Introduction

Block 3

Block 3 in the Course MGSE-004 "Gender Issues in Agriculture, Rural Livelihoods and Natural Resource Management" is titled as "Gender and Fisheries". It has three Units. Unit 10 is titled as "Role of women in fisheries" in which author explained Status of women in fisheries sector in various countries. She also examined the role of Women in fisheries sector during harvest structure and Post harvest structure. Not only Marine Fisheries, she also explained Aquaculture, Ancillary Activities, Feminization of agriculture and Migration. Unit 11 is titled as "Access to resources, services and institutions" in which author including women land rights, linkages with extension activities, education and research. The author is given overview of the Access to resources, Access to fishing implements, Access to credit, Access to markets and trade, Access to technology, Access to legal process, Access to education and employment opportunities and Opportunities in improving access to resources. The final unit in this Course as well as in this Block is Unit 12 which is titled as Differences in roles and activities. In this Unit role differences of men and women in Marine fisheries, Inland Fisheries (Ponds, reservoir, rivers, lakes), Aquaculture- Inland Fish framing and role played by the women in Live feed processors, Pond preparation, Feed Preparation, Packing and Transportation, Ornamental fish, Ornamental plant propagation, Extension Services, Mariculture- Coastal and the Women Roles in Fishing in other Countries explained. Finally the author has given the recommendations for research in gender differences in future.

UNIT 10 ROLE OF WOMEN IN FISHERIES

Structure

10.1 Introduction

10.2 Objectives

10.3 Status of women in fisheries sector in various countries

10.4 Women in harvest structure

10.5 Post harvest structure

10.6 Aquaculture

10.10 Ancillary Activities

10.9 Feminization of agriculture

10.9 Migration

10.10 Summing Up

10.11 Glossary

10.12 Answers to check your progress exercise

10.13 Reference

10.14 Questions for reflection and practice

10.1 INTRODUCTION

Fisheries is one of the oldest food producing systems in the world and it still continues to provide food, employment and income to millions of people globally. Fisheries comprise of two broad sectors, capture and culture. In capture fisheries, fishing is carried out in relatively uncontrolled conditions. While culture fisheries can fish of raising various fisher in controlled conditions first lute raising agricultural crops. Fisheries activities can be looked at from two angles - one the actual fishing process or 'harvest' and the second all the activities that precede or succeed the actual fishing activity and can be grouped into 'ancillary' 'and post-harvest' activities. Increasingly fish production is being catered to by the growth of the aquaculture sector.

10.2 OBJECTIVES

After studying this Unit, you would be able

- explain the status of women in fisheries sector;
- examine the role of women in pre harvest and post harvest period; and
- analyze the issues related to feminization of agriculture.

10.3 STATUS OF WOMEN IN FISHERIES SECTOR IN VARIOUS COUNTRIES

Women in various cultures across various countries have been an integral part of the fisheries sector. Just as in agriculture, their roles have been complimentary or even sometimes central to the household food production and income generation. The roles however tend to be defined by social, political, cultural, economic framework of their functioning. Christiansen-Ruffman (2002) points out that the professionalization of the fisheries probably failed to include women partly because of women's lack of participation in policy planning and partly because men had envisioned the future professionalized fishery for men, without women. Highlighting the roles of women in fisheries in different parts of the world FAO (2012) makes the following observations:

- In Bangladesh, women's non-governmental organizations and other entrepreneurs have encouraged women to participate in aquaculture activities.
- In Belize, most workers involved in processing are women from rural communities where unemployment levels are high and poverty is greatest.
- In Cuba, female workers constitute 27% of the aquaculture workforce (19 % are intermediate and higher education technicians; 11% have attended higher education institutions).
- In Estonia, the gender ratio of the aquaculture workforce is 1:1.
- In Israel, the workforce is a skilled one because of the highly technical nature of aquaculture in the country. In a sector where women make up about 95 % of the workforce, most workers have a high school diploma while a high percentage has a degree (Bachelor of Science or Master of Science).
- In Jamaica, about 8–11 % of fish farmers are women who own and operate fish farms; and in processing plants, women dominate the workforce.
- In Malaysia, women account for about 10 % of the total aquaculture workforce, and they are mostly involved in freshwater aquaculture and hatchery operations for marine fish, shrimp and freshwater fish.
- In Panama, 80 % of the workforce in processing plants is women, but in the production sector only 7% of workers are women.
- In Sri Lanka, women constitute 5% of the workforce in shrimp aquaculture and 30 % of those engaged in the production and breeding of ornamental fish

Salz (2006) has observed that women represent 26.45% of the employment in the seafood industry including capture, aquaculture and processing.

According to Holamyard (2013) in the European Union the percentage of women in fisheries related activity in 2012 at 12.6 %. Seafood processing accounted for 65 %, aquaculture for 32 % and fishing for just 3 %. The percentage of total female employment varies from country to country, with France top of the list at 17.7 %, followed by Poland at 14.4 %, U.K. at 14.6 %, Greece at 14.4 % and Spain at 13.6 %. Apart from Latvia at 12 %, women in other EU countries make up less than 10 % of the workforce in the fisheries and aquaculture sector.

'Mainstreaming' means bringing out gender concerns in all aspects of executing policies and programmes from implementation to evaluation so that there is equality in sharing benefits.

UNDP (2008) opined that to maintain economic growth and development it is important to encourage women by empowering them and investing in women competencies. Besides the concerns about equality, gaining equal opportunity and discrimination, some other reasons are:

- Women make significant contributions to fishery related activities other than fishing. They play a major role in processing fish and fishery products, as well as in marketing. Since they form an integral part of the sector ignoring them will be like ignoring a large portion of the sector.
- The opinions and expertise from both men and women are essential for the development and management of the fishery sector.
- The under-representation of women in decision making takes away a large portion of the available pool of expertise — from both the government and the community.
- Studies have shown that having more women in an organisation leads to better cooperation among team members and facilitates the decision-making process (Woolley et al., 2010). This might be because mixed teams of men and women are better than single-sex groups at solving problems and spotting external threats.

While the lack of gender disaggregated data has been a major reason for the relative invisibility of women in fisheries, studies specific to different sectors in fisheries and case studies are available. Generally women are known to play roles that are household related (as caregivers to the family), fisheries related (in marketing, pre-processing and processing and a restricted role in harvest) and in Research & Development.

Women, who constitute approximately half of India's population, play a vital role in the operation of the fisheries and their continuing growth as a component of the agriculture sector of the economy. The contribution of the fisherwomen is observed in a few areas in harvest sector and more predominantly in postharvest activities which includes handling, preservation, processing, and marketing of seafood products, and provides an integral link between producers and consumers.

10.4 WOMEN IN HARVEST SECTOR

It has widely been accepted that fishing is an activity done only by men. But women are involved in fishing activities in various parts of the world. This is usually done as a means to support the family in augmenting its income. Though the presence of women in actual sea fishing is rare, women are involved in harvesting of oysters, sea cucumbers, snails, sea urchins and other sedentary aquatic animals from near shore waters or shallow sea bottoms. Estimates from nine major fish producing countries shows that women comprise 46% of the labour force in small-scale capture fisheries-related activities, including pre- and post-harvesting work (FAO, World Bank, IFAD, 2008).

An FAO study from 86 countries indicates that, in 2008, 5.4 million women worked as fishers and fish farmers in the primary sector and represented 12 % of the total. In two major fish producing countries, China and India, women represented 21 % and 24 %, respectively, of all fishers and fish farmers. Women make up at least 50 % of the workforce in inland fisheries, while as much as 60 % of seafood is marketed by women in Asia and West Africa (Table 1)

Table 10.1 Share of women in fisheries in selected developing and developed countries

Country	Total workforce	Percentage women
Nigeria	6500000	73
India	10316000	72
Cambodia	1624000	57
Ghana	372000	40
Senegal	129000	32
Brazil	493000	30
China	12078000	19
Bangladesh	3253000	5
Mozambique	265000	4

Source: World Bank, FAO, World Fish Centre, 2010

Table 10.2 Share of women in total fisheries work of selected developed countries (case studies)

Country	Total workforce	Percentage women
Japan	864	46
Portugal	20	30
Canada	75	29
Spain	54	29
Netherlands	7	29
Denmark	7	29
United Kingdom	22	28
France	27	26
Italy	33	20
Greece	27	4

Source: World Bank, FAO, World Fish Centre, 2010

SOFIA, 2012 notes that women may comprise up to 30 % of all those employed in fisheries, including primary and secondary activities.

Chapman (1987) showed that the total fishing yield supplied by women fishers is 32% in American Samoa and between 25 and 50% in the Gulf of Papua New Guinea. In Fiji, salt and freshwater clams, which are exclusively harvested and marketed by women, comprise about 48% of the total volume of the 2000 tonnes of invertebrate sales (The Women in Fisheries Network, 2002). Walker (2001) describes the fisherwomen in Ghana in West Africa, who hire crew for their own boats. Women are involved in boat fishing in many countries like Cambodia, the Democratic Republic of Congo, and Thailand and in indigenous fisheries in Latin America.

In India, the role of women in fish harvesting activity is much more visible in inland water bodies. Women use various gear like scoop nets, traps, gill nets, hook and line to harvest fish. The gear is usually primitive and the activity small scale, mainly to support household nutritional requirements. In the North Eastern states, women fish in inland water bodies using a variety of indigenous fishing gear using locally available material like bamboo or cane along with netting material. Women also are part of the family fishing effort using

coracles in Andhra Pradesh and they also migrate to other parts of the country for their livelihood.

A much more predominant activity that can be seen in states like Kerala, Tamil Nadu, Orissa, Andhra Pradesh, West Bengal, Maharashtra etc. is diving and hand picking of clam, beche-de-mer, seaweeds etc. Women diving and collecting sedentary animals is also seen in other countries like Japan, Korea and even in Oman (http://genderaquafish.org/2012/05/01/womens-role-in-sea-cucumber-fisheries/)

In Kerala, the clam pickers dive and remain under water for several minutes searching for clam, which are sedentary animals, and harvest them with primitive hand held scoop nets or directly by hand. These are then placed in pots that are left floating on the surface of the water body. The activity is repeated several times till sufficient quantity is harvested. This is usually then processed at homesteads or taken to the market directly. The collection of several species mentioned earlier also follows a similar pattern. Seaweeds are harvested from the nearshore water. Women are also engaged in harvesting shrimp seed from inter tidal regions in estuaries, that is used for culturing activity, and for crabs in marshes. However none of the harvesting activities are large scale and are comparable to the fish harvesting activities engaged in by the fishermen. Thus the contribution of women engaged in harvesting activities in India is generally small scale, subsistence and family labour oriented.

