

Role of Women in Processing and Marketing of Dry Fish from Coastal Bangladesh – An Exploratory Study

Fazlul Kabir Rabbanee*
Sanoara Yasmin**

ABSTRACT

Women fisher folk play a significant role in creating income generating activities (IGA) in different levels of dry fish marketing structure in coastal Bangladesh. This paper focuses mainly on the role of fisherwomen in processing and marketing of dry fish from coastal areas. The study covers seven different villages of Cox's bazaar districts. A total of 280 women fishers among - 140 fisherwomen and 140 women workers, were selected for the study. The paper points out that the sample women are involved in different income generating activities like drying, sorting and grading, cleaning and salting. The paper highlights that the income generating activities and monthly income derived from those activities vary in peak and lean seasons. The paper also identifies that most of the female fishers are semiskilled or unskilled and only 12.14% of them got training from NGOs. The article shows that their attitude towards NGOs is positive as they attain bundle of benefits from the NGOs among which are getting loans, marketing assistance, creating social awareness, enjoying sanitary latrine and the likes. Finally the paper puts forward some policy recommendations to overcome the problems of the women fishers, avail opportunities of the dry fish sector and thus lead a sustainable livelihood.

Key Words: Women, Dry Fish, Marketing, Processing, Income generating activity, NGO

* Associate Professor, Department of Marketing, University of Chittagong, Bangladesh.

** Lecturer, School of Business, University of Information Technology and Sciences, Bangladesh.

Background

Women are important productive workers in the economy making up about one-third of the labor force. Women in fishing communities also play an important role in fish production and processing across the world. Their role encompasses social and economic responsibilities, both within and outside the family. There are essential differences between the economic, social and political roles of men and women in most rural communities especially in fishing communities. It was found that women's participation in aquaculture was recognized by many researchers and practitioners (e.g. Nwabueze, 2010). Shalesha and Stanley (2000) reported that women perform important functions in the fisheries of most Asian and African countries. However, rural fishing women live in poverty with no purchasing power, and suffer from malnutrition due to low protein intake (Nwabueze, 2010).

Fishing communities of Bangladesh provide around 60%-80% of its animal based protein and livelihood for over 10.8 million households in 1400 coastal villages along the 710 k.m. coast line (GOB, 1997). About 8% of the total population in Bangladesh depends on fisheries for their livelihood (Alam, 1996, BBS 1998, FAO/BFDC 1972, Hossain, 1991). But about 73% of the fishers' households are involved in subsistence fisheries in the flood lands (GOB, 1997). Some of the poorest people of the country live in coastal fishing communities, who are culturally and economically marginalized and have often little or no voice in local government bodies such as thanas. Besides, coastal fishing in Bangladesh is highly seasonal; the monsoon is considered as the peak season for fishing hilsha and other different categories of fish. This season takes place between June and September of the year and is considered harvesting period for the fishers (Blowfield and Haque, 1996). However, income levels are only at a fraction during the remainder of the year, thereby increasing the population's vulnerability (Kleih, 2001).

Again, dry fish is an important source of protein in Bangladesh. Many people across the country especially the coastal, central and north-eastern districts of the country are fond of dry fish (Nowsad, 2007). However, sun drying of fishes is the oldest known and widely used method of fish preservation in Bangladesh, which is although the least expensive (Balachandran, 2001) yet often rudimentary and good hygiene is rarely practiced (Azam, 2002). Besides, superfluous middlemen in the marketing channels reduce the profit of fresh/dry fish producers/processors

(Flowra, Sen, Galib, Kamal and Islam, 2010) and thus the socio-economic conditions of fishers in general and fisherwomen of Bangladesh in particular remain unchanged. In order to improve the existing condition of women fishers, it is necessary to understand present status of women involved in fishing and fish marketing. Although few researches have already been conducted on fish drying (e.g. Nowsad, 2002, 2003 and 2005; Reza et al., 2005) however, these research focuses on drying and processing techniques. To the best of the knowledge of the researchers, no research has been done so far on fisher women's contribution in processing and marketing dry fish in Bangladesh. In this backdrop, this study aims at highlighting women's contribution in processing and marketing dry fish from coastal Bangladesh.

