a population of 12 million. The population growth rate is 3%. The economy and political stability are improving year by year. Cambodia was recently invited to join ASEAN.

**Lao PDR:** The Lao PDR is a small land-locked country that is bordered by Cambodia, China, Myanmar, Thailand and Vietnam. Out of a population of 4.5 million, 80% live in the countryside. There are three main ethnic groups: Lowland Lao people, Midland Lao and Highland Lao. Within these three large groups are 68 distinct groups. Geographically the Lao PDR is very mountainous and only about 4% of its land is suitable for wetland rice production.

**Thailand:** Thailand has a population of 63 million, with a very low birth rate. It is still recovering from the economic crisis of July 1997.

**Vietnam:** This country has a population of approximately 81 million with about half under 25 years of age. Females make up more than half of the population. The population growth rate is 1.5%.

### Islamic Countries

**Indonesia:** Indonesia is the world's largest archipelago, with a land area of 1,904,000 sq km. It comprises approximately 17,500 islands and has a coastline of approximately 82,600 km. Indonesia has a population of 216 million, comprising 365 ethnic and tribal groups. The population consists of 87% Muslims, 9% Christians and 2% Hindus.

**Malaysia:** Malaysia has a land area of 328,550 sq km and a total coastline of 4,675 km. Malaysia has an estimated population of 22 million, consisting of different ethnic groups, mainly the Malays and other indigenous groups (58%), Chinese (27%), Indian (8%) and others (7%). Around 6.8% (1997 estimate) of its population lives below the poverty line.

**Iran:** Iran is an Islamic country with an area of 1,648,000 sq km. It has a population of 66 million, with 89% professing to be Shi'ite Muslim, 10% Sunni Muslim, and the remaining 1% comprising Zoroastrian, Jewish, Christian and those professing the Baha'i faith. Iran's economy relies predominantly on its oil revenue and it holds 9% of the world's crude oil reserves, and is the second largest oil producer in the Organization of Petroleum Exporting Countries (OPEC). The Iranian economy continues to face budgetary pressures and growing problems of a young population faced with high levels of unemployment.

**Kuwait:** Kuwait is an oil-rich country with an area of 17,818 sq km. Its territorial waters include nine islands and a coastline that is 290 km long. It has a population of 1,817,000 (1995 estimate). The

population is predominantly Arab and Sunni Muslims and is the only Arab Gulf state with an elected parliament. Before the Iraqi invasion in August 1990, less than 40% of the population and less than 20% of the workforce were Kuwaitis. After the Gulf War, plans were taken to ensure that Kuwaitis remain a majority in their country and by 1992, the population had fallen to less than half its number in August 1990. The economy of Kuwait is based almost exclusively on oil, and ranks third in the Middle East in proven oil reserves. In per-capita terms, Kuwait has one of the highest incomes in the world.

Saudi Arabia: Saudi Arabia occupies an estimated area of 2,331,000 sq km and is the largest country in the Middle East. It has a population of 22.7 million (2001 estimate) comprising 90% Arabs and 10% Afro-Asians. Saudi Arabia's economy is heavily dependent on oil, and is the world's largest oil producer, possessing one-fourth of the world's oil reserves. It has an estimated 7.2 million foreign workers in the country and is attempting to reduce this dependence by the introduction of the "saudization" policy, which aims to replace at least 60% of the foreign workers in the near future.

## South Asia Region

The South Asian Region is an area that enjoys similarity in heritage and many of the countries were former British colonies.

India: India has a land area of 3.29 million sq km and a coastline of 8,111 km. The total population is estimated to be 1,002.1 million and more than one million people are engaged in fishing either on a full or part-time basis. The literacy rate is 62.4% and it is a country where several religions are widely practised - Hinduism, Islam, Christianity, Buddhism, Jainism, etc. Fisheries contribute up to 1.3% of the total Gross Domestic Product (GDP) and 4.6% of the agriculture GDP.

Nepal: Nepal is a landlocked country situated in between two big countries China and India. It covers an area of 147,181 sq km and bears a population of 23.9 million of which women represent over 50%. It is an agricultural country where 94% of the population is engaged in agriculture to derive about two-thirds of the GDP and 80% of commodities. About 90% of the economically active female population is engaged in the agriculture sector. The literacy rate is 27%. Hinduism is widely practiced followed by Buddhism, Islam, etc.

Bangladesh: Bangladesh, with an area of 148,393 sq km, has a population of about 128 million. The literacy rate is 38% and the majority of the population is dependent on agriculture. Islam, Hinduism, and Christianity are the prevailing religions. Fisheries contributes more than 4% of the GDP and it is considered to be an important food source for the entire population.

Sri Lanka: Sri Lanka, with an area of 65,610 sq km, has a population of about 19.2 million. Buddhism is widely practised followed by Hinduism, Christianity, Islam, etc. With a coastline of 1,800 km, fisheries is a livelihood for many in the population and it contributes to about 2% of the GDP.

Pakistan: Pakistan, with an area of 96,095 sq km, has the highest population density with 150.6 million people. Islam is the state religion. The literacy rate is 38%. The southern part of the country is surrounded by the Arabian Sea. Fisheries potential in the country is yet to be harnessed.

## Philippines

Philippines: The Philippines is an archipelagic country of 7,100 islands with a land area of 300,000 sq km and a coastline of 17,460 km. It has a population of approximately 78 million. The population is predominantly Catholic (85%). The average simple literacy rate is 93% (1990).

## Japan

Japan: Japan has a population of 127.29 million (October 2001) with a land area of 377,863 sq km, and a coastline of 34,951 km. Fisheries contributes only 0.2% (2000) of the GDP.

**Table 1: Selected Features of Countries Surveyed**

| Country      | Population (Million) | Land Area (Km <sup>2</sup> ) | Coastline (Km) | Fisheries Contribution To GDP (%) | Fish Consumption (Kg/Yr) | Population Employed In Fisheries (M) |
|--------------|----------------------|------------------------------|----------------|-----------------------------------|--------------------------|--------------------------------------|
| Cambodia     | 12                   | 181,036                      | 435            | 7                                 | 20                       | 2.3                                  |
| Laos         | 4.5                  | 236,800                      | landlocked     | 2                                 | 8                        | na                                   |
| Thailand     | 63                   | 513,115                      | 2,614          | 2                                 | 32.7                     | na                                   |
| Vietnam      | 81                   | 329,556                      | 3,200          | 3                                 | 8                        | 3.4                                  |
| Indonesia    | 216                  | 1,904,000                    | 82,600         | 2.4                               | 17.9                     | 1.8                                  |
| Malaysia     | 22                   | 328,550                      | 4,675          | 1.62                              | 55.7                     | 1.536                                |
| Iran         | 66                   | 1,648,000                    | 3180           |                                   | 5                        | na                                   |
| Kuwait       | 1.8 (1995)           | 17,818                       | 499            | na                                | 12.5                     | na                                   |
| Saudi Arabia | 227                  | 2,331,000                    | 2640           | na                                | 6.5                      | na                                   |
| India        | 1000                 | 3,275,198                    | 8,111          |                                   |                          |                                      |
| Bangladesh   | 113                  | 142,776                      |                |                                   |                          |                                      |
| Nepal        |                      | 140,797                      |                |                                   |                          |                                      |
| Sri Lanka    |                      | 66,000                       | 1,561          | 2.8                               |                          |                                      |
| Philippines  | 68.614               | 300,000                      | 17,460         | 3.7                               |                          | 806,927                              |
| Japan        | 127.29               | 377,863                      | 34,591         | 0.2                               | 69                       | 277,042                              |
| China        |                      |                              |                | na                                |                          |                                      |

## Situation of Women in Fisheries

### The Mekong Region

Women participate in almost all activities in the fisheries sector including the construction of fishing gears, fish sorting, fish handling, and fish processing. Some women participate directly in fishing activities with their family members in lakes, rivers and streams. Fish selling is almost exclusively the domain of women. However, despite their pervasive involvement, women's invaluable contribution is often overlooked and undocumented, such that women do not benefit from adequate working conditions, facilities, training and access to information. Many of the landless women in the Mekong Region are the "poorest of the poor" in fisheries.

**Cambodia:** Women comprise more than half of the 12 million people in Cambodia. The fisheries sector plays an important role in the alleviation of poverty, achievement of food security and enhancement of economic growth. Inland fisheries in Cambodia contributes over 7% of the national GDP (where previously this was only 3%).

Women constitute an important workforce in fisheries and contribute to the sustainable use and management of fishery resources. They play a larger role than men in aquaculture, although a lesser role in capture fisheries. They play a primary role in fish processing and marketing, which generate income for family maintenance.

To sustain the utilization of fisheries resources, the Government decided on the reduction in the area and number of fishing lots. Co-management, under the leadership of the Mekong River Commission (MRC) Fisheries Programme, is well accepted by both men and women.

The number of highly educated females is far below that of males. Cambodian women have limited education and lack basic skills. They receive minimal assistance in terms of training and extension services compared to their contribution to the country's overall fish production, processing and marketing potential. Moreover, it is a well-recognized fact that information on women in fisheries in the country is limited and unreliable.

Lao PDR: Fisheries production constitutes 3% of the Lao GDP; it is estimated that women contribute one half of this figure. In both capture fisheries and aquaculture, women participate in all the related activities, e.g. fishing, culture, harvesting, post-harvesting, marketing and fish processing. Traditionally, the Laotians catch fish from rivers throughout the country. This is more concentrated in the southern provinces where full-time fishers predominate. In both the north and south of the Lao PDR, many people supplement their living through fishing activities. This augments both their food intake and income earnings.

In the Lao tradition of fishing, both men and women have clear roles, although there can be overlap. For example, in capture fisheries, men primarily make nets and catch fish. Women repair nets and catch fish. Lao women process the fish for preservation, eating and for selling at the markets.