Check Your Progress Exercise 1

Note: i. Use this space given below to answer the question.

ii. Compare your answer with the one given at the end of this unit

1. Explain the role of women in harvest season in fishing sector

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10.5 POST-HARVEST SECTOR

Women have been more predominant in the post-harvest fisheries sector all over the world. The post-harvest sector includes shore based activities where the harvested fish is landed; marketing; drying; smoking; salting; fermenting; and other seafood industry oriented pre-processing and processing.

Shore/ harbour based activities mainly involves sorting and grading the fish before sale. In traditional fish landing centres, i.e., usually the beaches, women are involved in sorting the catch which is landed from the boats, before it can be marketed. The activity is generally carried out in the open on mats spread out on the beaches or on the sandy beaches itself. Women also collect small and discarded fish from the landing centres for drying purposes. In states like Kerala, a share of the fish caught is kept apart for household purposes and either the fisherman takes it home after work or the fisherwoman collects it at the landing centres. With major fishing activities shifting to harbours as a result of changes that have taken place in the fishing crafts and gear, this role of women has diminished (Gopal *et. al*., (eds). 2012). Traditional landing centres were usually beach based and were near fishing community dwellings. The boats used to be beach landed and were kept on the beaches after fishing trips. But harbours are usually located in far off places that have to be accessed by road involving travel. Over days fishermen usually commute to the harbours in the early hours of the morning as the boats are also anchored there. Women no longer can afford to travel unless they are involved in marketing activities and so sorting activities in harbours have also been taken over by organised male labour.

The most prominent and visible role of women in fisheries is that in marketing. Though women function as auctioneers and wholesalers in landing centres, the majority of auctioneers and wholesalers are still men. Since auctioneers play a major role in financing fishing activities, ability is a deciding factor in women in taking up this role. However women auctioning fish is now being observed in many places. Wholesaling is again credit intensive and requires the ability to arrange for large sums of money, which again is a limiting factor in many women being in the trade. However, in Gujarat and Maharashtra, and the North Eastern states fisherwomen wholesalers are seen and they manage large quantities of fish. The other drawbacks that fisherwomen face are difficulty in transportation, storage, handling bulk quantities, tie-up with middlemen, besides lack of access to credit from

institutional agencies, and this has resulted in fewer women taking up these major marketing functionary roles and remain restricted to retailing smaller quantities of fish.

Their presence in the marketing chain is indispensable in their role as retailers, in designated and undesignated markets or as head load fish marketers. In most fish markets we find women selling fish, and this is the one sight that is common across most states in India, be it Kerala, Tamil Nadu or Karnataka or Maharashtra, Gujarat, West Bengal, Manipur or Assam. About 50-70% of the fisherwomen and their families are dependent on fresh fish marketing and traditional fish processing for their livelihoods in the southern maritime states of Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu (Khader, 2005).

With fish landings shifting to harbours fisherwomen in states like Kerala have formed informal groups to go in hired vehicles to procure fish from harbours. They then return to their places of business, since most of them have designated areas, to carry out their daily sale.

A study by (Gopal and Srinath, 2002) highlights the fact that fisherwomen often have negative impact on their health by being engaged in this profession, due to the head loads they carry or the poor ergonomic sitting posture. 71% of the women were engaged in door-to door selling which affects their health. They also face competition from their male counterparts who use cycle or scooters for vending fish.

Processing activities are taken up to offset fish wastage during glut seasons. Fish has been dried, salted, pickled and stored for centuries. Fish processing is another area where women make significant contributions. A significant number of women either independently process fishmeal by sun-drying methods or work in by-product units. The seafood export sector, which utilizes 6% of the marine catch, also employs large numbers of workers to grade, pack, and freeze seafood products for export. While fresh fish marketing and traditional fish processing remain the preferred activities of fisherwomen in the southern states, vocations in other fish-related activities are also available. In Lakshadweep, particularly Minicoy, the major tuna based fishery products, locally called *masmin, riha,* and *akru,* is handled by women.

Women's role in post-harvest processing, marketing and distribution of fish have also not received the attention it deserves as can be evidenced from various studies (Odulate et al., 2011, Gopal et al., 2009, United States Agency for International Development - Bangladesh). Women generally occupy the lowest rung of workers in seafood factories at the floor level and their work comes under the unskilled category which results in lower pay structures when compared to male workers. Table 3 shows the distribution of workers by category in processing plants.

Table 10.3 Distribution of workers by category in processing plants

S.No	Category	Average number of men workers		Average number of women workers	
		Regular	Contract	Regular	Contract
1	Administrative	14	1	1	0
2	Quality control	5	0	2	0
3	Plant level	10	5	0	0
4	Floor level	13	88	21	153
5	Others	8	8	5	0

Source: (Gopal et al., 2009)

Disparity in earnings is also seen in other countries like in Bangladesh. The percentage of pay that women in Bangladesh get as compared to the male counterparts is given in Table 4.

Table 10.4 Relative earnings of women compared with those of male counterparts

Activity	Percentage
Catching, sorting fry	64
Repairing ponds, undertaking casual agricultural labour	82
Processing plants – packing section	72
Processing plants – cooking/breading section	60

Source: Development & Training Services, Inc. 2006. A pro-poor

analysis of the shrimp sector in Bangladesh_available at http://pdf.usaid.gov/pdf_docs/Pnadl601.pdf

The average annual income of a fisherwoman in the state of Kerala varied from Rs. 18,232 in sorting, Rs. 29,720 in peeling, Rs. 18,000 in value additions, Rs. 23,328 in curing and Rs. 59,760 in vending considering the seasonal employment (CMFRI, 2009), ie, from a minimum of Rs. 1500 to Rs. 4980 per month. The earnings of fisherwomen mostly went into the upkeep of the family and in meeting household expenditure.

Though skill is defined as the ability or talent to perform a task well or better than average, the work done by women comes under the 'unskilled' or 'semiskilled' category as its thought that women do not require formal education for their employment (Salim, 2013).

10.6 AQUACULTURE

Women's roles and extent of participation in aquaculture value chains (fish, shrimp and seaweed farming, crab fattening) seem even higher than in fisheries. This is especially true for Southeast Asia, where women's engagement ranges from 42-80% in Indonesia and Vietnam (Kaing and Ouch, 2002; Williams et al., 2005). In the Tonle Sap Lake in Cambodia, women's participation ranges from around 50 percent in fish culture to 85 percent in buying and selling (ADB, 2007). According to Olufayo (2012), in Nigeria, women play a major role in aquaculture as both labourers and managers of the production process. The author has identified three stages in the aquaculture production with regard to the gender roles of women are considered. They are fishing, processing and marketing. Nigerian women are active not only in fish processing and marketing but also in the non-traditional sectors of aquaculture like fisheries research, education and extension. In West Africa, women are found to be engaged in oyster production and harvesting. They are confined to less costly fishing methods like setting up traps or baskets, diving, building weirs or dams and draining. In some places like Sierra Leone, fishing is left to women as it is not worthy of a man's time (Trottier, 1987). But competency in taking up new aquaculture technologies has not led to the encouragement of females in the aquaculture sector.

Baluyut (1987) has pointed out that women in Asian countries take up production in fish ponds, fish pens, fosh cages adopting extensive, semi-intensive or intensive type of method on a small , medium or large scale farms.In Bangladesh, aquaculture is regarded as male

activity (Rahman et al., 2011). But for the promotion of self-sustaining aquaculture it is essential that women equally participate in aquaculture like any other agriculture production (Haque et al., 2000). Rahman et al. (2011) describes in their study that while comparing the fish production of female and male fish farmers in Bangladesh, trained female fish farmers showed comparatively better fish production levels than their male counterparts. The study also lists ten constraints wich hinder the involvement of women in Bangladesh of which the \major factor was not able to contact directly the fisheries office and also no time to spare from household affairs.

India, in spite of having a huge female population, still doesn't show much female participation in aquaculture. Shaleesha and Stanley (2000) explain the reasons as location of aquaculture sites in remote areas and also several socio-cultural taboos. In India women can be seen engaged in carp breeding and nursery rearing, carp polyculture, catfish breeding, freshwater prawn breeding, ornamental fish breeding, feed preparation, culture of Spirulina and Azolla. Ornamental fish breeding has been a part of women in West Bengal. They started fish breeding in the small corners of their kitchen which later, they expanded to business of their own. Today many women are dependent on the ornamental fish breeding in many states like West Bengal and Kerala.

Women in India are mainly associated with aquaculture through the prosperity of Self-Help-Groups (SHGs). Through SHGs women in small units come together and get engaged in aquaculture activities like breeding, feed preparation etc.. These SHGs are also helpful in promoting savings habit and also provides small and short term loans at lower interests.

10.7 ANCILLARY ACTIVITIES

Women are also other ancillary activities like net making and mending where women are involved. Net making has always been one of the ways of raising the income of women. Most of the women were not trained in net making, but training is given regularly. Sarkar (2009) in his study of Sunderban fishermen has drawn attention that fisherwomen are mainly engaged in dry-fishing, fish-vending, and net-mending. Vijayan and Nayak and Vijayan (1996) mention that in areas like Jaffrabad and Navbandar in Bhavnagar District, women are also engaged in net making which is a supplementary activity and normally takes place only for 4 to 5 months a year. Unlike in other parts of India, the women of Kakdwip of Orissa form groups for mending, joining and stretching large gill-nets. They certainly draw-attention, as

women are not generally found engaged in these tasks in other parts of the country. In other parts, besides weaving the nets, joining and stretching them are usually done by men.

10.8 FEMINISATION OF AGRICULTURE

Women have always performed important roles in agriculture; but their roles have changed. Women comprise, on average, 43% of the agricultural workforce in developing countries, ranging from 20% in Latin America to 50% in East Asia and Sub-Saharan Africa and more than 70% of farm labour in China (Lahiri-Dutt, 2012). A report by UNHRC in 2010 suggests that in the present day, women farmers produce 50% of all food crops. In Asia a pattern can be seen where the contribution is higher by women in poorer areas. In South Asia, women have been estimated to account for, on an average, about 39 per cent of the agricultural workforce. Taking the case of India, the contribution of women to agriculture is more than that of men, but it is not enumerated as the work done by women is always considers as a part of family's subsistence. Women comprise close to 33% of 'cultivators' (a census category, implying farmers with land) and nearly 47% of agricultural labourers in India.

Feminisation of agriculture is a process in which different combinations of a multitude of economic, social and political factors intensify women's contributions to farm labour. Men can be seen migrating to other places for jobs as domestic servants, rickshaw drivers or labourers. It was their women counterparts who were left back in the village to look after the children and care the elders. The deepening agrarian crisis in India, therefore, has a feminine face; only a few of the innumerable women who till these lands actually own them or have financial resources to lease the lands. Married at an early age with little or no education, they have no access to the various schemes that the state government ministries come out with for the improvement of agriculture. Patriarchal culture still dictates behavioural norms and the division of labour on the farm remains sexually-based; for example, women still do not plough the land or cut the jute stalks, although they spend long hours transplanting rice seedlings, threshing the harvested rice and standing in waist-deep, dark-coloured and stinking water, soaking jute stems. They also collect the fodder, feed and care for the cattle, which are generally owned by the absentee household head.