Purpose

The key purpose of this research is to explore and understand the activities involved in dry fish processing and pinpoint the role of women in these activities. In the light of the main purpose, the specific purposes of the study are as follows:

- To identify the role of women fishers in processing and marketing dry fish.
- To study the income generating activities of the sample respondents.
- To examine the parties involved in the marketing of dry fish.
- To study the patterns of employment such as work environment , working hours, wages and other financial benefits;
- To know the attitude of the sample respondents towards NGO activities in study areas.

Materials & Methods

The study is the product of the combination of two methods, i.e. empirical survey and desk study. Both qualitative and quantitative methods were used to collect data for the exploratory study.

Study Areas & Sample Size

The study was confined to seven coastal fishermen villages of greater Chittagong, Bangladesh. The reason for selecting these villages is based on the consideration that it will fully represent the picture of coastal fishing community of Chittagong, Bangladesh. They are homogeneous in terms of social, economical, political and

other external environment. The villages belong to three thanas of southern Chittagong which are – Gotivanga, Ghorakghata, and Thakurtala under Maheskhali, West Kutubdiapara and Chafuldandi under Cox's Bazar and Sairakhali under Chakaria.

The sample respondents are 280 among which 140 are women workers whereas 140 are fisher women. 20 women workers and 20 fisherwomen are interviewed separately from each of the above mentioned seven villages.

Primary Data

Primary data have been collected through both quantitative and qualitative methods. Under quantitative research methods, Direct Interview through structured questionnaire, check list and interview schedule were used to collect primary data. Observation, Depth Interview, and PRA (Participatory Rural Appraisal) technique were used to collect the qualitative information. The questionnaire is finalized after necessary correction based on a pilot survey conducted on a limited basis. The questionnaire was designed with two main characteristics viz., open ended and close ended according to the nature of information. For instance, questions regarding procedures and method of different aspects of credit issues were close ended based on literature survey and pilot survey. This was done to facilitate data analysis work. Some other questions were kept open ended where opinion was sought and the respondents had something to tell from her experience. This was done to give scope to the respondents to express themselves freely.

Findings of the Study

Socio-Economic Profile of the Respondents

Socio-economic characteristics help shape preferences, determine attitudes and mold values (Rabey, 1984). Such characteristics are often observed to be an inheritance process where some benefits, resources and privileges are passed on from the father and other family members to the next generations. Further, socio-economic environment is of major interest to marketers because it involves people and people make up markets (Kotler, 1992). In such a context, socio economic characteristics, i.e. age, education, gender combination, marital status, monthly income, assets, land, have been considered more relevant for the purpose of sample respondents of present study. The socio-economic profile of the sample respondents is shown in Table- 1.

Table- 1: Socio-Economic Profile of the Sample Respondents

Variables	Items	Frequency %	Average
Age group	< 10	15.00%	36 years
	10 – 20	11.07%	
	20 – 30	16.07%	
	30 – 40	37.14%	
	40 – 50	13.93%	
	50 +	6.78%	
Education	Illiterate	46.07%	
	Can write only	37.86%	
	Up to Primary	12.86%	
	Up to Secondary	2.50%	
	Above Secondary	0.71%	
Family Size	<=4	17.14%	6.47
	5 – 6	32.86%	
	7 – 8	31.79%	
	9 +	18.21%	
Marital Status	Married	38.57%	
	Widow	26.43%	
	Divorced	13.57%	
	Unmarried	12.86%	
	Old	8.57%	

Source: Field Survey

It is evident from Table- 1 that the average age of the women respondents is 36 years. Most of them (37%) fall in the age group of 30-40 years followed by 20-30 years (16%), less than 10 years (15%), 40-50 years (14%) and 10-20 years (11%). It shows that this is the age when one can exert his skill, talent, on one hand, and seems to be motivated to face any challenges in building her career, on the other. Again, the survey data reveals that significant numbers of women respondents (11+15 = 26%) are children and they are involved in fishing or fishing related activities instead of spending time in school which shows a key socio-economic perspective of the fishing community. It appears that there is potentiality of development of family based enterprises which will open up job opportunities for all family members.