In 1999-2000, there were 13 fish processing training courses for fishers in Vientiane Province and Vientiane Municipality. Of a total of 264 participants, 80% were women. The Lao Government supplied materials and equipment to improve household fish processing activities in villages near the Nam Ngum reservoir. More than 50% of the population in this area are women engaged in fisheries and fish culture activities.

The Department of Livestock and Fisheries promotes aquaculture. The Food and Agriculture Organization (FAO) of the United Nations, United Nations Development Programme (UNDP) and the MRC Fisheries Programme support extension and research in fish aquaculture, especially for silver carp, common carp, grass carp, tilapia and Indian carp. Women's involvement in fisheries and aquaculture activities include pond cleaning, fertilising, feeding the fish, fish capture, fish selling, etc. They also cook and preserve fish for domestic purposes. Women are included as team members in the Department of Livestock and Fisheries, which conducts laboratory research on artificial breeding of fish, spawning and fry nursery. Women clearly dominate specific activities in aquaculture and post-harvest technology and they can play a major role in extension services.

With the assistance of the MRC Fisheries Programme, the Government established the Lao Women in Fisheries (LWIF) Network in October 1999. Although a number of problems related to both social and technical issues are encountered by women involved in fisheries activities, there is a lack of appropriate programs to meet the needs of women and their families. Like Cambodia, the Lao PDR lacks the information and technology to improve traditional practices that can add value to fish products.

Thailand: Fisheries is important for food security and represents a major development sector in Thailand. The sector is significant as a source of animal protein for most rural people, generating income and employment, and providing a major source of livelihood especially in rural communities.

Fisheries production has increased from about 1.9 million tonnes in 1981 to 3.5 million tonnes in 1996. This growth is attributed to the rapid development of technology, especially in both brackish and freshwater aquaculture. Yet, despite the growth of the sector and its significant contribution to the national economy, there is little knowledge and information about the fisher population of which about half are women. Up to now, there is no clear policy direction on promoting women in the fisheries sector in Thailand.

Owing to the paucity of research in this area, awareness of women's activities in fisheries is lacking. There is only some recent recognition that women as well as men are key players in the success of fisheries management and production. In October 2001, the Department of Fisheries agreed to serve as the focal point of the Thai National Women in Fisheries (TWIF) Network in Thailand. It paved the way for the Department of Fisheries to empower women at both organisational and operational levels with support from other concerned agencies in Thailand.

Vietnam: Fisheries constitutes one of the most important economic sectors in Vietnam, contributing significantly to the export turnover of the country and supplying the main protein nutrition for the population. Over 3.4 million people are involved in capture fisheries, fish farming, transporting, processing, distributing and marketing of fish and fishery products. More than half are females living in rural areas and coastal fishing villages.

The Vietnamese Women in Fisheries (VWIF) Network established in March 1999, is operating under the guidance of the Committee for the Advancement of Women in Fisheries. It is an integral component of the Network for Women and Gender in Fisheries Development in the Mekong Region. In its first meeting in Hanoi, the VWIF agreed to gather baseline data pertinent to female labor in fisheries and socioeconomic conditions of these women, work conditions, and to develop special projects to improve post-harvest technology to add value to fishery products and improve the natural resources. Recently, the national network members participated in the study on gender and seafood processing industry. Research teams interviewed some of the managers and workers (male and female) of 19 fish processing factories and four landing sites according to a set questionnaire prepared by the research team. The network likewise carried out a study on the hygiene and safety conditions of laborers in the seafood industry, where the majority of the workers (84 %) are female.

## Islamic Countries

Presently, the degree of women's rights, gender equality and job preferences in the Islamic countries vary. In countries which practice very conservative Islamic religion, for example in Saudi Arabia and Iran, women do not have rights to make all decisions regarding personal choices and careers, which are often largely decided by the State and its interpretation of religion. In countries where women are required to be veiled, the more physical aspects of fishing and aquaculture may not be suitable for women, but they may contribute in other ways, such as providing ideas and thoughts on fisheries issues. In the more liberal Islamic societies such as Malaysia and Indonesia, women generally have more career choices. Moreover, gender equality is also protected by the State.

Indonesia and Malaysia: Fisheries production (see Table 2) is considerable in Indonesia and Malaysia, contributing 2.4% and 1.62 % to the GDP (2001) respectively. In Indonesia, an estimated 1.8 million people are employed as fishers with 100-200 thousand workers involved in fish processing (Indonesian Fisheries Statistics 1996). In Malaysia, of a labor force of 9.6 million, 16% are employed in the fisheries sector, attesting to the importance of fisheries production.

Both Indonesia and Malaysia are net exporters of fish. Indonesia ranked fourth in terms of world aquaculture (fish, crustaceans and molluscs) production for 1998 and 1999 while Malaysia ranked eighteenth. The fish consumption pattern in these countries also reflects a higher consumption from the two South East Asian countries. Per caput consumption (kg/year: average from 1995-1997) in Indonesia and Malaysia reported by the Food and Agriculture Organisation (FAO) are relatively higher than the Middle Eastern countries as shown below (FAO 2001c):

- Indonesia: 17.9
- Malaysia: 55.7
- Iran: 5.0
- Kuwait: 12.5
- Saudi Arabia: 6.5

Fish consumption patterns in Indonesia vary with locality and the difference in per caput consumption is attributed to cultural preferences. In the eastern part of the country (Sulawesi, Maluku and Irian Jaya), per caput consumption is about 40 kg/year while per caput consumption in the province of Java is less than 10 kg/year.

Iran, Kuwait, Saudi Arabia: Except for Iran, fisheries production (see Table 2) from the other two countries is not significant. Fisheries contribution to the national GDP in Iran, Kuwait and Saudi Arabia is insignificant, when compared to the contribution of their oil and petroleum industries, which play pivotal roles in their economy. In terms of value, these three countries are net importers of fish and fishery products.

**Table 2. Capture and aquaculture fisheries (fish, crustaceans, molluscs and aquatic plants) production in 1997, 1998 and 1999 for Indonesia, Malaysia, Iran, Kuwait and Saudi Arabia.**

| Country/Year  |      | Capture (mt) | Aquaculture (mt) | Total (mt) |
|---------------|------|--------------|------------------|------------|
| Indonesia:    | 1997 | 3,888,290    | 777,547          | 4,665,837  |
|               | 1998 | 3,683,565    | 669,797          | 4,353,362  |
|               | 1999 | 4,157,250    | 689,640          | 4,846,890  |
| Malaysia:     | 1997 | 1,172,922    | 107,984          | 1,280,906  |
|               | 1998 | 1,149,093    | 133,635          | 1,282,728  |
|               | 1999 | 1,251,768    | 166,974          | 1,418,742  |
| Iran:         | 1997 | 342,287      | 30,279           | 372,566    |
|               | 1998 | 243,800      | 33,237           | 277,037    |
|               | 1999 | 387,200      | 31,800           | 419,000    |
| Kuwait:       | 1997 | 7,826        | 254              | 8,080      |
|               | 1998 | 7,799        | 250              | 8,049      |
|               | 1999 | 6,271        | 264              | 6,535      |
| Saudi Arabia: | 1997 | 49,314       | 4,690            | 54,004     |
|               | 1998 | 51,329       | 5,101            | 56,430     |
|               | 1999 | 46,897       | 5,052            | 51,949     |

Source: FAO 2001a and 2001b

In Indonesia and Malaysia, women who are involved in small-scale fisheries activities are usually wives or daughters of fishers. In many cases, they work to supplement the family income and in some cases may not receive a wage if it is a home-based family business. Some may help their husbands to market the catch, accompany their husbands out to sea and help to mend nets. Women are often involved in aquaculture, especially if the activity is a small-scale business involving low technical input, with the harvests meant mainly for home consumption or sale to neighbors. In Indonesia, women provide the workforce in seaweed, pearl oyster, shrimp, freshwater and paddy cum fish culture systems. In Malaysia, they often prepare the feed and tend to fish cages or fish/prawn ponds.

In these two South East Asian Islamic countries, as aquaculture becomes more intensified and more commercialized, there is a corresponding decrease in the involvement of women (Felsing et al. 2000). Women generally carry out routine, non-technical activities passed on to them by family members. Many lack the highly technical skills and basic understanding on ecological and biological requirements of the intensive commercial systems; these skills and knowledge are crucial in many cases to the success of commercial farms. Upgrading of skills is frequently made available by extension courses organized by the Government. Training courses, however, are attended mainly by men because most women may have domestic duties, which prevent them from staying away from home for a period of time. There were only 18 women of a total of 952 persons trained at the aquaculture courses on the culture of penaeid prawn, giant freshwater lobster, mussel and fish conducted at the National Prawn Fry Production and Research Centre in Kedah, Malaysia from 1996-2001.

Marketing of fish is also a traditional role of many women from the lower socio-economic group. In Peninsular Malaysia, women in the east coast states especially Kelantan, are more actively involved in the marketing of the catch than women in the west coast. Similarly, in Indonesia, women in some areas are more active than in other areas. In Bali, women are actively involved in fish marketing but this activity is carried out by men in South Sulawesi (Felsing et al. 2000).

Women are also involved in activities such as the traditional processing of dried, salted or smoked fish or in factories involved in fish canning or prawn processing. In Malaysia, more than 80% of the workforce in the canning and prawn processing factories are women working mainly as operators in the processing lines.

The seafood processing industries in Indonesia can be divided into four categories, mainly the traditional, small, medium and commercial scale. The industry is dominated by small and medium scale operations, which are mainly located close to fish landing sites where women are employed as manual workers. These factories produce products such as salted-dried, salted-boiled, smoked, fermented products, fish/shrimp crackers, frozen fish, canned fish and fish meal. While the more traditional fisheries products

are produced by women from fisher households, Heruwati et al. (1998) reported that 80-90% of the young female workforce in the canning and fish meal factories are usually not from fisher households. Modern mechanized fish processing factories, which are highly commercialized usually employ men workers. The female workforce in fisheries-related jobs (such as the canning industry, transportation, shipping and net repairing) has declined in numbers over the last three decades from 48,000 in 1971 to 2,900 in 1980 and 2,200 in 1990 (Indonesian Statistics 1972, 1981, 1992).