These factors pressurize women from poorer families to take up jobs that were formerly done by men, at very lower wages. These jobs include land preparation, cultivation of crops, spraying pesticides, harvesting, post-harvest processing and marketing of the products. At the

same time, it is not yet clear how much control women have over the remittances. In India women have rarely access to sources of inputs for agriculture like assets, water, electricity etc.. It is this ownership that is the key to the women empowerment.

The Food and Agriculture Organization (FAO) considers that feminisation has serious implications for the producers' economic agency and productivity and farm income. Indeed, if women enjoyed the same access to productive resources as men in the world, farm yield could be raised by 20–30%, thereby increasing the overall agricultural output in developing countries by 2.5 to 4%. Besides increasing women's income, this gain in production could lessen hunger in the world by 12–17%.

In the context of fisheries, the issues are much more complex as fisherwomen are excluded from some of the activities in the sector. Fisherwomen are not largely not directly involved in fish production in the marine sector, but make significant contributions to the culture sector. They are involved in pond preparation, stocking, feeding and harvesting operations along with the men. However, their labour tends to be classified as family labour and thus often goes unrecognised. Ownership of farms is still largely male dominated. Just like in agriculture a focussed shift towards empowering women by creating ownership and providing technical guidance and providing suitable inputs, the production can be further enhanced and their contributions increased considerably.

10.9 MIGRATION

The consequence of trade liberalization and market orientation has influenced the pattern for demand of labourers. Export oriented economic expansion especially in the developing countries have led to the migration of labourers. Since the past 10-15 years the migration pattern has been feminized (Nana, 2002) due to the expansion of industries like garment industries, electronic, IT and chemical industries. Fawcett etc al. (1984) explains three kinds of female migration.

Autonomous migration- Females migrate to urban areas to attain better education or employment to increase their level of social status in the society.

Relay migration- To increase the family income, daughters are sent for domestic works as servants where they are safe in the custody of a mistress. In this type of migration, generally,

after the elder daughter is sent, she is replaced by the second daughter and then third as one by one gets married.

Family migration- The wife prefers to join her husband in the hope of getting some employment in the destination area.

Going through the recent literatures on female migration, it is evident that the female migration is linked to gender specific labour demands in the cities. But with trade liberalization and new economic policies, gender specific labour demand has motivated many young Asian women to join the migration streams in groups or with their families to cash-in the opportunity (Neetha, 2001).

A study by (Shanthi, 2006) shows the magnitude and pattern of internal female migration in India. The study shows that marriage is a dominant factor resulting in the female migration. As most men preferred marrying women with in their closer circles, 60-70% of the migration takes place within the district. 85-90% of the female migration took place within the state. Interstate migration results show that the Haryana and Punjab and Maharashtra tops the list with more than 15% of the migrants from other states. In-migration from other states is the least for Orissa, Bihar and U.P. Women development is so poor in these states that one cannot expect women from other states to enter into these states either on grounds of marriage or employment. The percentage of female migrants from other countries is insignificant. Except for West Bengal which is close to Bangladesh, no other state receives more than one percent of the total women migrants from other countries.

Studies on the migrant women in Goa show that fishing industry and domestic works attract women to Goa. Migrants have come in search of jobs from neighbouring states like Karnataka, Maharashtra, Andhra Pradesh and other backward states like Bihar, Orissa. Though fisherwomen suffer serious discrimination they earn more than domestic workers. Fisherwomen face problems like housing, insecurity of tenancy, hatredness and abuses from local residents. etc. (http:// c.ymcdn.com /sites /www.istr.org /resource /resmgr /Istanbul_abstracts/ISTR2010_0627.pdf). The floor level labour demand of the export oriented Seafood industry processing in India was for a very long time met from in front labour from Kerala. The picture has undergone changes and today women workers are from the states like Karnataka and the North Eastern States. While women in states like Gujarat never worked in processing factories there earlier, this picture has changed and they are now active in the labour force in the sector.

Check Your Progress Exercise 2

Note: i. Use this space given below to answer the question.

ii. Compare your answer with the one given at the end of this unit

1. What are the ancillary activities women are doing in fishing sector?

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10.10 SUMMING UP

In this Unit, we have elaborately seen Status of women in fisheries sector in various countries as well as their status in India. Women play different role in fisheries sector even though women rarely venture into sea. In this Unit we have seen their role in harvest season, Post harvest structure. We have also discussed Aquaculture. Women play some Ancillary Activities. This was also briefly seen in this Unit. Feminization of agriculture and Migration are issue of concern. We have discussed in this Unit.

10.11 GLOSSARY

Gender role: It is referred to learned behaviors of men and women in a given society or community. It is the distribution of roles and responsibilities conditioned by age, class, race, ethnicity, religion and by the geographical, economic and political environment.

10.12 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress Exercise 1

1. It has widely been accepted that fishing is an activity done only by men. But women are involved in fishing activities in various parts of the world. This is usually done as a means to support the family in augmenting its income. Though the presence of women in actual sea fishing is rare, women are involved in harvesting of oysters, sea cucumbers, snails, sea urchins and other sedentary aquatic animals from near shore

waters or shallow sea bottoms. Estimates from nine major fish producing countries shows that women comprise 46% of the labour force in small-scale capture fisheries-related activities, including pre- and post-harvesting work (FAO, World Bank, IFAD, 2008).

Check Your Progress Exercise 2

1. Women are also other ancillary activities like net making and mending where women are involved. Net making has always been one of the ways of raising the income of women. Most of the women were not trained in net making, but training is given regularly. Sarkar (2009) in his study of Sunderban fishermen has drawn attention that fisherwomen are mainly engaged in dry-fishing, fish-vending, and net-mending. Vijayan and Nayak and Vijayan (1996) mention that in areas like Jaffrabad and Navbandar in Bhavnagar District, women are also engaged in net making which is a supplementary activity and normally takes place only for 4 to 5 months a year. Unlike in other parts of India, the women of Kakdwip of Orissa form groups for mending, joining and stretching large gill-nets. They certainly draw-attention, as women are not generally found engaged in these tasks in other parts of the country. In other parts, besides weaving the nets, joining and stretching them are usually done by men.

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10.14 QUESTIONS FOR REFLECTION AND PRACTICE

1. Write an essay on feminization of agriculture.
2. Discuss the impact of migration in fishing sector.
3. Analyse the role of women in fishing sector.
4. Discuss about aquaculture.
5. Discuss the status of women in fisheries sector in other countries.

UNIT 11 ACCESS TO RESOURCES

Structure

11.1 Introduction

11.2 Objectives

11.3 Access to resources- Overview

11.4 Access to fishing implements

11.5 Access to credit

11.6 Access to markets and trade

11.7 Access to technology

11.8 Women in fisheries science and management

- 11.8.1 Extension Support
- 11.8.2 Access to legal process
- 11.8.3 Access to education and employment opportunities

11.9 Opportunities in improving access to resources

11.10 Summing Up

11.11 Glossary

11.12 Answers to check your progress exercises

11.13 References

11.14 Questions for reflection and practice

11.1 INTRODUCTION

Fisheries and aquaculture make critical contributions to development by providing employment to over 40 million people world-wide, the vast majority of whom live in developing countries, and to food security and nutrition, with fish constituting an important source of cheap protein for the poor.

Millions of women in developing countries are employed in fisheries and aquaculture, participating at various stages, though most commonly in fish processing and marketing. In capture fisheries, women are commonly involved in making and repairing nets, baskets and pots, baiting hooks, setting traps and nets, fishing from small boats and canoes, and collecting seaweed, bivalves, molluscs and pearls. They are rarely involved in commercial offshore and deep-water fishing. In aquaculture, women feed and harvest fish, attend to fish ponds, and collect fingerlings and prawn larvae. Women also play a major role in fish marketing as small

scale retailers and in processing, both using traditional preservation methods and working in commercial processing plants. In this Unit, we will see the access to resources and services for women in fisheries sector.

11.2 OBJECTIVES

After studying this Unit, you would be able to

- explain the issues related access to resources and services in the fisheries sector for women;
- discuss the available opportunities for women to access resources and services in fisheries sectors; and
- list the activities of women in fisheries sectors.

11.3 ACCESS TO RESOURCES- OVERVIEW

Even after having a significant contribution to the fisheries sector, when it comes to access, control and management of resources, including natural fishery resources, women have limited roles. Access to and control over the use of these natural resources is a complex issue and interrelated to several factors. In general poverty, limited access to all types of resources, and political, cultural, social and educational constraints has led to the subordination of women. This makes it difficult for the women to access those opportunities and derive benefits that might be available to their male counterparts, to improve their quality of life.

In the context of fisheries, the resources can be listed as follows:

- Water (ponds, reservoirs, rivers, lakes, sea)
- Fishing implements (craft, gear and other physical fishing inputs)
- Credit
- Markets
- Technology
- Extension support (Government departments and Non-Governmental Organisations)

Natural fisheries resources are generally common property resources. The ownership of these resources vests with the state and no individual o\r community can have a claim o the same. There are some resources like ponds which can be privately owned (as is the case in aquaculture). Fishing is also thus open access, ie, any person or persons who wishes to harvest fish can do so, within the framework of regulations laid down by the State. Regulations by fishing communities also exist which have cultural and sometimes religious connotations. In some places the right to fish in a particular area or season is determined by the community elders or leaders, which is generally followed by the community at large. Fishing is also regulated by the State through Marine Fishing Regulation Acts (MRFAs) and rules. Fisheries Departments can also regulate the number of fishing crafts by issue of licenses. The coastal states have closed fishing seasons when fishing activity is banned,

during monsoon season. Ponds and reservoirs can be stocked by the Government Departments and licenses for fishing in them can be regulated.

Access of fisheries resources by fisherwomen- some specific examples

Brazil

Women comprise 58% of Vila Castelo, a tiny fishing village in Brazil's state of Pará. Women, here, not only fish but they have also become key players in on-going efforts to overhaul their trade and help pull it from informality and turn it into a formal business. The state is the largest fishing producer in Brazil, and nearly 90% of the fishing output in the state is provided by artisan fishers, most of whom perform their task on an informal basis.