The table portrays that most of the respondents are illiterate and the percentage is 46%. The education level of the women fishers ranges from 38% in the “can write name only” section which is followed by 13% - up to class V, 2.50% - up to SSC and only 0.71% - above SSC. The survey data reveals that 280 total respondents have 1811 total family members with average family size of 6.47, which is higher than national Average – 5.26. This shows that the respondents have fairly large families which also prove that family planning campaign of the government is not that successful in the study areas. Again, such large family size, in turn, causes lower rate of earning, low rate of saving and ultimately they lead a poor livelihood.

As far as the marital status of the respondents goes, Table- 1 shows that 38.57% of the respondents are married, 26.43% of them are widow, 13.57% are divorced, 12.86% are unmarried and 8.57% are old. Reportedly, married women live a more secured life than widows and divorced women of the coastal fishing communities. Thus, social network through marital linkages may help one to choose alternative income generating activities from their socio-economic environment.

Occupations of the Women Respondents

Occupation is a key element of demography, which has significant impact on the socio-economic condition of the individual. Optimum occupation can lead to different income generating activities and thus facilitate better livelihood. In this background, the data collected regarding the occupation of the sample respondents is shown in Table- 2.

Table- 2: Distribution of the Respondents by Occupation

Occupation	Frequency	Frequency in %
Fish Processing	218	77.86%
Weaving	152	54.29%
Poultry farming	136	48.57%
Yard Farming	104	37.14%
Dairy	69	24.64%
Bamboo works	120	42.86%
Daily Labor	64	22.86%
Housewife	34	12.14%

Source: Field Survey

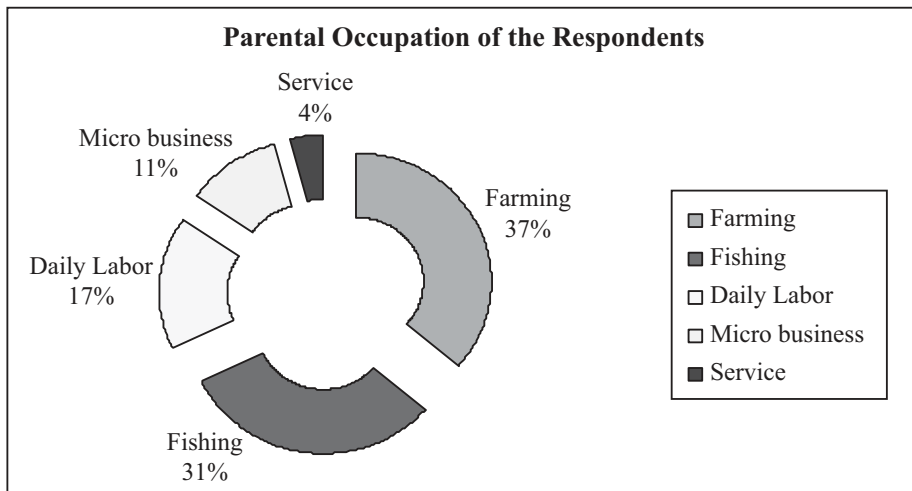
N.B. Respondents answered more than one option

Table- 2 states that 78% of the respondents are involved in fish processing followed by weaving – 54%, poultry - 49%, farming - 37%, Dairy - 25%, Bamboo Works - 43%, Daily Labor – 23%, Housewife – 12%. Therefore, it is evident that the women are highly involved with different types of activities instead of being housewives only.