A study carried out by Sitorus (1995) among fisher households in Indonesia showed that women are predominantly involved in fish processing and marketing jobs while few of them are involved in capture fisheries (Table 3).

In Malaysia, no census or documentation on the actual numbers of women involved in the various fishing activities has been carried out (Yahaya 2001). General observation shows that, similar to Indonesia, very few Malaysian women are involved in capture fisheries activities (except for those using traditional small gears such as the bintoh for catching crabs, fish traps or bubu for catching fish and some may accompany their husbands out to sea. The majority are involved in post-harvest activities with a smaller number involved in aquaculture.

**Table 3. Percentage of men and women from fisher households in Indonesia participating in various job activities related to fisheries.**

| Activities              | Main Job Male (%) | Main Job Female (%) | Supporting Job Male (%) | Supporting Job Female (%) |
|-------------------------|-------------------|---------------------|-------------------------|---------------------------|
| Freshwater fish culture | 12.2              | 10.1                | 54.5                    | 41.9                      |
| Marine Capture          | 79.6              | 18.1                | 27.6                    | 9.3                       |
| Processing              | 2.7               | 42.3                | 5.7                     | 23.3                      |
| Marketing               | 2.3               | 26.2                | 3.3                     | 16.3                      |
| Others                  | 3.2               | 3.3                 | 8.9                     | 9.3                       |

Source: Sitorus 1995

Coastal fishers in Indonesia and Malaysia practising traditional fisheries rank among the poorest in society. In Malaysia, there has been a surplus of artisanal fishers since the early 1970s and the Government has implemented many schemes to siphon away the excess. Fisheries resources in the coastal zone have dwindled over the years leading to poor catches. Rough seas and frequent breakdown of engines are common reasons for less frequent trips to sea, resulting in lower monthly income. Women's contribution is critical in these families as they provide the needed labor in the family business, supplementing the family income, which in many cases, is below the poverty line. Children of fishers very often lack the interest for education and thus their social mobility is low. Wives and children of trawler owners are, however, a more fortunate lot. The owners of these vessels can normally afford to employ laborers (usually the wives and children of the less fortunate inshore fishers) to sort and clean the fish when the trawlers come home with their catch.

In Indonesia, coastal fishers in Java are ranked poorer than rice farmers and freshwater fish farmers. They often have very poor living conditions without the basic amenities. Similar to Malaysia, social mobility is low and children of fishers normally follow their parents' footsteps, and those from very poor families are forced to work before they attain the legal age to enter the workforce. Dwindling catches have, however, forced some of these children to seek jobs outside the fishing sector. It has been observed that women workers involved in padi planting look for jobs in fisheries-related sector when planting padi became mechanized and new technology was introduced. A study carried out by Upton and Susilowati (1992) showed that there is a positive relationship between the need for women to work and the poverty status of the household. Women from poorer households will have a greater need to shoulder extra responsibilities apart from domestic duties compared to those from more well off families.

Women's involvement in fisheries at the professional level is becoming increasingly important in Malaysia. In the early 1970s, women researchers in the Fisheries Research Institute in Malaysia comprised less

than 10% of the total research workforce. In 2001, the percentage of women researchers has risen to 22%. Professional societies related to fisheries like the Malaysian Society of Marine Science has about 50% women members. The Asian Fisheries Society has 98 Malaysian members of which 18 or 18.3% are women. Enrolment of female to male students in institutions of higher learning in Malaysia stands at 65% to 35%. In the near future, the percentage of female to male fisheries researchers will very likely increase due to the higher percentage of female graduates entering the job market. Officers employed as researchers in the Fisheries Research Institute in Malaysia require only a basic degree, and higher degrees are pursued while the officers are already in employment. To date, none of the female researchers have doctorate degrees as opposed to three male officers who obtained their Ph.D degree while in employment. This could be due to the fact that once a woman is married, plans for academic advancement may be difficult and are no longer a priority to most of them. Culturally, it is her role to manage the house and look after the children. The extra role of managing the family and pursuing a degree can be very demanding. Women still face some obstacles getting into top management positions. No females occupy the top positions (Director-General, Deputy Director General, Heads of Division) in the Department of Fisheries, Malaysia, and only one out of the 14 state fisheries directors' posts (middle management position) is occupied by a woman. Some women occupy middle-level management and technical positions in commercial fish and prawn farms in Malaysia, but their numbers are very small (less than 5%) when compared to men.

Similarly in Indonesia, the top professional and managerial positions are dominated by men. Overall, there are more males than females in the total work population employed in various fisheries research institutions, with men holding 81.4% of the top positions and 68.8% of the middle-level posts (see Table 4). Out of a total of 32 professionals with doctorate degrees, only two are women. Of the 175 Indonesian members of the Asian Fisheries Society, 25 or 14.3% are women.

**Table 4. Total male and female workforce from various institutions involved with fisheries research (rank 1 is the lowest position).**

| Sex    | I (%)     | II (%)     | III (%)    | IV (%)    | Total (%)  |
|--------|-----------|------------|------------|-----------|------------|
| Male   | 94 (100%) | 216 (81.8) | 207 (68.8) | 83 (81.4) | 600 (78.8) |
| Female | 0         | 48 (18.2)  | 94 (31.2)  | 19 (18.6) | 161 (21.2) |
| Total  | 94        | 264        | 301        | 102       | 761        |

Middle Eastern Countries: Iran, Kuwait and Saudi Arabia are three oil-rich countries and the proportion of the abject poor living in Kuwait and Saudi Arabia is probably lower than in Indonesia and Malaysia. Iranian society is strongly structured into three main classes: the wealthy upper class, the middle class and the lower or disinherited class. In this latter class, women may have to work outside the home because of poverty, despite the advocacy by the post-revolutionary Government that ideally women should devote their time to the home and family, and not engage in work outside the home.

Seas bordering these countries include the Red Sea, the North Arabian Sea, northern parts of the Indian Ocean, Gulf of Oman, Caspian Sea and the Arabian Gulf. The Gulf of Oman and the North Arabian Sea have been described to be still under-exploited, except for shrimps (Feidi 2001). Coastal fishers in these areas may still enjoy good catches and income. The North Western Indian Ocean is also rich in invertebrate resources such as cephalopods, bivalves, crabs, sea cucumbers and gastropods, which have poor market demand among the locals who also lack the knowledge on processing and marketing these products for exports. Species exploited are limited and include the cephalopods in the Arabian Gulf and a seasonal exploitation of the pearl oyster in the Iranian coast. In many countries, invertebrates are normally harvested by women with their bare hands or with the use of small traditional gears. Women's involvement in the collection and processing of these invertebrates would be very insignificant in Kuwait and Saudi Arabia since these resources are not exploited to any significant extent. Aquaculture, where women's involvement is common, is an emerging industry in Kuwait and Saudi Arabia. Owing to the scarcity of fresh water, there is little scope for freshwater fish culture, but there are plans by the Government of both these countries to encourage research in mariculture and to transfer new technology to the locals.

A growing number of species are being successfully bred and cultured in Kuwait, although commercial aquaculture production is still very small totaling only 264 mt in 1999 (FAO 2001b). Saudi Arabia, on the other hand, has made steady progress in shrimp culture.

The authors are unaware of any documented works describing the involvement of women in fisheries in Iran, Kuwait and Saudi Arabia. Kuwait and Iran, which has a Gender Empowerment Measure (GEM) ranking of 75 and 87 respectively, have a substantial number of its women (36.8% and 32.6% respectively) who are professional and technical workers. It is likely that some of these professionals may work as fisheries scientists and managers. Out of the total of seven Iranians in the Asian Fisheries Society (AFS), two are women. Kuwait has nine members, but only one is a female but of Filipino nationality. All the 25 members from Saudi Arabia are men.

Kuwait and Saudi Arabia are relatively rich nations and rely heavily on foreign labor. It is unlikely that there is a significant population of economically depressed fishers where their wives and daughters have to work alongside them to supplement the much-needed family income like in Indonesia and Malaysia. Women in Saudi Arabia moreover have very little personal freedom and are not allowed to work outside their homes. Iran has quite a substantial production from freshwater aquaculture and women from the lower class participate in activities related to freshwater aquaculture and fish trading if forced by necessity. Better educated women work as teachers and researchers in fisheries-related fields. Women's movements in Iran are becoming increasingly more vocal in advocating for more personal freedom among women and the right to work outside their homes, as in the pre-revolutionary days.

## South Asia

In countries like India and Bangladesh, fish is often a secondary source of food. Under such circumstances, fishing communities are a marginalized group occupying a lower priority in state policies relating to food. The priority given to fisheries in state policy is further attenuated when it comes to women. Their role in the fisheries sector is invisible, with their labor going unrecorded in the computation of work participation rates.

The fisheries sector has seen significant change over the last couple of decades in the South Asian region. State policy has been directed at increasing exploitation of fish resources through the use of large mechanised craft and gear combinations, leading to the centralisation of fisheries and the absence of state policing of mechanised fishing activities in inshore waters. This has resulted in the marginalisation of traditional fishing communities who either sell their labor in fishing vessels owned by others or move to non-fishing related occupations. The mechanisation of fisheries has in no small measure been encouraged by Government subsidies that distort the capital and operating costs of adopting such methods. Sri Lanka adopted this strategy in the early 90s while India and Bangladesh in the late 80s and early 90s respectively. Each of these countries has been facing reduced fish catch and longer voyages to fishing grounds as a consequence of existing policies. As men from the fishing communities in the region moved from being producers to laborers, women also began to be displaced from their traditional occupations as post-harvest workers and processors.