(available at: http://www.iadb.org/en/news/webstories/2014-03-07/fisherwomen-in-para-brazil,10748.html)

India

Many examples can be cited from Indian scenario where wives accompany their husbands in fishing. But its more of a recreation rather than a serious a fishing. For eg. fishermen community along the banks of river Krishna, are accompanied by their wives for fishing. Wives accompany their husbands on fishing assignments on river Krishna during the night and the practice is still alive in the island villages of Diviseema

(available at: http://www.thehindu.com/news/national/andhra-pradesh/where-fisherwomen-work-at-night/article5207881.ece)

Kolim Fishery of Maharashtra—a Women's Fishery

The women in the Thane district of Maharashtra get engaged in Kolim fishery. Kolim fishery a seasonal fishery where women and children use simple nets in the nearshore areas to catch a tiny mysid shrimp, *Mysopodosis orientalis.* The kolim season is from March to May in Dativare, Vadrai, Shirgaon and Satpati, and from October to December in Alewadi, Nandgaon, Navapur and Ucheli. This example also highlights the fact that women are mostly engaged in fishery activities that are of subsistence importance and not involved in the main stream fishing that gathers income.

Seaweed gathering is an important activity done by the fisherwomen of Tamil Nadu especially in Mandapam region. National policies for the development of national waterways are causing dislocation of many stake nets. Stake nets are a major method for catching shrimps. Hence dislocation of stake nets can affect the shrimp industry which in turn can affect the peeling industry and drying industry. Women dominates the both these industries.

(available at: http://aquaticcommons.org/260/1/WIF_2.pdf)

Women seem to be invisible form most of these activities of policy making, implementation and management, whether traditional community based or through the institutional state mechanisms. When access can be defined as the ability to exploit the natural resources within the ambit of state regulations or community rules, fishermen are able to have greater access than fisherwomen. That is primarily because fishing has been long perceived as a male activity, requiring greater physical strength. This is despite the fact that women have long been involved in fishing activities like gleaning or trapping fish, shell fish, seaweeds and other aquatic animals; and also engaging in fishing in ponds, backwaters and lakes. Many customs and beliefs have also kept women away from these resources (Porter, 2006; Okali and Holvoet, 2007; Garcia and Estrada, 2006). During certain times, women are not allowed to touch the gear or go near water bodies. Taboos on fisherwomen in some communities restrict women's participation in ornamental fish breeding and marketing. Their access is thus compromised and they tend to be pushed or confined to marginal or lower end activities like sorting the catch after landing and other post-harvest activities like peeling, curing and drying, fresh fish marketing etc. Fishing activity undertaken by women is mainly aimed at subsistence uses and is often ignored, because the relatively larger scale, income oriented production activity. Women are considered to be involved in support roles for their family by involving mainly in the post- harvest and processing sectors.

The lack of or inequalities in access to natural fishery resources by women to the extent that is available to men has led to unequal distribution of power in controlling and utilization of the resources. Even when women have been contributing significantly, like in aquaculture where they are involved in almost all activities, their say in managing the resources has been marginal. As a result, fisheries development activities also have focussed mainly on fishermen. An off-shoot has been that many activities performed by women have become excluded or banned when planning and policy making on fisheries management are formulated (Sustainable Fisheries Livelihoods Programme Fieldwork, 2005).

In marine capture fisheries, women played minimal role in actual fishing and they are mostly seen in allied activities like net making and mending. The major issues are that of drudgery, lack of women friendly capture methods and poor documentation of traditional fishing practices carried out by women and of ITKs (Nikita Gopal et. al., 2012).

Also fishing activity undertaken by women is mainly aimed at subsistence uses and is often ignored. This ignorance is mainly due to exclusion of women from decision-making procedures and also due to the fact that much concern are for fisheries which produce income and revenue which is managed by the men. In inland fisheries, there was more representation of women. In cold water fisheries, the terrain conditions often make capture fisheries inaccessible to women. The culture sector is largely male dominated and women entrepreneurs are rarely visible. The main issue identified was lack of capacity building and training specifically for women and the suggestion was to concentrate on group initiatives for aquaculture.

The lack of or poor access to natural resources is also reflected in the decision making on management aspects related to these resources. Women rarely form part of community decision making bodies in fishing villages.

Ownership and inheritance of land is also an area where women in fisheries are at a disadvantage. In fishing communities, land holding are very small and is limited to dwellings. Inheritance laws of the state are applicable to them. In the case of aquaculture, land does play an important role. But ownership is mostly vested with the male members.

11.4 ACCESS TO FISHING IMPLEMENTS

Fishing implements refer to the different types of fishing crafts or vessels or boats and the nets (constituting a fishing unit) that are used to take up the fishing activity. Ownership of fishing implements is generally with the fishermen. Women seldom have any right over them. In traditional fisheries, a group of fishermen can own one unit. Since the credit worthiness of the fishing community is low, the group of fishermen share the liabilities. Women may own smaller canoes and nets which they use for fishing, but the larger boats are always with the men. Small hand made traps etc. are also made and operated by women in some areas. In the stake net fishery that is seen in Kerala, stake nets are sometimes passed on to widows of fishermen as their livelihood depends on the same. In Gujarat, women traders are seen to own drying and fish storing yards. The implements that women own are the baskets or containers that they use for selling fish.

Traditionally, net making was a women centric activity, though not exclusive. While the men went fishing, women made and mended the fishing nets, Mechanization of the netting yarn and net making process has played a part in reducing the role of women in net mending. The increasing size and type of nets has also made women leave the sector. Now fishermen themselves are engaged in making and repairing of the gear. Sarkar (2009) in his study of Sunderban fishermen has observed that fisherwomen are mainly engaged in net-mending, besides fish drying and fish-vending. Vijayan and Nayak (1996) mention that in areas like Jaffrabad and Navbandar in Bhavnagar District, Gujarat, women are also engaged in net making which is a supplementary activity and normally takes place only for four or five months a year. Unlike in other parts of India, the women of Kakdwip of Orissa form groups for mending, joining and stretching large gill-nets. In other parts, besides weaving the nets, joining and stretching them are usually done by men.

Yap (1980) further argues that mechanization of craft and gear has resulted in the ‘economic displacement’ of many fish wives. Vijayan and Nayak (1996) describing the situation of Veraval in Gujarat says that the women, here, earlier used to sell the fishes that were brought by their husbands. With mechanization and the increase in number of boats owned by fishermen, women have also begun to handle larger volumes of fish.

Check Your Progress Exercise 1

Note: i. Use this space given below to answer the question.

ii. Compare your answer with the one given at the end of this unit

1. Do women right over fishing implements? Discuss

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11.5 ACCESS TO CREDIT

Rural credit has always been dominated by informal sources and for the fishing community it has been no different. Large scale trades and auctioneers usually finance fishing units as well as meet the day-to-day credit requirements of the fisher households. They are generally an important link in the marketing activity on well. Auctioneers who lend to fishermen have the first right to sale of the fish landed by the debtors. Increasingly, institutional arrangements like co-operatives and state support programme have been financing the purchase of fishing implements as well as giving credit support for other social initiatives. The beneficiaries for fishing implements have generally been fishermen. Fisherwomen have been encouraged to from Self Help Groups (SHGs) to take up alternative livelihood activities through micro credit initiatives. The lack of sufficient collaterals also keep women away from formal and institutional sources of credit and fisherwomen vendors and traders also prefer informal sources of credit, even though the interest rates may be very high.

Women usually get access to credit through their husbands or other male relatives, because of the interdependency between trade and finance. However, credit availed by women for specific activities are sometimes seen diverted for household requirements (Nikita Gopal & Meenakumari, B., 2011). This is because the focus of women is on the basic needs of the family i.e. food, housing, health care, sanitation, and education and only ten they look for alternative avenues in which the credit can be invested.

11.6 ACCESS TO MARKETS AND TRADE

Marketing and trade are areas where women are most visible in the fisheries sector. When fishing was still largely traditional and subsistence oriented, fishing boats landed in beaches near fishing villages. The men then left all the post-harvest activities to the women. The women sorted the fish, took the fish to the markets and processed the excess catch. The traditional sector still largely continues the pattern. In river systems, reservoirs and ponds women still wait for the landing and then sort and market the catch.

The commercial or mechanized fishing scenario has changed, with the boats and nets becoming bigger and more complex fishing units being developed. The bigger boats could not be landed on to beaches and landings shifted to harbours. The harbours were not easily accessible and even the fishermen had to commute to reach the harbours to undertake fishing operations. Since this change has come about, women have slowly been marginalised form their traditional post- harvest roles of soring the landed catch. They are still seen in the retailing sector. The women travel to the harbours and buy fish from there for marketing. They may or may not participate in the auction, again a factor largely determined by the credit worthiness and credit availability of the women. In other cases, women buy smaller quantities of fish from wholesalers or large traders.

The problems that female fish traders usually face are high cost of transportation, fluctuating fares, travel during night and overcrowded transportation. The travel also makes them vulnerable and can sometimes be unsafe. The constant sitting in markets, with very poor facilities also leads to health problems. Competition from male fish retailers is also high. Men generally own vehicles and transportation is easier. Women have tried to overcome the problem by getting together and hiring vehicles in groups to buy fish. Since the buyers are generally are not permanent, the very act of selling fish is also drudgery filled. The door-to-door vending is even more difficult with the women having to walk many kilometres per day to visit the houses where they vend fish. Some of the issues in fish marketing are selling fish in very unhygienic places; lack of basic infrastructures like sheds and other facilities like table, chairs, toilets, and room to change dress, iceboxes and drinking water; exploitation by middlemen, moneylenders etc. and even physical attacks.

The fisher women of Thiruvananthapuram district of Kerala, under the banner of *Theeradesa Mahila Vedi*, the women's wing of Kerala *Swathanthra Matsyathozhilali Federation* (KSMTF), spearheaded a historical struggle to recapture the fish markets, earlier controlled and managed by them but of late seized by rich contractors and middlemen (see: http://www.irenees.net/bdf_fiche-defis-184_en.html)

Vijayan and Nayak (1996) have described the fisherwomen in Gujarat and observe that although women have always sold fish, there is not a very intricate and well-developed marketing network. In Porbandar, women come from far and near to bid for fish which they take to the local markets to sell. They come in fairly large groups to bid at the merchant auctions. The Porbandar retail fish market is a small market meant only for the women vendors. Women in Sargicode of Maharashtra are also engaged in buying fish, both to sell fresh and for drying. In Goa, it was noticeable that there is absence of younger women from fishing communities in marketing activities. In Malpe, Karnataka, women are mostly involved in fish-related activities, which is their main source of income. Women sell fresh fish and salt and dry fish on a large scale. In Gujarat, women own drying yards and are very active in sorting fresh catch landed by their fishermen, and then curing, drying and marketing the product.