Parental Occupations

Demography seldom stresses importance of occupational status of the parents of the respondents in endeavors to verify the nature of the choice of occupation by the respondents. But on many occasions, the pursuit of occupations by individuals is determined in the line of the professional background that their parents used to hold. In this regard, we were interested to know about the parental occupation of the sample respondents and data collected is shown in Figure- 1.

Figure-1: Parental Occupations of the Respondents



Source: Field Survey

From Figure- 1, we find that the main parental occupation was farming (36.43%) whereas other significant parental occupations were fishing (31.43%), daily labor (16.79%), and micro business (11.43%). Thus it proves that professional migration has been prevailing in the study areas. It is reported that the main reasons for such professional migration from farming to fishing is due to land erosion (due to tide) in the coastal areas, due to seasonal effect on crops i.e. mainly paddy and also due to the lack of availability of fertilizer at affordable prices.

Role of Women in Drying Fish

Millions of women, in rural Bangladesh, are suffering from poverty, illiteracy, unemployment and malnutrition. They play a significant role in the dry fish industry of the coastal areas of Bangladesh though they suffer from malnutrition due to lack of protein. In this connection, we were interested to know about all possible activities done by the women workers in producing dry fish. It has been reported that huge numbers of women workers are engaged in different types of activities in producing dry fish. These activities are as follows –

Drying: Drying is the key activity in the dry fish industry which is usually done either by the female fishers or by the wives and children of the male fishers. It has been observed that the sample respondents dry the fishes caught by their male counterparts on the roof (mostly made by hay; few of them are made by tin) and / or in the yard of their houses. They spread the caught fishes on a mat and then dry them. The respondents opined that they do not follow any modern mechanism for drying the fishes. They usually dry their produces manually and even they seldom use cover to protect the fishes from dust and other dirt. This definitely has negative impact on the quality of the dry fish.

Sorting and Grading: Sorting is another mentionable activity done by the women fishers in the study areas. The sorting of fishery products into standardized grades is a facilitating marketing functions. Grades and Standards constitute an agreed-upon market language that can greatly simplify marketing processes and reduce marketing costs. Graded goods conform to the different quantities expected by different consumers according to their paying capacity or satisfaction expected. It also helps in streamlining handling and transporting fish produces otherwise different grades of different quantities brought from different fishermen have to be transported separately (Amarchand and Varadharazon, 1979). It has been observed that the two basic bases of grading fishes are size and freshness. It has also been reported by the respondents that sometimes the fishes which are about to be rotten are separated and dried and then sold as dry fish. But it has been observed that the fishers suffer from a lack of scientific techniques in sorting and grading which hinders the efficiency of the dry fish marketing system.

Packaging: Packaging is the task of wrapping and folding materials to protect the same from the surroundings. Packaging is needed to accumulate and transport fish from catching point to processing yard to different markets. The functions of packaging are firstly to contain adequately a convenient quantity of the product to

protect it in transit and to aid in its safe delivering to the customers (Francise, 1980). It has been reported that the sample respondents generally use bamboo-made baskets, plastic bags and jute bags for packaging fishes to transport them to the processing or drying yard. Once the fishes are dried then they are packaged in different plastic and jute bags to be transported to the market.

Transportation: The movement of farm products from where they are produced to consumption centers creates place utility (Kohis and Uhi, 2002). In case of dry fish industry, the fish catching places are away from the drying places. Again the primary markets where the dried fishes are sold first are also away from the drying places. Thus transportation plays a significant role in the producing and marketing of dry fish. It has been reported by the sample respondents that the women fishers and other family members walk a long way and bring the caught fishes to their home yards by themselves. The dried fishes are transported to the primary market to sell to the local middlemen like Faria, Mohajon, etc. But unfortunately, a lack of adequate and good means of transportation between the areas of fish catching and the centers of their marketing hinders the movement of fish produce and makes primary marketing costly (Rahman, 1973). It has been reported that the various modes of transport are used in this regard among which van, rickshaw, boats, etc. are worth mentioning,.