**Women in Fish Production:** Women's role in fishing communities in the countries of India, Sri Lanka and Bangladesh is mostly related to fish processing and fresh fish marketing at a small scale. Anthropological studies of fishing communities along the Kanyakumari coast of Southern India relate how fishing communities have evolved systems of keeping women away from the primary occupation of fishing by various social conditioning systems. This has deprived them of knowledge with respect to fishing technology. In parts of India and Bangladesh, where women are involved in fishing, it is only through activities such as shrimp seed and fish fry collection. In Sri Lanka and India, women's participation in fishing as an activity only forms part of community fisheries in coastal villages where they use shore/beach seines. Over the years, the use of these shore/beach seines has also been on the decline. A study done by UBINIG Policy Research for Development Alternatives in Bangladesh found that even in such a condition, it is only women from the poorest families who get involved as fry collectors.

Women in Bangladesh play a significant role in the small-scale fisheries sector. About 30% of women in rural and coastal areas are directly or indirectly engaged in small-scale fisheries. Of the total employed in the fisheries sector, about 10-12% are women. The major areas of women's involvement are aquaculture, shrimp culture, fish processing, net, gear and craft making. Though women in Bangladesh, similar to their counterparts in the region, are not involved in active fishing from the sea, they participate in certain forms of fishery as a family along with the men. This is usually seen in the estuarine areas where set bag nets are employed for fishing. However, a study of the set bag net fishing communities also revealed that though women work as a family in the set bag net fishery, their work remains largely unrecorded. In any case, set bag net fishery as an occupation is very low paying and most fishers involved supplement it with other occupations.

In the case of Nepal, the domestic production of fish is largely from capture fisheries (52.64%) and aquaculture (47.35%). Government policies encourage women's involvement in fisheries. Capture fishery in rivers, lakes and reservoirs, paddy fields and marginal lands and swamps are widely scattered throughout the country and is not organized. Most of the fishers involved in capture fishery are widely dispersed along rivers and other water bodies. They use mostly their traditional boats and fishing gears and thus generate only marginal economic benefits.

Traditionally, rural women are involved either in fishing or fishing-related activities. To enhance fish production, a number of inland water bodies, e.g. lakes, reservoirs and swamps have been stocked with selected species of indigenous as well as exotic carps in collaboration with local fisher communities. In these inland water bodies, women are actively involved in mending nets, laying out the fishing gears, harvesting and marketing of the catch. Women farmers participate in various fields of inland fisheries as shown in Table 5.

**Table 5. Participation of Women Farmers in Inland Fisheries.**

|           | Descriptions                             | Participating Farmers (No.) |                            |
|-----------|--|-----------------------------|----------------------------|
|           |  | Total                       | Women                      |
| <b>A.</b> | <b>Fisheries Programs</b>                |                             |                            |
| 1.        | Rearing in Ponds                         | 35,000                      | 14,000                     |
| 2.        | Rearing in Paddy field                   | 400                         | 160                        |
| 3.        | Cage Culture                             | 400                         | 160                        |
| 4.        | In enclosure                             | 40                          | 16                         |
| 5.        | Rearing in Other Water Bodies            | 400                         | 160                        |
| 6.        | Fish Farmers using Improved Varieties    | 500                         | 200                        |
|           | <b>Sub - Total</b>                       | <b>36,740</b>               | <b>14,696</b>              |
| <b>B.</b> | <b>Fisheries in Natural Water Bodies</b> |                             |                            |
| 1.        | Rivers and Lakes                         | 58,600                      | 14,650                     |
| 2.        | Other Water Bodies                       | 10,000                      | 2,500                      |
|           | <b>Sub - Total</b>                       | <b>68,600</b>               | <b>17,150</b>              |
| <b>C.</b> | <b>Others</b>                            |                             |                            |
| 1.        | Seasonal Fishing                         | 8,000                       | 2,000                      |
| 2.        | Storage and Marketing                    | 6,000                       | 1,500                      |
|           | <b>Sub - Total</b>                       | <b>14,000</b>               | <b>3,500</b>               |
|           | <b>Grand Total</b>                       | <b>119,340</b>              | <b>35,346<br/>(29.62%)</b> |

Source: Women Farmer Development Division, Singh Durbar, Kathmandu, Nepal, 1995.

Women of definite communities, e.g. Tharu, Majhi, Mukhiya and others, follow the traditional practice of catching fish with traditional gears in ditches, swamps, canals and paddy fields in small or large groups at their leisure time. The catch is mostly used for domestic consumption and any surplus is sold in local or adjacent markets.

In aquaculture, rural women are deeply involved in manuring fish ponds, feeding fish, harvesting and marketing farm products. In the case of Pakistan the involvement of women in fisheries is negligible.

Women in the fish marketing sector: While fish processing is a female-dominated activity in the South Asian region, marketing of the processed product as well as selling of fresh fish is often seen as undesirable activities, usually a last resort for a poor family.

Retail fish marketing is often best achieved through individual small-scale enterprise. In India, owing to the lack of an established marketing infrastructure and the demand for cheap fish, women have created a niche for processing and marketing fish at very low costs. A study undertaken by the Department for International Development (DFID) Post-Harvest Fisheries Project along the east coast of India, documents the heterogeneity among women who are involved in fresh and processed fish marketing (Post-Harvest Fisheries Project, Department (no year given). The three categories identified are:

- **Head loaders:** These are women who deal in small quantities of low value species, which are sold in inland villages. Their investment levels are the lowest and hence their risk-bearing abilities. Most of these women are young and have taken up this profession because of their social and economic status (they might be widows or destitutes). They often have young children and in a community that has imbibed taboos related to the mobility of women from agrarian communities, they occupy a very low level in the social hierarchy. They are a group of people who have been virtually wiped out of the centralized fishing systems of today.
- **Petty fish traders:** These are women who deal with medium value species and have considerably higher investment capacities and are therefore considered credit worthy by non-institutional credit sources. They often move out of their villages, have access to suburban markets and use the public transport systems. They are usually middle-aged and have grown-up girl children who are able to take care of the household in their absence. This group is struggling and surviving only in areas where they have links to men in the centralized production systems who in turn provide them with some space within it.
- **Dry fish traders:** These are older women who are primarily involved in fish salting and drying in a large scale. Fish for processing is procured during "glut" landings of a particular species and they usually employ family labor (including their own) for processing activities. These women access weekly markets and are usually wholesalers. They enjoy a relatively higher status in the community and their families when compared to their younger counterparts. However, with the increasing use of ice and consequent movement of fish in its fresh form, this group is affected.

While women in the post-harvest fisheries sector in India are more visible in fresh fish trade, their participation in this sector in Sri Lanka and Bangladesh is limited. In Bangladesh, women who are involved in the fresh fish trade are usually old or divorced and almost all of them belong to the Hindu fishing communities. A study undertaken by the Bay of Bengal Programme (BOBP) in 1981 in the Jaldia-Shamipur area of Chittagong showed that of the 114 households dependent on small-scale fishery, 67.5% were very poor with no assets. Of the 62 persons who were engaged in fish marketing in the village, 43 (more than 70%) were women of which 21 (that is 50%) were widows. Another study undertaken in Bangladesh by BOBP indicated that participation in selling of fish is the last option for women as a means of earning an income. Women engage in tasks of fish selling mainly because "female-headed households leave poor women with little options so that these women are forced to engage in whatever work that may be available." (Feldman et al. 1982) The above observations suggest that women's participation in fishery is limited. The first of the above-mentioned studies also documents the problems that are encountered by women engaged in fish marketing. With the centralization of fishing operations, resulting in fewer fish being landed at the village, women walk long distances to the fishing harbor to buy fish and sell it as head loaders from door to door.

On the southern coast of Sri Lanka, women control the money (Sriwardena 2001). Among migrant fishing families, women play an important part in fish sorting, cutting and processing and in

dragging the boats ashore. In the northern and north-western coastal regions and on the east coast, women are engaged in similar activities. In some fishing villages in Puttalam (north-west coast), women are engaged in fishing with beach-seines, while in the same region a few women own beach-seines and boats. Others are involved in wholesale and retail fish marketing. In the fishing communities of Negombo on the west coast, and Chilaw and Kalpitiya on the north-west coast, an estimated 25% of the women are engaged in activities related to fishing, while the percentage for Mannar, Trincomalee and Batticaloa on the east coast is estimated at 75%. It was observed that no woman is engaged in demersal fisheries in Negombo on the west coast. However, women are engaged in fishery-related activities formally or informally. In most instances, marketing and processing are done by women as unpaid family labor. Women are involved in supervising and marketing their catches, especially in areas on the west coast where there is predominant bottom trammel net fishing. On average, about 13 % of the crew members' wives are engaged in income-generating activities but a relatively higher percentage (18%) of boats owners' wives are employed as hired labor in the factories in nearby areas.

The north-western regions of the country such as Mannar, Trincomalee and Batticaloa, which are closer to India culturally see greater involvement of women in fresh fish marketing. These are also the regions where artisanal fisheries still survive. However, in the southern regions of Negombo and Chilaw, women are less involved. These are areas of centralized fishing. The few women (the fish 'mamis' of Sri Lanka as they are known) who are involved do so only on account of the fact that their men are involved in this sector. However, fresh fish marketing of a small and medium scale in Sri Lanka today is only done by cycle traders who are primarily men.

Substantial numbers of vendors are involved in retailing dried fish at the weekly markets known as 'Pola' in Sinhala. Two scales of marketing were observed which varied in volume and species composition, gender, spatial and temporal aspects. This was observed in a study on vendors in Galgamuwa and Anamaduwa of the North-western. The women vendors come from nearby coastal areas to inland areas to sell the smallest dried 'trash' component of their husband's catch, which they process themselves. An alternate strategy adopted by many women vendors involved the purchasing of some or all of their stocks from wholesale traders. For most of the women vendors, this is a part-time occupation, which is highly seasonal.