11.7 ACCESS TO TECHNOLOGY

Just like other rural women, fisherwomen also spend long hours every day performing unfairly paid tedious, labour-intensive and time-consuming fisheries related and domestic work. The technology access must be able to reduce this drudgery to some extent. In the domestic scene, the availability of electricity and other home appliances have helped reduce drudgery. But several rural areas do not have regular electricity supply, making the availability to appliances practically useless. The non-availability of potable water is also a major issue in coastal areas and women find it extremely difficult to meet the water requirements of their families and end up spending long hours in trying to arrange for the same. Though technical advances have improved household hygiene, in many rural areas, however, these technologies are still not available.

Technology in fisheries, per se, can be related to harvest or post harvest aspects. Technological innovations in harvest sector have been responsible for transforming fisheries sector from a traditional subsistence to a commercial level. Both the areas simultaneously exist and contribute to the fisheries production. This has had indirect effects on women with women being side-lined to paly marginal roles in fish harvest today. Suwanrangsi (2001) highlights that the use of labour saving technology has always been gender specific, and has been beneficial to women in some cases but detrimental in others. In technologies developed for fishery production, such as mechanized pond preparation, feeding, harvesting and post-harvesting activities, men have taken control, leaving the non mechanized and more labor-intensive tasks, such as feeding, and net mending, to women. While mechanization has freed women from many tedious operations, it has also replaced an important source of income for many women who depended on these tasks to generate additional income for their families. Also mechanization has led to implements being handled by men.

Post harvest technologies are of importance for the upliftment of women as they have been traditionally engaged in post harvest activities. Better technologies for handling, curing and drying and processing of fish have helped women improve their incomes. The technology development process is not gender sensitive (or is gender neutral). None of the technology development processes incorporate or take into account the ability of the women in handling or using the technology. Technology development must be aimed at drudgery reduction as most of the jobs that fisherwomen do are repetitive and drudgery inducing, especially in processing, both traditional and modern, which can help in improving the quality of work as well as save time.

11.8 WOMEN IN FISHERIES SCIENCE AND MANAGEMENT

Tuara and Passfield (2012) has studied current situation with regard to women's participation in the science and management of oceanic and coastal fisheries in the Pacific region. The study showed that there are more men than women employed in the fisheries science and

management sector. Women comprise 18% of the total number of staff working in this sector in government fisheries, environmental institutions and environmental non-governmental organisations (NGOs). In contrast, the percentage of women employed in administrative and clerical roles in government fisheries departments constitute 60%.The study puts forward certain recommendations to overcome the societal perceptions. The recommendations were:

- raising the profile of fisheries as a potential career as well as the profile of women already working in the sector
- providing a support network
- strengthening the institutional level

Similar situation can be found in India as well where the number of women in still very less, though more and more girls are seeking higher education in fisheries and related areas. The impact of the same will be visible in a few years and probably more women will take up positions in science and technology management as well. However, the existence of glass ceiling has been documented in many commercial sectors.

11.8.1 Extension support

Extension agencies have also come forward to support fisherwomen and reduce their burden. A team of designers National Institute of Design (NID) has developed a fishing cart for fisherwomen to carry fish easily to market while easing out their load. NID developed the design after a proposal was put forward by the Gujarat state government to help solve the health issues of fisherwomen. The fisherwomen carry loads of fish from the shore or ports to the nearest markets every day. The carts are useful not only for easy transportation but it also helps to keep fish fresh in insulated ice box.

Training in fish value addition is taken up by most agencies and many agencies also give financial support to set up units for the same.

Action Aid International which is funding a three-year project to train 1,050 women from eight villages of the district at a cost of Rs 1.3 crore. The project is aimed at introducing modern techniques and provide basic infrastructure for fisherwomen to give value addition to fish products. As part of the project, fisherwomen from two blocks of Achuthapuram mandal comprising Kadapalem, Kondapalem, Jalaripalem and Bheemili mandal, including Chinnamangamaripeta, Pedamangamaripeta, Kothuru and Pukkallapalem, will be provided training in fish post-harvesting technology, wet fish processing and value addition.
(see: http://timesofindia.indiatimes.com/city/visakhapatnam/Women-to-be-taught-the-ropes-of-fish-business/articleshow/20752509.cms?referral=PM)

11.8.2 Access to legal process

It was found fisherwomen in Kerala state felt highly discriminated from their male counterparts on accessing the knowledge about legal establishments. This is understandable from the fact that historically the fish markets are traditionally dominated by males, who have more control and

monitoring over the price and quantities of fish and fishery products handled in the fish markets in Kerala state. On the other hand fisherwomen felt less discriminated on accessing the KVK / Village resource centres and market associations (especially in Kerala), knowledge about capacity building programmes, credit and financial institutions (especially in Tamil Nadu) and Govt. programmes / subsides. This could be related to the recent implementation of several women centric welfare programmes through the respective state agencies such as Matsyafed and Kudumbasree in Kerala targeting the economically weaker sections of women, in general and fisherwomen, in particular. But, at the same time, the results revealed that in general, fisherwomen were highly discriminated in all the chosen aspects of access to information resources. The MS Swaminathan Research Foundation (MSSRF) also has empowered women through establishment of village resource and knowledge centres and training women to use them effectively. The information on technical, and other aspects have made women self-sufficient.

11.8.3 Access to education and employment opportunities

Universal access to good quality education is crucial for the holistic development of all sections of society. Generally, the literacy levels among fisher households tend to be lower than the national average in India. It was observed that the average literacy rate of the fisher households was 79.96 per cent. The educational status of women in the fisheries sector is inferior to that of men and women do not have special training programmes in technological improvements as well. However, the number of women seeking higher education in fisheries is on the rise.

There is also lack of gender sensitive fishery science and management career information. Very few female role models are there in the field who could inspire the youth and wipe off the myth that a career in fisheries is for men. Although there are women in the sector, they are not being used as role models at the national level. Without a network, women working in a male-dominated fisheries sector are marginalised, with no support system. They have no voice (outlet) to raise issues, share experiences, support each other or lobby for change. There is, therefore, limited opportunity to inspire and attract young women to the sector. Women fisheries professionals identified are lower networking skills and less participation in administrative and management decision making bodies. Networks of women working in the fisheries sector could help get recognition and validation for the role of women. They could share concerns about the sustainability of fisheries resources, and link researchers and activists interested in fisheries development issues with women and women's groups working in fisheries in the region (Williams and Choo, 2001).

A recent development by Kerala state IT Mission shows fisherwomen are interested to use the new technology for their trade. An initiative to bridge the digital divide undertaken by the Kerala State IT Mission has witnessed 100 women from the fishermen community in Poovar in the outskirts of Thiruvananthapuram undergoing a 45-day free IT training. This will enable fisherwomen to get message in their inbox about the latest offers.

11.9 OPPORTUNITIES IN IMPROVING ACCESS TO RESOURCES

(Drawn from Nikita Gopal et. al., 2012)

Some of the constraints involved in gaining power are the uncertainty in fishing, perishability of the produce; illiteracy among the fisherfolk, especially women; lack of proper health and sanitation facilities; lack of integration of different research and development departments; and constraints involved in accessing marketing,

- technology, and credit facilities. In case of inland capture fisheries (reservoirs, rivers, wetlands), there are opportunities for women in collection of brood-stock and fingerlings in which women are even now involved.

- Technical support and training for women is needed in using boats and other safety equipment in inland capture fisheries. In some areas the fishing license is given only to men.

- In culture fisheries, women can be engaged as managers of hatcheries and they can be involved in the hatchery rearing of carps. They can also be equipped for harvesting of cultured fishes.

- Opportunities for womens' participation in mariculture activities through entrepreneurship development, and tapping import and export markets through self help groups need to be explored.

- Some of the constraints for women engaged in preprocessing and marketing activities are difficulty in availability of potable water, good quality ice etc. and poor ergonomic conditions. Better infrastructural facilities will aid in making marketing a good source of livelihood.

- Ornamental fish culture and integrated fish farming are some of the diversified livelihood options during off seasons.

- For women entrepreneurs there is lack of awareness and access to markets technologies, government policies and programmes and concerted efforts to increase awareness should be made.

- Women seafood entrepreneurs faced problems in sending their consignments due to complicated bureaucratic procedures.

- Formation and strengthening of women self help groups, technology dissemination to the grassroot level; convergence of activities and programmes of institutions involved in research and development activities; representation of grassroot level stakeholders in all levels of planning; identification of need based schemes and allocation of funds for the schemes; regular monitoring workshops with the involvement of stakeholders and policy makers along with the experts etc. also needs to be taken up.

Check Your Progress Exercise 2

Note: i. Use this space given below to answer the question.

ii. Compare your answer with the one given at the end of this unit

1. Do women access to technology to work in the fisheries sector in pre-harvest and post –harvest season? Briefly explain

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11.10 SUMMING UP

In this Unit, we have discussed overview of Access to resources, Access to fishing implements, Access to credit, Access to markets and trade, Access to technology, Women in fisheries science and management, Extension Support provided to women, Access to legal process, Access to education and employment opportunities and Opportunities in improving access to resources

11.11 GLOSSARY

Gender mainstreaming: It is the process of ensuring that women and men have equal access to and control over resources, development benefits and decision-making, at all stages of development process, projects, programmess or policy.

11.12 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress Exercise 1

1. Fishing implements refer to the different types of fishing crafts or vessels or boats and the nets (constituting a fishing unit) that are used to take up the fishing activity. Ownership of fishing implements is generally with the fishermen. Women seldom have any right over them. In traditional fisheries, a group of fishermen can own one

unit. Since the credit worthiness of the fishing community is low, the group of fishermen share the liabilities. Women may own smaller canoes and nets which they use for fishing, but the larger boats are always with the men. Small hand made traps etc. are also made and operated by women in some areas. In the stake net fishery that is seen in Kerala, stake nets are sometimes passed on to widows of fishermen as their livelihood depends on the same. In Gujarat, women traders are seen to own drying and fish storing yards. The implements that women own are the baskets or containers that they use for selling fish. Traditionally, net making was a women centric activity, though not exclusive. While the men went fishing, women made and mended the fishing nets, Mechanization of the netting yarn and net making process has played a part in reducing the role of women in net mending. The increasing size and type of nets has also made women leave the sector. Now fishermen themselves are engaged in making and repairing of the gear. Sarkar (2009) in his study of Sunderban fishermen has observed that fisherwomen are mainly engaged in net-mending, besides fish drying and fish-vending. Vijayan and Nayak (1996) mention that in areas like Jaffrabad and Navbandar in Bhavnagar District, Gujarat, women are also engaged in net making which is a supplementary activity and normally takes place only for four or five months a year. Unlike in other parts of India, the women of Kakdwip of Orissa form groups for mending, joining and stretching large gill-nets. In other parts, besides weaving the nets, joining and stretching them are usually done by men. Yap (1980) further argues that mechanization of craft and gear has resulted in the 'economic displacement' of many fish wives. Vijayan and Nayak (1996) describing the situation of Veraval in Gujarat says that the women, here, earlier used to sell the fishes that were brought by their husbands. With mechanization and the increase in number of boats owned by fishermen, women have also begun to handle larger volumes of fish.