Storing: Storage refers to the holding of procedures under proper conditions between the time of their production and their final sale (Fredrick 1940). Storage marketing function is associated with the creation of time utility (Kohis and Uhi, 2002). Storing is another indispensable function of the fish marketers and the fishers as well. It has been reported that the sample respondents store the dried fishes in pots of different sizes and also in wooden boxes and plastic bags before they are transported and sold to the market or before the middlemen buy them from the fishers. Sometimes they tend to dry fish when they catch a huge amount of fishes and all of the fishes can not be sold within a day. Some of the excess fishes are also stored with ice by the fishers and then sold or dried later on.

Cleaning: When the fishers catch fish then lots of dirt, clay and things are mixed with the fishes which are cleaned by the women workers and female family members of the male fishers. They clean the fishes before sorting, drying and selling them to market.

Salting: Salting is an indispensable function of fish drying. Once the fishes are cleaned, sorted and graded then they are mixed with salt before drying. The

women fishers and other family members usually conduct this function. They buy generic salt from the local market and mix with fishes so that the fishes do not get rotten overnight because it takes a few days to dry the fishes properly.

De-Germinating: The caught fishes are usually sorted and graded and cleaned in the yards of fishers in a manual and non-scientific way. Again the fishers also dry the fishes in a traditional manner. As a result the fishes need to be de-germinated to be dry fish of improved quality. The women fishers usually de-germinate the fishes with some specific chemicals.

Among all these activities, the researchers were interested to know about which activities were mostly done by the women fishers. The survey data were processed in this regard to find out the rank average of different roles played by the women fishers in drying fish, which is shown in Table- 3.

Table- 3: Role of women in Dry Fish Industry

Activities/Role	Respondents' Ranking or Factors			Weighted Score	Rating Percent	Rank
	No.1	No.2	No.3			
Sorting & Grading	177	141	33	846	18.87	2
Drying	178	144	35	857	19.11	1
Cleaning	162	109	87	791	17.64	3
Packaging	22	98	188	450	10.04	5
Transportation	18	41	140	276	6.16	7
Storing	20	76	176	388	8.65	6
De-germinating	14	36	77	191	4.26	8
Cutting	15	33	61	172	3.84	9
Salting	41	96	198	513	11.44	4
Total				4484	100.00	

Source: Field Survey

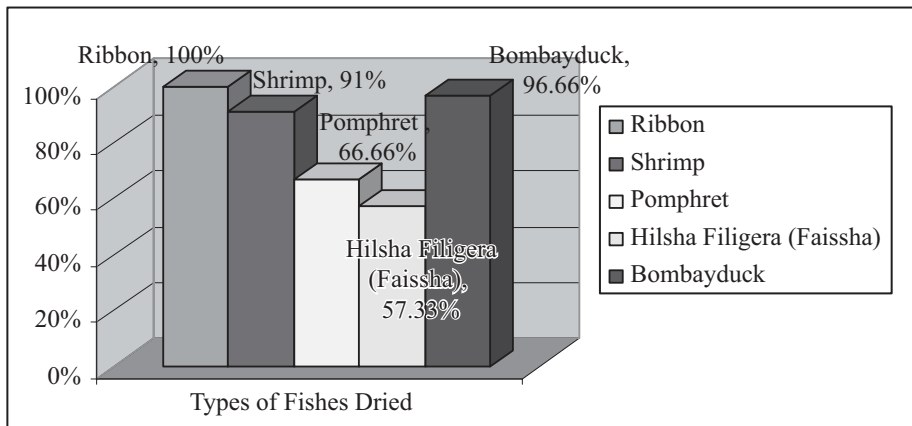
N.B. The respondents mentioned more than one activity as the key role of women in drying fish and in some cases they didn't mark all the three role according to preference. The ranking factors indicate 3,2, and 1 respectively. The overall ranking has been made on the basis of the percentage of the weighted scores for each activity.