The role of credit in small-scale fish marketing: While cultural constraints remain one of the reasons for the low participation of women in fish marketing, another major reason is the lack of access to institutional sources of credit. The artisanal fisheries sector has long been exploited by non-institutional sources of credit, which accounts for more than 60% of the credit with the cost of credit varying from 120-800%. The common sources of non-institutional credit in all three countries include: large traders, boat owners, moneylenders and wholesalers. Therefore in a situation where the entire artisanal fisheries sector suffers from poor access to institutional credit sources, women are further marginalized. Women in India deal with it by short-term loans from middlemen and fish traders, which they then invest in buying fish and ice. Other forms of informal credit include pooling together of individual savings and auctioning the interest rate to the person who is willing to pay. This particular method is usually practised in parts of Tamilnadu, Andhra Pradesh and South Orissa. Despite these coping mechanisms, debts of fishing families to moneylenders remain a common phenomenon.

A study undertaken in Bangladesh in the 1980s documents the nature of fish marketing loans. "Fish sellers usually require very short-term, small loans to initiate participation in fish processing. Loans from money lenders are therefore available at daily rates." (Feldman et al. 1982) Women engaged in fish marketing in the region often resort to group loans so as to access a larger amount. The above-mentioned study shows that although the purchase of this group may not significantly increase the daily return to each fish seller, it does however, enable them to purchase better quality fish since they are able to better compete with individual large sellers, and thus reduce their losses or sell their catch more quickly.

The NGO strategies in Bangladesh towards development of women in fisheries have met with more success than those of the Government. One reason is the involvement of women begins with activities

such as savings, credit, etc. which are organized in groups. Women are provided appropriate skills development training before they embark on different schemes such as poultry-rearing, duck-rearing, fisheries etc. Work is integrated in such a way that, besides undertaking different schemes, women are also able to bring in the much-needed nutrition in the family diet. It would be pertinent to note that 95% of the beneficiaries of Grameen initiatives are women. With regard to the fishery program of Caritas Bangladesh, almost 46% are women beneficiaries. This was possible because Caritas Bangladesh very meticulously created a condition that is conducive for women to actively take part. Most extension workers are women, which makes it easier for the beneficiaries to interact. The credit system has been made women-friendly thus ensuring guaranteed access for women to enjoy the benefits of the schemes.

A study done in Sri Lanka by BOBP showed that in the areas surveyed, only 7% of small-scale fishers took institutional loans. It goes on further to document that the large percentage of fisher folk taking credit from non-institutional sources usually did not borrow more than Rs.5000 (approximately US\$ 100), a scale of borrowing which institutional sources often find uneconomical to service.

The above observations highlight the fact that artisanal fisheries in general has not been serviced by the institutionalized credit sources. Most credit institutions have not been able to recognize them well enough to cater to their specific needs. Under such circumstances, the credit needs of women for fish marketing often get ignored. This keeps them dependent on exploitative non-institutional credit sources, which eventually prevent them from making a decent living.

However, with the advent of micro credit movements in the region, small-scale credit for women has become more readily available. In India, NGO interventions have led to the formation of 'self-help groups' with institutional credit linkages. But these interventions are linked to imposed savings and work well only in cases where women are able to generate surplus income. In the case of women petty fish traders, this is a barrier since most of them often reinvest the little profit they make into the business leaving very little surplus that can go into savings. Besides, these groups are not always made up of women who are involved in fish marketing. Therefore their specific needs are often not met when the group wants to start a venture together.

An alternative strategy to tackle the problem of small-scale credit was the approach used by BOBP in Jaldia-Shamipur, Bangladesh, where small interest free amounts were advanced to group members on condition that members would repay on days when they sold fish. Besides this, group loans were also advanced to members for fish processing. This resulted in the entire amount being repaid in 10-16 months.

Although the BOBP initiative did away with savings, it must be noted that the concept of interest-free loans is essentially unsustainable. It must also be noted that micro credit groups through their internal lending make available credit at lower interest rates. What is therefore essential is a combination of both methodologies. While savings build a stake for the borrower in the program, it must be taken into account that the amount and the time given to build the requisite savings should be flexible enough to address the concerns of women involved in fish marketing.

In Nepal, women are encouraged to undertake fish culture through leasing water bodies collectively. Training inputs and seed money are provided by the District Agriculture Development Office under the Special Program on Food Production in Support of Food Security in Nepal (SPIN-SOFO/NEP4501) Project. The income generated from their fisheries activities is recycled into the community in the form of new projects and loans, which are given to group members to start a new income-generating activity. These women's groups have demonstrated tremendous potential in making meaningful, long-lasting contributions to their communities, their families and most importantly, themselves. Presently, these women's groups are in a number of districts and there have been many success stories. One significant success story is from the District Nawalparashi, where more than 40 women's groups were formed. With the experiences gained, these women's groups are not only intensifying fish culture activities but also diversifying their activities beyond fish culture. The participation of women is rapidly increasing. However,

low literacy rate, social discrimination of females and other social and religious limitations in rural areas remain major constraints to women's participation. Therefore, at its early stage of development, the groups need close administrative as well as technical support. Today, 14,596 women farmers or about 40% of the total farmers are involved in aquaculture.

It is important to recognize that credit plays a crucial role in fish marketing activities. To enable the participation of women in this sector, credit should be made easily available at affordable interest rates to better address the needs of women in fish marketing.

**The role of transportation:** One of the problems that has emerged with centralization of fishing has been the increasing distances to landing sites, as village landings have decreased. Women involved in fish marketing today have to travel long distances to buy fish and from there move further out again to sell it. Considering that most fishing villages are often poorly linked by roads, access to public transport becomes a question of primary importance.

Studies done by the DFID Post-Harvest Fisheries Project in the state of Tamilnadu along the East coast of India, document the problems faced by women in accessing public transport. One of the major constraints is the fact that culturally, women with fish are considered unclean and not allowed to travel in the buses. Secondly, there are no adequate bus services that link women to landing centers and markets at the right time. Consequently, women lose out on good quality fish, prices and consumers. NGOs working with fisherwomen have attempted to solve the problem by providing alternative low-cost transportation systems, which are managed and operated by women's groups from the fishing villages. There have also been instances of NGOs helping grassroots organizations of fisherwomen to influence state-run public transport systems to cater to their needs. These are some models that could be replicated. However, that which is essential is strong collaborations between NGOs and the Government with large outreach through state-sponsored interventions complemented by the flexibility of micro-management by women's groups.

**Women and the organized processing sector:** The organized processing sector such as the shrimp processing units, usually employ women as laborers. In Bangladesh, these units are located in Khulna and Chittagong. In India, these are found along the coasts of Veraval, Mangalore, Goa, Mumbai, Calcutta and Bhubaneshwar. Studies done in India show that it is usually migrant women between the age group of 18-25 who are preferred as laborers in these units, which are mostly export-oriented and exploitative. They are usually housed under very unhealthy conditions and made to work 12-15 hours for very low wages, between Rs.500-600 (US\$ 10-12) per month. Besides, this employment is seasonal and carries with it a large number of health hazards. While the large curing sheds along the coasts may not be as exploitative as the shrimp freezing and canning units, they pay very low wages and the working conditions are bad.

## Philippines

The Philippines is a significant fish producer, ranking twelfth among the largest fish producers in the world and the fourth biggest producer of seaweeds and other aquatic plants in 1995 (FAO 1995). The fishing industry contributes 2.3% and 3.7% of total GDP (BFAR 2000), at current and constant prices respectively. Fish is the major source of animal protein in the diet, constituting 12% of total annual food intake.

Estimates from surveys of fishing households indicate that the women have completed on the average 4 to 6 years of education or lower, which is not very different from the men, but lower than the average among women in urban areas (6.9 years). Employment in the fisheries sector in 2000 was reported at 806,929, approximately 5% of the country's labor force. The 1995 census of population reports that 91.7% of those employed in fishing are male and 8.2% are female, proportions that differ from the aggregate rural work force of 70% male and 30% female. The participation rates of women in fisheries appear underestimated when one considers the pervasive presence of women in all types of fisheries.

Unfortunately, census statistics are not gender-disaggregated within the various subsectors of fishing, except for the Annual Survey of Establishments that is limited to enterprises that register with the Securities and Exchange Commission. In this survey, only the industry sub-sector is indicated, e.g. commercial fishing, coastal fishing, fishpond operation, fry gathering, etc. There is no category for post-harvest activities. The proportion of unpaid labor among female workers is 6.8% compared to 2.9% for males.

In most cases, women in fishing communities do not go on fishing expeditions because of the need for them to remain within the premises of the household where their primary responsibilities have been socially assigned. Thus, their role in fish capture is limited to mainly near-shore activities: shell and fry gathering/gleaning, spearfishing in rivers, reef fishing using scoop nets, traps and fish baskets (Villacorta 1998, Lachapelle 1997). Although less common, Israel (1993) has reported on fishing villages in Davao where Muslim women actually go on fishing expeditions with their fisher husbands. In one village in Bantayan Island, Cebu (Sotto et al. 2001), women actively participate in an offshore fishing operation called sapyaw or haul seine. The women participate in the setting, retrieving and mending of the nets. In the organizational structure, the women occupy the two lowest positions in the boat hierarchy and they handle the lightest tasks. Consequently, their share of the catch and their profits are also less compared to the male crew. The chance of a female occupying the highest position of maestro or chief crew is slim because to qualify for this position, one needs to have the necessary skills such as engine repair, which women generally have not been trained to do. Other studies have documented women installing and maintaining stationary gear (Rodriguez 1996) and joining their husbands in hauling nets and lines (Villacorta 1998).