Check Your Progress Exercise 2

1. Just like other rural women, fisherwomen also spend long hours every day performing unfairly paid tedious, labour-intensive and time-consuming fisheries related and domestic work. The technology access must be able to reduce this drudgery to some extent. In the domestic scene, the availability of electricity and other home appliances have helped reduce drudgery. But several rural areas do not have regular electricity supply, making the availability to appliances practically useless. The non-availability of potable water is also a major issue in coastal areas and women find it extremely difficult to meet the water requirements of their families and end up spending long hours in trying to arrange for the same. Though technical advances have improved household hygiene, in many rural areas, however, these technologies are still not available. Technology in fisheries, per se, can be related to harvest or post harvest aspects. Technological innovations in harvest sector have been responsible for transforming fisheries sector from a traditional subsistence to a commercial level. Both the areas simultaneously exist and contribute to the fisheries production. This has had indirect effects on women with women being side-lined to paly marginal roles in fish harvest today. Suwanrangsi (2001) highlights that the use of labour saving

technology has always been gender specific, and has been beneficial to women in some cases but detrimental in others. In technologies developed for fishery production, such as mechanized pond preparation, feeding, harvesting and post-harvesting activities, men have taken control, leaving the non mechanized and more labour-intensive tasks, such as feeding, and net mending, to women. While mechanization has freed women from many tedious operations, it has also replaced an important source of income for many women who depended on these tasks to generate additional income for their families. Also mechanization has led to implements being handled by men. Post harvest technologies are of importance for the upliftment of women as they have been traditionally engaged in post harvest activities. Better technologies for handling, curing and drying and processing of fish have helped women improve their incomes. The technology development process is not gender sensitive (or is gender neutral). None of the technology development processes incorporate or take into account the ability of the women in handling or using the technology. Technology development must be aimed at drudgery reduction as most of the jobs that fisherwomen do are repetitive and drudgery inducing, especially in processing, both traditional and modern, which can help in improving the quality of work as well as save time.

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11.14 QUESTIONS FOR REFELECTION AND PRACTICE

1. Examine the availability and accessibility of technologies and other services for women in fishing sector.

2. What are the opportunities in improving the resources?

UNIT 12 DIFFERENCES IN ROLES AND ACTIVITIES

Structure

12.1 Introduction

12.2 Objectives

12.3 Marine fisheries

12.3.1 Fishing

12.3.2 Fish landing

12.3.3 Sorting

12.3.4 Auctioning

12.3.5 Trading

12.3.6 Marketing

12.3.7 Processing

12.3.8 Indirect roles

12.4Inland Fisheries (Ponds, reservoir, rivers, lakes)

12.5 Aquaculture- Inland

12.5.1 Fish framing

12.5.2 Live feed processors

12.5.3 Pond preparation

12.5.4 Feed Preparation

12.5.5 Packing and Transportation

12.5.6 Ornamental fish

12.5.7 Ornamental plant propagation

12.5.8 Extension Services

12.6 Mariculture- Coastal

12.7 Women Roles in Fishing- other Countries examples

12.8 Recommendations for research in gender differences in future

12.9 Summing Up

12.10 Glossary

12.11 Answers to check your progress exercises

12.12 References

12.13 Questions for reflection and practice

12.1 INTRODUCTION

Fisheries and aquaculture are important from the point of view of the economy of India. It provides livelihood and food security to millions of people. Just like in any other sector, like the agricultural sector, gendered differences in roles depends on the types of activity being performed as well as the external factors that can have an impact on it, like physical, social, cultural, political factors. Defining the functions and activities will be able to help define the roles and the differences more clearly.

The fisheries sector per se can be divided into the following sub-sectors:

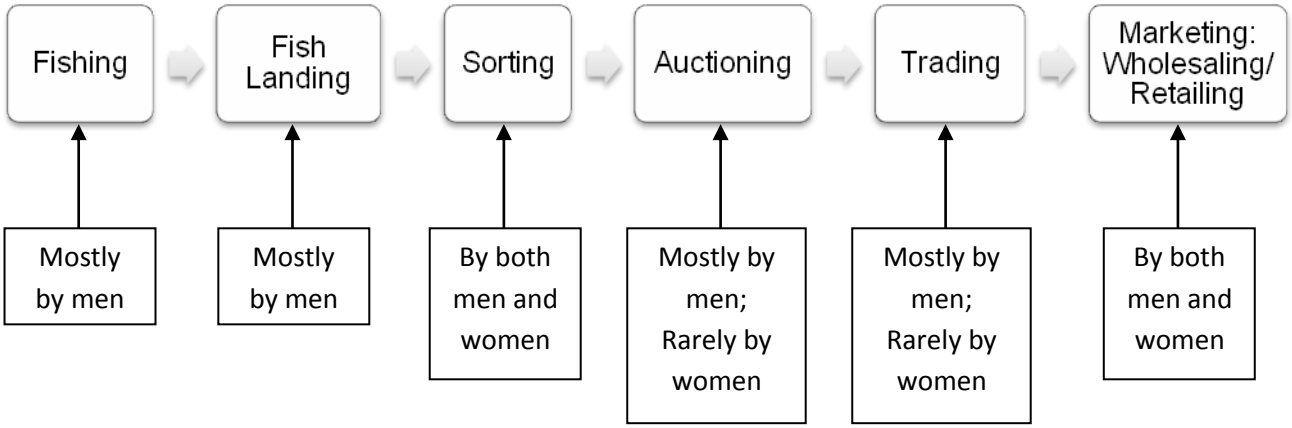
- Marine fisheries (seas)
- Inland fisheries (ponds, reservoirs, rivers, lakes)
- Aquaculture – inland
- Mariculture – open sea/ coastal

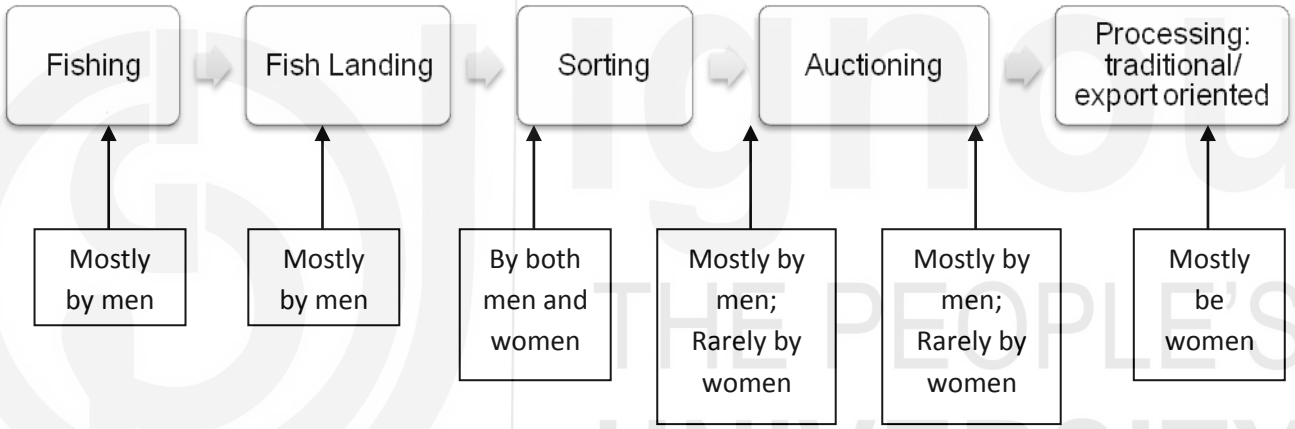
12.2 OBJECTIVES

After studying this Unit, you would be able to

12.3 MARINE FISHERIES

The basic activities and roles in marine fisheries are as follows:


Fishing
Fish Landing
Sorting
Auctioning
Trading
Marketing: Wholesaling/ Retailing
Mostly by men
Mostly by men
By both men and women
Mostly by men; Rarely by women
Mostly by men; Rarely by women
By both men and women


Fishing
Fish Landing
Sorting
Auctioning
Processing: traditional/ export oriented
Mostly by men
Mostly by men
By both men and women
Mostly by men; Rarely by women
Mostly by men; Rarely by women
Mostly be women

In relation to each of these activities the differences in roles are as follows:

12.3.1 Fishing

Fishing in open seas has largely been male reserve and women have rarely ventured into this. The physical labour involved in sea fishing apart fishing communities have also had many taboos and customs that prevent women form sea fishing. Yap (1980) studied the role of fisherwomen as well as fish wives in fishing and fish related activities. As fishing in the sea requires a lot of physical strength, the number women that go to the sea for fishing is very small. As reported by Velayudhan (1999) women are not actively involved in capture fisheries in marine sectors.

According to www.RLS.ORG.UK, women from Scottish East Coast fishing communities were involved in collection to selling of fish. In the meantime, they had to find time to look after their children and to do household works. In many areas, they had to walk for miles to collect the mussels from the shore. They shelled the mussels at home. They found time for it mostly in the night. Then they had to bait the lines as a preparation for the next day's fishing. They used to sell the fish three to four days a week. They had to buy fresh fish from the market, and then carried on their backs in large baskets all the way to sell it at various households or markets. Many of them would use tram or train to travel, and some covered short distances on foot. Fisherwomen and men used to make and mend the fishing nets at home. Net making was actually developed into a cottage industry there. But, by the end of the Nineteenth century, net manufacturing was gradually moved into factories. After that, many women tried to get work in the factories or related areas.

According to Anna (2012), fisherwomen in coastal communities of the north coast of Java, Indonesia support their family livelihood through various aquaculture activities, especially when facing unsustainable income. Any kind of fishing in any part of the world is a business with high degree of uncertainty. In such a scenario, arrangements like social networks often act as cushions. When catches and incomes fluctuate, fishermen are able to lend and borrow money within social networks. In these kind of networks, fisherwomen usually play the most significant roles by bridging the gaps among social hierarchies. Catching, selling, distributing and processing of the fish products always form part of complex economic networks. Women are mostly involved in it.

12.3.2 Fish landing

Fish landing takes place on traditional fish landing centres or beaches or mechanised landing centres or harbours. Fish is mostly landed and unloaded form the boats by men. In harbours this is done mostly by organized labour. In traditional fish landing sites, which are mostly on beaches, fisherwomen wait for the boats to land. And after the fish is unloaded from the boats they are engaged in sorting the fish. This is done on the sandy beaches or on jute bags spread out on the beach.