Table- 3 shows that women workers are engaged with nine different types of activities in drying fish. Based on the rank average of these eleven activities, the sequence is - Drying (rank 1), Sorting and Grading (rank 2), Cleaning (rank 3), Salting (rank 4), Packaging (rank 5), Storing (rank 6), Transportation (rank 7), De-germinating (rank 8), and Cutting (rank 9). Therefore, most of the women workers in the study areas are involved in drying fish followed by sorting and grading, cleaning, salting, and the likes. It is reported that some times all the family members are doing these activities together i.e. husband catch the fish and wife sort, clean, salt and dry the fish along with their children. Often the marginal women workers, widows and old workers depend on their children or engage themselves with their neighbors and do the same.

Types of Fishes Dried by the Respondents

A number of fishes are usually dried by the dry fish women workers during the peak season. Ribbon, Bombay duck, Shrimp, Pomphret, Hilsha Filigera (local name is Faisha) are worth mentioning among those. Figure-2 shows the types of fishes dried by the sample respondents.

Figure 2: Types of Fishes Dried



Source: Field Survey

Figure- 2 shows that the main fish dried is Ribbon (100%) followed by Bombay Duck – 97%, Shrimp – 91%, Pomphret – 67%, and Hilsha Filigera (Faisha) – 57%.

Who do the Respondents Sell Dry Fish to?

Selling is a monetary transaction that involves at least two parties. It is one of the oldest professions (Kotler, 1999). Though modern selling is a complex process and involves a number steps, but selling function of the dry fish processors in coastal areas is much easier as it does not include all the steps of modern selling like prospecting & qualifying, pre-approach, approach, etc. Rather in case of dry fish selling by the women dry fish workers in the coastal areas, usually different parties come and visit the yards of the respondents and buy dry fish. In this backdrop, we were interested to know about the parties to whom the respondents sell their produces. Table- 4 shows the information regarding the parties to whom the respondents sell fish.

Table- 4: Table showing the parties to whom the respondents sell fish.

Category	Frequency	Frequency in %
Aratder	251	89.64%
Wholesaler	205	73.21%
Processor	230	82.14%
Dadondar	246	87.86%
Consumer market	90	32.14%

Source: Field Survey

N.B. Total frequency in percentage is more than 100 as the respondents answered more than one option.

The Table- 4 shows that the major parties to whom the respondents sell the dried fish are aratders, wholesalers, processors, dadondars and directly in the consumer market. It also shows that 90% of the respondents sell their dried fish to aratders, followed by 88% to dadondars, 82% to processors, 73% to wholesalers, 32% to consumer market. It is reported that often the aratders, dadondars and processors are the same persons and control the whole marketing channel of dry fish. Thus it is evident that dadondars or aratders are the key interest group and principal beneficiary of the dry fish marketing chain.

IGA of the Respondents and Income Derived from the Activities

Income generating activities are the prime determinants of level of income. Income is the important ingredient of purchasing ability and thereby fundamentally affects livelihood of the target people. It is generally observed that increase in income is followed by subsequent rise in demand and search for quality, which pave the way towards better livelihood. Again, the income generating activities vary based on gender and season. In this connection, we were interested to know about different IGA in peak season and lean season for male and female fisher and also income derived from such IGAs, which is shown below–

Peak Season: Peak season in fishing industry basically refers to the dry season which lasts from October to March. During peak season the fishers are able to dry fish at their highest level. During this season male principal activity is *Fish catching* and their average income is 2985.72 tk. On the other hand, female principal activity is *Fish processing & drying* and their average income is 1611.90 tk.

Lean Season: Lean season refers to the rainy season when the fishers really struggle to dry fish due to heavy rainfall. It lasts from April to September and this period of the year is also prone to natural calamity like cyclones, floods, etc. During lean season usually the income is low compared to peak season and both male and female fishers pursue different activities for their livelihood. Information in this regard is shown in Table- 5.