The participation of women before and after fish capture activities has been given little importance, leading to the near invisibility of women as contributors to this sector (Siason 2001). These activities of net-mending, fish sorting on shore, vending, trading and market retailing, preservation, and processing, nevertheless, have significant economic and social value, if given proper valuation. In terms of post-harvest activities, Legaspi (1995) has estimated that 40% of workers are women.

In terms of credit, men are the recognized borrowers by banking and other formal credit institutions, while women transact loans through informal community links such as relatives and neighbors (Siason 2001). This capability to tap informal credit sources comes in handy for meeting household financial emergencies. There is advocacy for the opening up of formal credit to women but there has been no significant response on the part of Government credit and fisheries agencies. In 1990, a FAO/United Nations Population Fund (UNFPA) developmental project used an integrated approach to improve the living conditions in two provinces of small-scale fisher folk, particularly targeting women. The credit component was administered by a Government bank in one province, and a private bank in the other. Villareal (2001) reports that by the end of the project, 13.3 million pesos (US\$ 263,366) were disbursed. The repayment rate was around 83%. The repayment rates were affected by natural calamities (such as the red tide disease that hit the mussel culture project and a major volcanic eruption which affected operations of some women's micro-enterprises), some willful default and misuse of loan proceeds. Around 80% of loans financed fishery-based projects and the repayment schedules ranged from 4-8 months.

Project follow-up showed that with the end of the project in one province the micro-credit facility was not renewed with the private bank. The manager seemed uninterested; the transaction cost was too high for them and the guarantee fund was considered small vis-à-vis their other portfolios. However, the other province's project had been renewed twice by the Government bank. It provided a steady source of capital for the women. Their success has contributed to the growth and eventual federation of some groups into registered cooperatives. Villareal concludes that beyond economic progress, the perceived social gains are considerable: changes in attitudes, skills and knowledge and social relations.

The involvement of professional women in fisheries may be gleaned from data of three institutions. First is the College of Fisheries and Ocean Sciences of the University of the Philippines in the Visayas, a

leading institution for fisheries education in the country. In this college, 35% of its full complement of 174 personnel are female. The faculty is similarly predominantly male (notably so in the Marine Fisheries group where the faculty is 100% male) except at the Institute of Fish Processing Technology where there is only one male among its eight faculty. The researcher and extension staff are mainly female in all institutes except in the Institute of Marine Fisheries. Males also dominate the administrative staff.

The second case is the research division of the Southeast Asian Fisheries Development Center (SEAFDEC) in Iloilo, an aquaculture research center where 48% of total personnel are women. While the positions of scientist are occupied by about 70% females, men are found to dominate the positions of research aide and research technician.

Partial data from the Bureau of Fisheries and Aquatic Resources (BFAR), the line bureau under the Department of Agriculture mandated to promote, manage, coordinate and regulate the national fisheries sector, show that at the central office, 48% of personnel are female. The executive level positions are almost equally occupied by both sexes. At their regional offices, 44% are female. Among the local Government units, 46% of employees assigned to the fisheries are female.

The following table shows the women's participation as members of the Asian Fisheries Society, reflecting basically the involvement of professionals in the fisheries and related sector. Notably, the Philippines has the highest total number of members and the highest percentage of women members at 40.5% compared to other countries in Asia.

**Table 6. Membership in the Asian Fisheries Society by sex.**

| Country           | Male | %     | Female | %    | Total (100%) |
|-------------------|------|-------|--------|------|--------------|
| Bangladesh        | 85   | 93.5  | 6      | 6.5  | 91           |
| Brunei Darussalam | 9    | 64.3  | 5      | 35.7 | 14           |
| Cambodia          | 31   | 81.6  | 7      | 18.4 | 38           |
| China             | 175  | 86.3  | 28     | 13.7 | 203          |
| Hong Kong         | 11   | 73.4  | 4      | 26.6 | 15           |
| Indonesia         | 158  | 94.7  | 9      | 5.3  | 167          |
| Japan             | 184  | 95.4  | 9      | 4.6  | 193          |
| Korea             | 36   | 100.0 | 0      | 0    | 36           |
| Malaysia          | 80   | 81.7  | 18     | 18.3 | 98           |
| Pakistan          | 15   | 88.3  | 2      | 11.7 | 17           |
| Philippines       | 232  | 59.5  | 158    | 40.5 | 390          |
| Singapore         | 55   | 83.4  | 11     | 16.6 | 66           |
| Sri Lanka         | 49   | 83.1  | 10     | 16.9 | 59           |
| Taiwan            | 109  | 93.2  | 8      | 6.8  | 117          |
| Thailand          | 139  | 84.3  | 26     | 15.7 | 165          |
| Vietnam           | 19   | 86.4  | 3      | 13.6 | 22           |

Small-scale aquaculture is almost non-existent in the Philippines (Felsing and Baticados 2001) because most fishers are landless individuals with no access to coastal resources for pond or cage culture. Rather, large-scale fish culture of milkfish and shrimp dominates aquaculture in the Philippines. A review of the aquaculture industry leadership for the last 100 years revealed that men dominated both the public and private sectors (Rabanal 1998). A comprehensive summary of the training and extension programs over the last nine years indicated that more men than women participated in these courses (Felsing and Baticados 2001).

About 18.5% of oyster farmers are women but only 2.4% of mussel growers are women (Siar et al. 1995). This disparity was attributed to the practice of growing oysters in shallow portions of the river, while

mussels are farmed in deep bays. (Yap 1999). Women's activities mostly involve cleaning and packing harvested mussels or shucking and marketing harvested oysters while men's work was in staking, raft or rack construction. Boring and stringing of empty oyster shells for use as clutch in oyster farms involved women and children.

In seaweed farming, women's participation is in planting, processing and marketing of seaweed in Tawitawi (Abdulhasan-Kalil 2000) among *punduhan* or seaweed communities in the Islamic area. Most *punduhan* women have savings accounts and lend money to their husbands, earning for themselves considerable independence and decision-making power in the economic sphere. It is not common for women to actually oversee or serve as caretakers on seaweed farms. (Yap 1999).

In production activities using fish cages or fish pens, women are heavily involved in fry collection, feed preparation, feeding of stocks, and disposal of catch. Despite the presence of women in aquaculture production, it is still perceived as a masculine activity with women being perceived as confined largely to processing and marketing activities.

In the past decade, there has been a marked shift in development strategies in favor of management and sustainability of coastal resources through the involvement of different stakeholders. An examination of the participation of women in recently released documents on coastal resources management reveals that the gender issue has not been reported as a distinct components in the reports, except in an article by Rodriguez (1996) which focuses on women's issues and gender roles in a project site in Panay. In this project, men, women and children were trained in tilapia cage culture, and women were assigned to financial-recording and record keeping. Rodriguez notes the following as significant outcomes of the experience: reinforcement of women's entrepreneurship, training in leadership, appreciation and recognition by men of women as partners at work and at home. Men increasingly assumed some share of household chores.

The Coastal Environment Project in Central Visayas likewise integrated a gender and development component into its coastal management strategy (Depositario 2001). As a result of gender-related interventions, women have gradually assumed the male role in subsistence fishing, farming, entrepreneurial activities, and serving as *barangay tanod* and household representatives in their People's Organization (PO), whenever their husbands and sons were away from the island for several months in a year. Project management noted that women's participation in the training programs have increased to 53% of the total female PO members. Both men and women work side by side in many of the livelihood projects. Women were empowered and made aware of their leadership potential, which they could utilise in managing their POs and communities. Women's increased participation and leadership in their POs are noted as follows: 32.5% of the board of directors; 60.4% committee leaders; 35.5% officers; and 53.6% members. Women also serve as volunteer fish wardens, going out with their male counterparts at night to apprehend violators. As also noted by Rodriguez in the Panay project, among the outcomes of integrating gender concerns into the coastal resource management project are: increase in women's self-assertion, self-worth, aspirations and self-determination, entrepreneurship and career-orientation; community appreciation of gender equality in the community leading to a re-division of labor among the islanders, with more women involved in fishing and more men helping with housework.

The participation of women in fishing activities takes place alongside their non-fishing activities and household responsibilities. Coastal communities engage in a combination of fishing and farming as a way of coping with the seasonal nature of these occupations. Women do housework but are also active in sewing, weaving, running variety stores, selling beauty products and food peddling.

## Japan

Fisheries production in Japan has declined from 11.91 million tonnes in 1989 to 6.63 million tonnes in 1999. On the other hand, imports have increased. The number of fishers has also declined because while the large generation of fishers has aged, the young men do not become fishers. The number of

women fishers has likewise declined. One reason is that young women want to avoid the traditional role of wives of fishers who participate in fishery not by personal choice but because their spouses were already working in some aspect of fishery. Thus, only a few young women choose to marry fishers; young women

in fishery households tend to look elsewhere given the increase of employment opportunities in Japan.

Fishers, by fisheries census definition, are all members of a fisheries household, are over 15 years old and who worked at sea as a private fisher or employed by any fisheries management unit for over 30 days during the year prior to the census. Such fishers numbered 277,042 in 1998. Of this, 16.8% are women.

Among women fishers, the rate of self-employment is 92.5%, compared to 72.6% for men. Generally, women who engage in fisheries mainly work on land as self-employed individuals. Traditionally, women have worked on land because women have the full responsibility of housework and childcare whereas work at sea requires high skill and irregular working time. An exception is the 'Ama' or divers who have deep diving techniques, but the number of Ama is declining.

Work at sea: Although the number of women who work with their husbands have increased due to the decline in the number of young fishers and technological improvement of fishing vessel and gear, the role of women continues to be limited to assisting in near-shore activities. The absence of toilets for women on vessels is one example of the lack of proper working conditions should women choose to work at sea. The taboo against women boarding vessels has undeniably contributed to women's lower status in fishing communities. On the other hand, men have dominant positions in the fishing household because they have the main work in fisheries that determines family work.