12.3.3 Sorting

Sorting involves separating a mixed group of fish based on a particular category. Women are rarelyengaged in sorting of fish. Males dominate this part of the chain as women are rarely visible in harbours. In traditional fish landing centres or beaches women are involved in sorting the catch which is landed from the boats on to the beaches, before it can be marketed. The activity is generally carried out in the open on mats spread out on the beaches or on the sandy beaches itself. Women also collect small and discarded fish from the landing centres for drying purposes. In states like Kerala, a share of the fish caught is kept apart for household purposes and either the fisherman takes it home after work or the fisherwoman collects it at the landing centres.

12.3.4 Auctioning

The auctioneer is the first intermediary in marine fish marketing channel. It is the auctioneer is responsible in trading the fish that is brought by the fishermen and also sometimes advances money to the fishermen and in turn gets the right to auction the his fish.Though women are seen in auctioning, they often fall victims to their male auctioneer counterparts and also fishermen. Though women function as auctioneers and wholesalers in landing centres, the majority of auctioneers and wholesalers are still men. Since auctioneers play a major role in financing fishing activities, this ability is a deciding factor in women to take up this role. However women auctioning fish is now being observed in many places. Fishermen approach male auctioneers than female auctioneers as they feel their fish fetch less money when approached to a female auctioneer.

12.3.5 Trading

In India, fish vendors are mostly females. Women vendors also carry out value addition by sorting, grading, cleaning and icing fish. They participate in auction directly in some of the

states. They are forced to sell all the produce on a given day, as they don't have the capacity to hold or preserve the fish. The major costs to vendors are onice and transportation. Women are also seen running petty shops which sell inputs needed for fishing along with household articles.

Women's main engagement is in fish processing and trading. Many development projects and fisheries management and policy formulation have focussed entirely on fishing activities, such as regulating catch, gear and access rights, rather than on improving processing and access to market rights (WorldFish, 2010). The number of women migrating seasonally across regions or even national boundaries in search of economic opportunities attached to fishing and also other livelihoods, is rising in many parts of the world, a detrimental effect of which is seen in Africa (Malawi, Mozambique, Congo, Uganda and Zambia) with the high prevalence of HIV in many fishing communities where women processors and traders resort to transactional sex to obtain fish (Bene and Merten, 2008; WorldFish, 2010).

12.3.6 Marketing

In markets women usually sell low value products in a remote corner. Though these by catches are highly nutritive and help to meet the nutritive demands, they fetch very low price and a poor profit margin for the women. Wholesalers among women are very few, like at markets in Trivandrum and Mangalore.Lack of alternate employment in off-seasons leads to forced borrowing from money lenders at very high interest rate of 10% month or even more. Though they work hard in peak season, they can hardly pay back the money, as it would have doubled by then. The vicious circle of indebtedness continues. Women in value addition sector also sell their products to local petty shops and households. The inadequate information support on markets and lack of sound distribution networks are reasons behind this. The problem is not the lack of opportunities but is of unawareness about these opportunities (FAO, 2007). Older women are mainly seen selling dried fish. They are involved in fish salting and drying in a large scale. These women access weekly markets and are usually wholesalers.

In the fishing areas of the southern maritime States of Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu, women dominate the retail fresh fish trade. About 50-70 per cent of the fisherwomen and their families are dependent on fresh fish marketing and traditional fish processing for their livelihoods. Many retail and whole sale markets do not even have facilities for women sellers (Ganesh Kumar et al., 2008). Often fisherwomen selling fish in

agricultural villages have to stay there overnight and return only the next morning.

12.3.7 Processing

Fisherwomen are engaged in post -harvest activities in the marine fisheries sector like gutting and peeling marine products (Sathiadhas et al.,(2000), collection of small sized by-catches at landing centres and drying them. They are also engaged in drying activities during glut and some do it on a regular basis for species like shrimp, ribbon fish, small sardine and other species that are marketed as dry products. Other activities like prawn peeling, sorting, grading, fish packing, and net making are also popular among women. Men are also active in some of the areas like sorting, packing and net making. The most important role of fisherwomen in both artisanal and industrial fisheries is at the processing and marketing stages as studied by Salim and Geetha (2013). In processing factories all over the worlds women form much of the floor level labour force, engaged in 'semi-skilled' activities like pre-processing (peeling, gutting, descaling) and also in processing (cooking, deveining, arranging in retail packs, grading, sorting etc.). Though the actual job required dexterity, under the labour classification it is classified as unskilled or semi-skilled.

In Lakshadweep, particularly Minicoy, the major tuna based fishery products locally called *masmin*, *riha*, and *akru* are produced mainly by women. A significant number of women either independently process fishmeal by sun-drying methods or work in by-product units.

Vocations in other fish-related activities include clam collection and processing; fish processing and aquaculture in Kerala; prawn seed collection; fish and shrimp farms and hatcheries, and salt loading in Andhra Pradesh; and working at landing centers, by-product units, and surimi plants in Karnataka.

12.3.8 Indirect roles

Besides the direct contribution women are also seen in net making, mobile food supply, family welfare, financial management, getting debts and repaying it, looking after the family while their husbands are away for fishing. For repaying the debts and also for alternative income, women usually resort to running petty shops, and also serve small food supplies which are on high demand by the fishermen and also other locals.

12.4 INLAND FISHERIES (PONDS, RESERVOIRS, RIVERS, LAKES)

When men dominate the aspects of fishing, in inland sector women are found fishing using passive gears and involving lesser technologies. The catch by women is mainly for subsistence use. Compared to marine sector women involvement is higher in the inland capture fisheries. Women are partially involved in the operation of battery operated Chinese dip nets along the estuarine areas. In areas like Alappuzha, women are engaged in 'Ottal' fishing which is a main fishing activity in Pokkali areas. Also are seen women operating 'Vattavala' (type of gear).

In reservoir fisheries also, women are engaged in small-scale fishing. Coracles are a predominant fishing method by women. Besides direct involvement, women residing close to rivers can be seen helping and accompanying their husbands for fishing. In the North Eastern states, women fish in inland water bodies using a variety of indigenous fishing gear using locally available material like bamboo or cane along with netting material. Women also are part of the family fishing effort using coracles in Andhra Pradesh and they also migrate to other parts of the country for their livelihood.

Other activities in which women involved are:

Landing centres

Women don't have a significant role in landing centres. The catch from the boats are sorted by the men and left for auctioning. Women, after auctioning, buy small quantities of fish which are carried in large round vessels and sold door-to- door by women.

Grading

In contrast to the marine sector, women do have a significant role in grading the fish. The catch from the stake nets especially the prawn species, are usually graded by women. It is based on the grading of the species that they fetch prices.

Marketing

Besides selling fresh fish door-to door, women also sell dried, lean, low value fish species. They buy these low value fish species and dry them. Such dried fish also has high consumer acceptability.

12.5 AQUACULTURE-INLAND

In fresh and brackish water aquaculture, women are engaged mainly in the following activities:

- Carp breeding and nursery raising
- Carp polyculture
- Breeding of catfish
- Freshwater prawns in backyard hatcheries
- Ornamental fish breeding and culture
- Culture of Spirulina , Azolla and other live feeds
- Net making and mending
- Feed preparation for carps and prawns

12.5.1 Fish farming

The ponds are mainly leased out on a long term basis. Such activities are usually taken up with help of fisheries departments.is very much prominent in Tamil Nadu. Besides fish farming fresh water prawn cultures are also taken up by women. Integrated fish farming is also taken up by women. Considering the involvement of women in various agricultural and allied activities in their routine life, women can take up integrated fish farming which can be combined with production of vegetables, fodder cultivation, floriculture, dairy or poultry. According to Purushan (1995), women are independent and in the collection of wild fish seeds, segregation and stocking, construction and maintenance of ponds, feeding and harvesting in Kerala.

12.5.2 Live feed processors

Live feeds like clams are collected by women. After collection they supply these clams either to five star hotels or to shrimp and prawn hatcheries as live feeds. Women are also engaged in culture of Azolla and Spirulina.

12.5.3 Pond preparation

Women are not directly involved in pond preparation. They usually help their male counter parts.

12.5.4 Feed preparation

Women help their male counterparts by helping them to collect the ingredients for feed preparation, grinding them and drying them.

12.5.5 Packing, Transportation

Women are seen in packing sectors especially ornamental fish packing. But rarely are they seen in transportation sector as men dominate the sector.

12.5.6 Ornamental fish

The sector attracts lots of revenue with the increasing trend of fish aquarium fish hobbyists. Women especially in West Bengal and Tamil Nadu started this venture as a hobby and to cut out their spare time. They started growing aquarium fishes in their backyards or in small tanks glass tanks in their kitchens. Kolathur is a major hub in Tamil Nadu, where aquarium fish keeping has employed a big proportion of women. Many are successful exporters too. Women are involved not only in ornamental fish production units, but also in rearing, and also retailing and whole sale of fish.

12.5.7 Ornamental plant propagation

As a secondary business to ornamental fish keeping, aquarium plant propagations are also gaining popularity among women. These plants fetch high price. Aquarium plants are usually propagated in their backyard ponds. Those who do not have ponds raise these plants in small glass tanks or fibre tanks in their backyards. This business has been popularly taken over by women due to the easiness and also less time that the venture requires.

12.5.8 Extension services

Many women after getting established as successful in aquaculture set themselves in helping their female as well as male counter parts. They provide necessary instructions and guidelines in setting up a fish farm.

Check Your Progress Exercise 1

Note: i. Use this space given below to answer the question.

ii. Compare your answer with the one given at the end of this unit

1. What are activities women performing in Aquaculture inland fishing?

_____

_____

12.6 MARICULTURE –COASTAL

Women involvement in mariculture is negligible. The main activities in which women involved are:

- **Net making and net mending:** A women dominated activity; it helps women generate extra income. This is usually considered as a supplementary activity in coastal areas. Women usually take up this activity on contractual basis.
- **Feed preparation:** They help their male counterparts for feed preparation.
- **Collection of seaweeds**- Seaweed collection is a prominent activity done by women especially in Tamil Nadu.Seaweed farming works well for women in places like rural India because it doesn't require a lot of money or expensive equipment to make it work, and requires women to be away from home for no more than 4 to 6 hours of the day. The majority of the work is done on land, where women work together stringing small young plants through ropes.
- **Collection of prawn seeds, molluscs and oysters**- In Maharashtra women harvest shellfish like *kolim*(mysids), oysters and mussels at low tide in intertidal or near shore waters. Collection is done by hand or by using simple gears. In the State of Tamil Nadu, women collect seaweed and crabs (Rajagopalan R., 2008). In Andhra Pradesh, women and children from the *shoe-dhoni*community collect shellfish to supplement the family income (Salagrama V., 1990). Women are also active in pearl culture and also engaged in attaching seeds to ropes in mussel culture.
- Polyculture- High prospects are there for women to get involved in polyculture of fish species like seabass.
- Coastal horticulture- women groups can take up development of cashew and coconut plantation. In taking up the same, there is a need for long-term lease of suitable land and adequate credit facility.