Work on land: Women fishers do land-based work such as keeping accounts, processing in seaweed culture, taking of fish from gill nets and providing nets, making baskets for other long-line fishery, and sorting of fish. Many of these involve monotonous manual labor. Technological improvement in women's work on land has been introduced later than those of men's work at sea.

Women in the Fishing Households: The role of women in fishing households can be gleaned from the following practices. In decision-making, it is the men who decide on buying of fishing vessels and gears and on fishing plans. Estate titles and fishing vessel ownership are in the names of men. Women can open saving accounts. Men who are members of the Fisheries Cooperative Association (FCA) can easily obtain modernising funds as loans through the FCA. Most women who are rewarded for their fishery work benefit by reducing tax. Generally women's working time is longer than men's because housework time adds to fishery working time for women. Women do most of the housework, although men sometimes cook the fish.

On the whole, women's status in fishery households is low. Thus, young women prefer to work in other industries, rather than remain in the fishery community where gender relations are difficult to change. Elderly women who have been engaged in fisheries have the burden of caring for their grandchildren. As a result, the status of elderly women has become relatively low in fishery households.

Women in the Fishing Community: Gender relations in a fishery community are affected by the FCA, where membership is dominated by elderly men who represent their respective fishery households, as membership is tied up with ownership of fishing rights. FCAs do not allow multiple memberships from one fishery household. Women and young men are usually not designated as representatives of their households, which explains why few women are involved in decision-making at the FCA. The proportion of women FCA members is 5.9%; 0.2% of the members are female FCA executives. FCA women associations engage in a variety of activities which aim to improve livelihood of fishery households: saving money, promoting environmental issues and fish consumption, morning markets, fish restaurants, and lecture classes on cutting fish. The members are, however, usually volunteers who cannot participate in the management of the FCA and with their increasing age, their physical ability to carry out activities has also declined.

## Legislation Promoting Women and Gender Issues

### Mekong Region

The constitutions of the countries in the Mekong Region provide for all citizens to enjoy equal status and must also abide by the laws governing the respective country. However, the fisheries laws in the countries do not specifically mention females working in the fisheries sector.

Cambodia and the Lao PDR recognize Women's International Day on March 8 as a Public Holiday. Both men and women enjoy a holiday in these countries. However, for Vietnam, only women have a half-day off. Vietnamese men are expected to work the full day on March 8. This day is not a Public Holiday in Thailand.

### Islamic Countries

Indonesia: The Muslims here practise a more liberal form of Islam and women have considerable personal freedom. In fact, Article 27 of the Indonesian Constitution states that all citizens enjoy the same status and must abide by the law without exception.

Malaysia: It is an Islamic country but the different ethnic groups are given religious freedom and can profess other religions such as Buddhism, Taoism, Hinduism, Christianity and Sikhism. Similar to Indonesia, the Muslims in Malaysia generally practise a more moderate and liberal form of Islam, and women here have considerably more personal freedom than those from the conservative Middle Eastern countries.

After the last General Election in 1999, the Ministry for Women and Family Development was created in recognition of the role of women in economic development, and to ensure that issues pertaining to women, children and families are given more focused attention. Article 8(2) of the Federal Constitution has also been amended to include the mention of gender equality and to ensure that the laws and policies of Malaysia do not discriminate against women.

Iran: Prior to the Revolution, which overthrew the Shah of Iran in 1979, three work patterns existed among women. Women belonging to the upper class could work as professionals or undertake voluntary projects. Women in the middle class were allowed to work outside the home if in dire straits. Lower class women frequently worked outside the home because their incomes were needed to support the households. After the Revolution, the group of women who valued the traditional role of women in segregated societies was handed political power. Laws were enacted to restrict the role of women in public life, and required women to abide by the *hejab* or dress code when they appear in public. Women are not allowed to choose their own academic or vocational field of study and are barred from certain employment. The new laws especially affected women from the secularized middle and upper classes, but for the majority of women who had worn the *chador* or veil even before the Revolution, the laws probably had negligible effects.

Kuwait: Voting has been restricted to Kuwaiti males. In May 1999, the Amir issued a decree allowing women the right to vote and to hold public office but Parliament has yet to ratify it. This decree was, however, controversial. Some feminists feared that expanding the number of persons with the right to vote may actually hinder the advancement of women's cause since substantial numbers of conservative women may vote to curtail the freedom that women already enjoyed in Kuwait.

Saudi Arabia: Islam is the official religion in Saudi Arabia and its tenets are enshrined as law, and the practice of other religions is not allowed. The sexes are strictly segregated in public. Women are not given equal educational and job opportunities, although in recent years the situation has improved somewhat.

## South Asia Region

Though Bangladesh has a fisheries sub-sector in its National Plans since 1973, the focus on women has been negligible. It was only since the sixth national plan that the scope was broadened to include fishing communities, which paved the way for the inclusion of women. However, the 1998 National Fisheries Policy does not mention the strategy to improve women's participation in fisheries despite having it as an objective. A notable exception in the South Asian region is the BOBP, an international program addressing gender issues in fisheries in India, Sri Lanka and Bangladesh and integrating women into the fisheries development mainstream.

In Nepal, Government policies encourage women's involvement in fisheries.

## Japan

Initiatives to raise the position of women in fishery and agriculture started in the 1990s. Legislation - basic law for gender-equal society in 1999, basic law on food agriculture and rural area in 2000, basic law on fishery in 2001 - has reinforced these initiatives. The following are major programs in this direction:

1. Increase the numbers of women FCA members
2. Improve the database on women, particularly in statistics on work at sea.
3. Conclude a written agreement on management in family relations wherein sharing of both fishery work and housework among family members, the rewards, holidays, etc., are decided on.
4. Conduct a management seminar for fishery households.
5. Support for entrepreneurship: seminar on laws, risk management, financial management, personnel, etc.; subsidy for initial investment and/or facilities of women's enterprise.

## Philippines

The following are critical legislation that endeavor to improve the position of women in society:

Philippine Fisheries Code (1998) provides for the inclusion of women and youth in developing the municipal fisherfolk; establishing productivity enhancing and market development programs in fishing communities to enable women to engage in economic activities.

Republic Act 7192 (1991) or Women in Development and Nation Building Act recognizes and promotes the integration of women as full and equal partners of men in development, in nation-building and other productive endeavors.

Republic Act 7160 or Local Government Code (1991) - provides for the inclusion of women as sectoral representatives in the local Government unit.

New Family Code (1987), eliminated many of the provisions of the old Civil Code which discriminated against women.

Presidential Decree 633 (1975) - Creation of a National Commission on the Role of Filipino Women.

## Discussion

### Mekong Region

According to the five-year development plans being implemented in the Mekong Region, three priorities are directly related to fisheries: food security, conservation of natural resources and habitats, and

development of fish farming by better integration of fish breeding and raising. The latter includes aquaculture extension, better wetlands management, identifying aquatic resources and improving post-harvest technologies.

Cambodia: With an annual birth rate of 3%, it will not be long before fisheries resources become scarce. The health and welfare of the people will ultimately suffer. In addition, deforestation due to increased logging pressures has resulted in devastating floods over the past few years. Moreover, if strategically placed dams block major fish migration routes, the now abundant but declining and fragile fish stocks will dramatically collapse.

Concerning the limited opportunities for education, research and development for women in fisheries in Cambodia, the number of highly educated females is far below males.

The compilation of information on women in fisheries in Cambodia is one of the most important activities to be undertaken. There is an urgent need to do this work in a comprehensive and systematic manner so that policies can be formulated and projects to alleviate problems can be realized. Information is required to identify these problems and design appropriate programs to meet women's needs. At the moment, well-meaning efforts directed from the capital are done on an *ad hoc* basis with minimal long-term benefits for women in the provinces.

Lao PDR: Since women are involved in all fisheries activities either directly or indirectly, development programs should be designed to meet and address the needs of women in order to improve the aquatic resources development practices.

The Lao Women in Fisheries (LWIF) Network needs to be strengthened in order to cover the entire country and to improve information distribution at all levels or groups of people, especially women, and to carry out its activities effectively.

In research, it is critical to target studies to understand the situation of women in fisheries and aquaculture in an in depth manner. This is to ensure that appropriate policies and technical interventions are put in place to help Lao women cope with future changes.

Thailand: Despite the growth of the fisheries sector and its significant contribution to the national economy in Thailand, there is little knowledge and information about the fisher population, of which about half are women.

According to the 1996 Annual Report of the Thai Department of Fisheries, more than 600 research projects on fisheries had been undertaken. Most of the research projects were oriented towards technology and the environment. Only about 1.3% of the projects approved dealt with socio-economic aspects of the fisher population. Studies related to gender aspects were non-existent. Moreover, until recently, the fisheries statistics and data published were not disaggregated by sex.

The Thai Women in Fisheries (TWIF) Network was restructured in October 2001 and the Department of Fisheries is now the focal point.

Vietnam: The Vietnamese Women in Fisheries (VWIF) Network, established in March 1999, is implementing the following research and development activities:

- a) Gathering baseline data on female labor in fisheries, distribution of women within different economic strata, level of education, special skills, social position of women in fisheries, etc.
- b) Conducting a study on working conditions, income, quality of life indicators, welfare benefits, health care, education, ability of women to find a job in the fisheries sector (related to specific factors such as age, education attained and special skills), etc.
- c) Developing specific projects to improve post-harvest technology to add value to fishery products and improve the natural resources.

Currently, among the major R&D efforts in Vietnam is the study on gender and the seafood processing industry. Members of the National Network participate in this study and the project is supported by international organizations. The study assesses gender issues and the roles played by men and women in seafood processing and handling in Vietnam and will recommend improvements to be taken up in future phases of Seafood Export and Quality Improvement Project. Moreover, in cooperation with the National Institute for Labor Protection (NILP), the VWIF Network carried out a study on the hygiene and safety conditions of laborers in the seafood processing industry, where 84% of the workers are female.

## Islamic Countries

In Malaysia and Indonesia, gender equality is protected by the state. In these two countries, women participate actively in many aspects of fisheries activities, especially in post-harvest and trading activities.

In Malaysia, the Ministry of Women and Family Development is assigned to raise awareness amongst women on their rights and to identify policies and strategies to enable women to contribute effectively to nation building.

The Indonesian and Malay fishers will readily accept their poverty as fate or '*takdir*' - something god-given and beyond their power to change. To uplift the social status of the poor fishers will first require a change of mindset. Extension workers should therefore reach out to the fishers, not only to equip them with new skills but also to convince them that social mobility is possible. It is important to ensure that training is accessible to women so that they can improve their productivity and the quality of their products. Courses should be structured and held in places that will not inconvenience the women in their roles as mothers. Child-care services should be considered in order to attract these women to attend these courses. In short, extension workers should be more sensitive to the problems faced by women and should analyze why so few women attend the courses offered by the Government.

Professional women also face special problems to which men should be more sensitive. Researchers in Malaysia, for example, are sent for higher degree courses after a number of years (5-10 years, and in many cases much longer) being employed in the service. By then, most of them would be married and have started a family and will face some problems to incorporate studies into their domestic duties especially if they have to go overseas for their postgraduate courses. Until such time when men are more willing to share the workload of child rearing with women, and also to give priority to their wife's career before theirs, it is only logical that the Government should be more flexible to women and to allow them to go for further studies earlier in their service when most of them would not have started a family.

The Government must also collect statistics for the purpose of identifying gender issues and to provide solutions to these problems. To date, gender issues in fisheries are poorly documented in Malaysia but issues pertaining to women's personal freedom in Iran and other Middle Eastern countries are easily available especially from the Internet.

Although men and women are meant to complement each other in many areas of work, top-management and professional posts should not be confined to the men. The imbalance in this representation in all the five countries studied should be corrected and more women promoted to the top management and professional level. Women will bring with them a different perspective, and together with men, will be able to provide a better understanding of the issues at hand. Hence, greater progress in the fisheries sector could be forged when women are given the opportunity to contribute in all areas of fisheries working together and complementing men to provide opinions and solutions to the challenges facing the fisheries sector.

## South Asia

Statistics with respect to women in fisheries are often aggregated with other pastoral and hunter-gatherer populations, which renders them invisible in official statistics. Very often, they are fitted into generalistic development initiatives, which do not result in addressing their specific needs.

In India, women's role is primarily in the post harvest sector. However, their scale of operation is limited by their low investment and risk-bearing abilities on account of the lack of access to resources like institutional credit, technological innovations like ice boxes and proper storage mechanisms. Inasmuch as their clientele is restricted to the poorer sections of society, women's role in fish processing ensures food security for the poor. Therefore, this calls for policies that will help women access better support in terms of credit and related infrastructure. Although micro credit as a development intervention for women has proved itself in India, in its present state it still does not recognize the differing needs of women in the fishing sector.

In Sri Lanka, there is a need for interventions particularly in improving/upgrading skill levels of women so that they can survive the conditions that push them out of fisheries.

In Bangladesh, there is a need to provide opportunities for women in both fisheries and non-fisheries business and marketing and in developing improved technologies in fish processing. There is a call to increase the number of women extension workers in order to better respond to the needs of women in fisheries. Women should also be made direct beneficiaries of training and extension services related to their economic and social needs and interests.

There is a need to develop appropriate and conducive marketing facilities in areas where women fishers have easy and unhindered access. Credit policy needs to be revamped so that women can have access to such facilities without giving any collateral. It is essential that availability of inputs must be ensured and be made available at places where women can have easy access. Special provision in legislation for women fishers in the lease of common property resources so that the lessee (women) can have the right of ownership over the property. It is important that there is coordination between Ministry of Women and Children Affairs and the Ministry of Fisheries and Livestock, so that both can complement and support each other's initiatives in the field of women's empowerment.

It is also important to bear in mind that traditionally, fishing is an occupation that is restricted to certain sections of society in the region. The caste system in India, confines fishing to certain social caste groups while in the case of Bangladesh, a large proportion of fishers are Hindus who by tradition call themselves "Jolodas" and are part of the caste hierarchy. Thus, fisheries, is different from agriculture in this region as there is a lot of tradition that goes into determination of this activity as an occupation. While there exist social barriers to entry into the traditional fishing sector, these barriers do not exist in centralized fishing, which is seen simply as any other economic enterprise. Consequently, there have been a number of players in this centralized sector who do not belong to the traditional fishing communities of the region. This has significance when it comes to development policies, which talk about moving the "poor artisanal fisherfolk" to other income generation activities. These initiatives tend to look at fisherfolk as just poverty groups ignoring the fact that they have a traditional skill which should be protected by providing a conducive environment for it to be exploited to the maximum.

Another area that is largely ignored in the whole process of addressing the problems of fisher folk is the links between the centralized fishing scene and the small players. Over the period of a few years, women have slowly started building some links into the centralized system of fishing. Thus, initiatives that affect the centralized system have their repercussions in the small-scale fish-marketing sector also. For example, fishing holidays in certain seasons for resource conservation have affected small-scale fish marketing adversely. Small-scale fish vendors find that such days do not afford them a livelihood, as there is no fish for them to buy and sell. These however have only just come to light. There is a need for a systematic study about the dependence of small players in the larger system of centralized fishing.

Thus, in the long run, ensuring food security for the poor, in the South Asian region can be ensured by improving access to it. Access to protein rich food can be ensured only through the artisanal sector, which, unlike the mechanized sector does not carry the problems of increasing depletion of the resource base. These initiatives together with policy support to women by improving their access to markets and storage of fish through provision of ice, will help in keeping fish within the poor person's reach and will result in fulfillment of the individual country's development goals.

## Japan

Issues that need to be addressed with regards to participation of women in fisheries include:

1. Sensitivity to gender issues in fishery is still low among both community and officials and staff who are assigned to improve living conditions and promote programs.
2. The relative attention given to the fishery sector vis-à-vis agriculture is lower and this lopsidedness affects the attention given to the state of women in fishery.
3. Although there is a proposal to increase women's membership in the FCA, women do not feel encouraged because there have been no change in fishery work and income accruing to the women. There is also a need to reconsider the practice of relating fishing rights to the right to speak.
4. There is the need to develop qualitative measures and indicators of program achievement, such as measuring feelings of satisfaction.
5. Programs should not add to the burden of women, thus more sharing of household tasks with men should be promoted, programs to care for older persons and for men and couples should be developed.

The following are major programs in this direction

1. Increase the numbers of women FCA members.
2. Improve the database on women, particularly in statistics on work at sea.
3. Conclude a written agreement on management in family relations wherein sharing of both fishery work and housework among family members, the rewards, holidays, etc., are decided on.
4. Conduct a management seminar on fishery households.
5. Support for entrepreneurship: seminar on laws, risk management, financial management, personnel, etc.; subsidy for initial investment and/or facilities of women's enterprise.

## Philippines

1. Poor access to credit to improve women's capability to profit from their economic activities in the sector. Women can expand the enterprise of processing or marketing their husband's catch, possibly within a cooperative set-up, if they can obtain capitalization loans. The usual credit scheme is intended mainly for the fisher's production activities, such as for gear improvement, fry gathering, crab fattening, which are made available through male-dominated fishers cooperatives.
2. Appropriate technical assistance, training and extension should also be designed to target women in fisheries. Technology which responds to the nature of their task participation in the sector should be developed, e.g. better preservation tools and storage facilities, improved modes of transporting catch that are vended by women.
3. Address issues of further reducing post-harvest losses, improved value adding on fish beyond the traditional drying and salting. As fish processing is perceived as the women's work, their participation in this endeavor is crucial. Women should form the target group for training and support directed at processing, storage, packaging and distribution of fish and management of enterprises.

4. A better information system needs to be put in place to provide timely and accessible data on prices and market trends. This is critical for women who play a significant role in fish marketing. With the use of computer technology, women need not physically move away from home to get this information.
5. Low educational attainment and socio-cultural constraints hamper full participation of women in development activities of the sector. This affects their ability to process, use and access available information.
6. Women's participation in income-generating activities and other development tasks are constrained by the multiple burden of the reproduction roles assigned to them. Unless provisions are made to lighten household responsibilities, such as by more equitable sharing of tasks with the spouse and children, or by providing community child care arrangements, sustained participation of women will not be realized.
7. Sensitivity to gender issues is still low not only within households and within the community but also among extension personnel who work with fishers. Although the concern for gender has entered into the rhetoric of development efforts of both Government and NGOs and of existing legislation, it is still a poorly appreciated issue.
8. There is need of a research program that systematically tackles gender issues and women's participation and integration in fisheries development. Moreover, sex disaggregated databases should be regularly collected to serve as a basis for more effective planning.

## Conclusion

Women are actively involved in many aspects of fisheries, in most of the Asian countries reviewed in this study, except in the Middle East, where women's participation in work outside home is constrained by culture and the state. Fishing, including aquaculture, and their associated downstream activities, like fish processing, are among the most depressed economic activities. Women from poor fisher households are involved in fish processing, aquaculture, small-scale artisanal fishing and fish mongering, but less often in commercial fishing using bigger vessels. Lack of opportunities for women to hold managerial and decision-making posts are apparent, even in the more developed countries, such as Japan and Malaysia. Gender-disaggregated data, which are needed for in-depth gender analysis are largely lacking in most of these countries. It is imperative that such data is collected, and gender research is conducted, so that appropriate interventions and policies changes are implemented, to ensure that women are not left out of mainstream development, and are accorded the basic rights, which all humans are entitled.

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