  (Source: Alagarswami ,1992)

Women's role is very much restricted in aquaculture mainly due to the location of aquaculture sites and several socio cultural taboos existing in rural India. Such a gender bias is a reality in many aquaculture activities in the country. For example, in southern India, women's involvement in aquaculture is limited to collection of wild seed of shrimp in the backwaters during high tides. In this part of the country, 82% of women involved in aquaculture are permitted or entrusted to do only this activity. The fact that a large number of women are engaged in traditional aquaculture activities and make an important contribution to the rural economy is often ignored. Social factors often support employing men in aquaculture. Ponds and hatcheries used in aquaculture are mostly located away from villages. In such a scenario, employers prefer male employees as they are supposed to fend for themselves under difficult living conditions, while women need special attention. Women sometimes hesitate to work in these areas due to a feeling of insecurity too. Men can even stay back at the site but women are not allowed stay at the workplace during night. Hence, women have to commute from nearby villages/towns to the culture sites, if they are allowed to work there. This adds a burden in terms of time and energy.

Aquaculture many a times replaces paddy fields or other agricultural activities in many parts of rural India. This might be an economically sound practice, but it often has a cost in terms of gender equality. Women are deprived of their earnings as agricultural labour when fields are converted to aquaculture activities. Women's full potential is to be utilized in profitable activities like aquaculture. For this, it is necessary to provide capacity building support to rural women. This will eventually lead to their empowerment also. This cannot be done easily in India. The technology provided to women must take into account cultural aspects also. Projects like backyard ornamental fish breeding and management was proved effective in this regard. Though poor, rural women especially from coastal areas have traditional knowledge of aqua-culture. Giving training, support and appropriate infrastructure development can strengthen their role in both inland aquacultures. They might not be as well educated as urban women. But they are by no means inferior to anybody. Through many projects, they have again and again proved that they can learn sophisticated techniques when given an opportunity.

The roles of men and women in fisheries can be synthesised as follows:

Men	Women
Often take pride in their identity as fishers	It is unclear which identities should be

	important, knowledge about identity construction processes among women in fishing communities is very little
	Women's support (pre and post-harvest subsistence task and managing the household while men are at sea, may also provide the needed credit for craft and gear (Walker, 2001), complementation (in household livelihood portfolios through fish processing or trading or by engaging in other paid activities) or subsidization of men's fishing efforts (by engaging in activities that yield them more returns than fishing, such as overseas migrant labour) fetch them very little returns
	Rarely involved in decision-making related to fishing at the household, community, regional and national levels
	Women in fishing communities less educated than men
	Access to education and health are also less than that of men
	As in agriculture, forestry and industry, they constitute a larger proportion of the poor
Men have more access and title to resources	Excluded as resource user group in fisheries governance and resource management
Men's participation signifies in fishing a sense of adventure and risk	Women do not feel as such
	In small-scale capture fisheries related activities, including pre-harvest and post-harvest activities, women's engagement is 46 % in nine major fishing countries (FAO, WorldFish, World Bank, 2008), could be

	higher if gleaning and aquaculture were included
Men go for commercial offshore, deep-sea and long-distance capture fishing	Collect mollusks, near-shore fishing; East and West Africa, Southeast Asia and the Pacific: women fish by gear near-shore or even off-shore in canoes or boats (Nadel-Klein and Davis, 1988; FAO, World Bank, IFAD, 2009), not only because of the vigorous work involved in long-distance fishing, but also because of women's domestic responsibilities and social norms (SOFIA, 2012)
	Mostly in the lower end of the supply chain (WorldFish, 2010), their activities are less profitable and they have access to poorer quality of fish
	They tend to be excluded from the most profitable markets and enterprises
	Even though they make up the majority of workers in the post-harvest sector, they are also excluded from the highly paid costs in fish-processing factories
Membership in formal organization such as fisheries associations or co-operatives is more prevalent among men (though poor men may be excluded). A study in Ghana (Overa, 1993) stated that association and memberships, can, in many ways determine success.	Less among women
Regularities in earning pattern (Khader and Sathiadas, undated)	Irregularities in earning pattern (Khader and Sathiadas, undated)
	Women's knowledge in the management and use of natural resource-based livelihoods in

	the developing world, though has been acknowledged, it has rarely been valued on an equal par with that of men (Bennett, 2005)
	They are greater losers from increasing market globalization
	They are more vulnerable to poor services and catch declines
	Household labour studies show that women with dual working roles consistently spend two or three hours more than men everyday in work-related activities (Levine *et al.*, 2001)

12.7 WOMEN ROLES IN FISHING: OTHER COUNTRIES EXAMPLES

A few examples from other countries are detailed below:

Though the time spent by women in fishing activity was half the time spent by their male counterparts in Java, Amirullah (2003) stresses that they played a major role in maintaining the food security of the family.

According to Weeratunge and Snyder (2009), women in Africa often indulge in near-shore fishing, when men fish near-shore and off-shore. Women also undertake various pre and post-harvesting tasks as follows:

- Mending nets
- Collecting bait
- Preparing food for fishers
- Keeping accounts

But tasks are mostly unacknowledged or undercounted as employment (Williams et al., 2005; FAO, 2006, Choo, 2005). Similarly, gleaning for molluscs is an activity which is almost invisible in most fisheries studies and statistics. However, when statistics from across the globe is analysed, it is visibly clear that women are outnumbering men in processing and trading of fish. When the above said kind of informal activities, which are often accounted as informal are also counted, women's role can be seen as gaining considerable growth. In many parts of the world, women are considered to be more skillful at negotiating than men. Thus

their role in marketing is gaining considerable importance everywhere. This is because women are usually subservient and refrain from engaging in conflict (Kusakabe et al., 2006). In some other parts, women are perceived to be exploiting male fishers who are dependent on them for credit (Bennett et al., 2001).

As many studies suggests, in many parts of Africa, women dominate local fish markets. This is case when agricultural market as a whole is considered too. (ICSF, 2002; Madanda, 2003; Nakato, 2005).

In a study by Kronen and Vunisea in 2007, some of the major roles that women play in coastal fisheries of 17 Pacific Island countries and their territories were highlighted. The implications of these roles for fisheries management planners, policy advisers and strategic planners were also analysed and the results of which show that women play a major role in the exclusive collection of invertebrates, instead of going for fishing exclusively for finfish.
At the same time, In Zanzibar and Tanzania studies highlighted that women traders face a visible disadvantage. This is because they had less access to social and economic resources, profitable markets, and high-value fish. This of course resulted in lower income also. Here also, women had to perform diverse unpaid tasks such as mending nets, collecting bait, preparing food for fishers, and keeping accounts. They are most of the time unacknowledged or undercounted as employment (Williams et al. 2005; Williams 2008). In most parts of Africa, were fisheries is prevalent, women are actively involved in trade (Walker , 2002; ICSF 2002; Madanda 2003). But in regions like the Lake Victoria, men usually tend to control the profitable large scale operations of high-value fish. In similar regions, most women focus on the local market and low-value fish (Lwenya and Abila 2001). For the last years women traders have become a common sight at the local fish markets In Zanzibar, where fish trade has traditionally been dominated by men.
Though the educational level of these women traders might be generally low, more women than men had finished primary and secondary school. A complete lack of formal education was more prevalent among men and not among women. Above all these differences, both men and women generally bought fish at the same auction every day, from the same place. Though the reason for this was reported to be due to familiarity with the auction place and other fish traders and fishers, the basic reason for women to hold to a fixed place was found to be household responsibilities.

Factors like quality of fish, availability of fish, price, safety etc. were reported to be less important. Most of the people suggested that having well established contacts is more important than these. Some women mentioned the relative proximity from household to the market as an important factor. This clearly shows their commitment to household responsibilities and at the same time, their restrictions in engaging in more profitable trade routes. Though women traders seemed to have a higher educational level, they shared less access to profitable markets and mobility, financial capital, contacts and organizations, and high-value fish species (Frocklin, 2013). At the same time, trading with less valuable fish seems to have some advantages also, such as it requires less capital and has a ready market due to high local consumption. On the other hand, Men's greater access to finance, profitable markets and customers, contacts, and commercially valuable fish resulted in income differentials with their women counterparts. This shows that access to initial capital is a key factor for income enhancement. Women generally lacked own savings, Much of their work is unpaid and it is difficult for women to accumulate start-up capital and gain experience. When compared to men, women get much lesser free time. This reduces the chances to network and establish contacts, without which they cannot access more profitable markets.

The roles played by women tended to be the same almost in all parts of the world. Women seldom go for active and visible fishing. Their contribution to fishing is small scale, subsistence or household oriented and generally undertaken to meet household nutritional needs and to raise additional income. They tend to be active in trading and retailing in many parts of the world. Processing is dominated by women.

12.8 RECOMMENDATIONS FOR RESEARCH IN GENDER DIFFERENCES IN THE FUTURE

The differences between male and female migration patterns to and from fishing communities and the extent to which migrant remittances offer alternatives to or subsidize fishing-related activities in home communities need to be better understood (Weeratunge and Snyder, 2009). In the area of capabilities and well-being, there is little understanding of how well-being is perceived in fisheries / aquaculture communities or how these perceptions are gendered. We also need to have a gendered understanding of vulnerability and capabilities to withstand shocks linked to illness, death and disaster. The same is in the area of gendered response to HIV / AIDS – access to health services, coping with loss of labour and productivity, as well

as social stigma, generating income to meet medical expenses – or its impact on perceptions of well-being.

12.9 SUMMING UP

In this Unit, we have discussed Marine fisheries and the activities performed by the women in the areas of Fishing, Fish landing, Sorting, Auctioning, Trading, Marketing, Processing, and the roles performed indirectly. We have seen the roles of men and women in Inland Fisheries (Ponds, reservoir, rivers, and lakes), Aquaculture- Inland and Mariculture.

12.10 GLOSSARY

Spirulina: Spirulina is a cyanobacterium that can be consumed by humans and other animals and is made primarily from two species ofcyanobacteria: Arthrospira platensis and Arthrospira maxima. Arthrospira is cultivated worldwide; used as a dietary supplement as well as a whole food; and is available in tablet, flake and powder form. It is also used as a feed supplement in the aquaculture, aquarium and poultry industries.

12.11 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check your Progress Exercise 1

1. Carp breeding and nursery raising, Carp polyculture, Breeding of catfish, Freshwater prawns in backyard hatcheries, Ornamental fish breeding and culture, Culture of Spirulina , Azolla and other live feeds, Net making and mending, Feed preparation for carps and prawns

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12.13 QUESTIONS FOR REFELCTION AND PRACTICE

1. Discuss the activities women performing in marine fishing.