Table- 5: Activities of women respondents during lean season

Activities	Frequency in %
Poultry	52.38
Weaving	38.09
Bamboo works & Handicrafts	33.33
Gardening & Plantation	28.57
Dairy	23.67
Fish Culture	8.52

Source: Field Survey

N.B. Respondents answered more than one option

From Table- 5, it is evident that the principal income generating activities of the female fisher in lean season is poultry (52%) followed by weaving 38% and Bamboo works 33%, etc. The average male income during lean season is 1645.23 tk. whereas average female income is 1061.90 tk.

Working Hours & Wage Structure of Women in Fish Processing

Wage is the monetary value of labor. In the coastal fishing community, wage is calculated based on both per day and overtime hours. Table 6 shows the working hours and wage rate for the sample women dry fish workers.

Table- 6: Working hours and wage rate of the respondents

Time	Total Hours	Total Wage
1. 7 am – 6 pm	12 hrs	50 tk.
2. 6 pm – 12 midnight	6 hrs.	50 tk.
3. 12 midnight – 3 am	3 hrs.	50 tk.

Source: Field Survey

From Table- 6, it is confirmed that the regular wage of the women dry fish workers is tk. 50 per day only, which is very poor and frustrating as well. The overtime rate is also very poor for the first 6 hours, it is tk 50 only and even during the midnight, the rate is also only tk 50. The usual trend of working hours of the respondents is shown in Table- 7.

Table- 7: Distribution of the Respondents by working hours

Category	Frequency	Frequency in %
7 am - 6 pm	220	78.49%
6 pm - 12 midnight	105	37.53%
12 midnight - 3 am	68	24.18%

Source: Field Survey

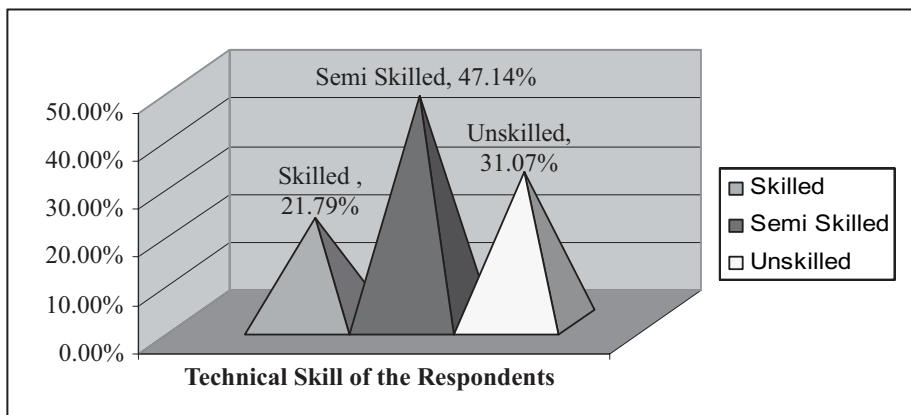
N.B. Total frequency in percentage is more than 100 as the respondents answered more than one option.

Table- 7 proves that 78.49% of the respondents work in the usually working hours i.e. from 7am to 6 pm. 38% of them work from 6 pm to 12 midnight whereas 24% work after midnight from 12 am to 3 am.

Technical Skill of the respondents in drying fish

Skill is one's capability of carrying out a specific task. Skills are learned and developed with experience, training, and practice. Technical skills are those involved in making a product or providing a service (Skinner and Ivancevich, 1992). Likewise, in fish drying, skill of the workers is an important determinant of the quality of the dried fish. Data collected in this regard is shown in Figure- 3.

Figure 3: Technical Skill of the Respondents



Source: Field Survey

From Figure- 3, it is evident that most of the respondents (47%) are semiskilled. 31% of them are unskilled whereas only 22% are skilled in drying fish.

Training of the Workers

Training is a continual process of helping workers perform at a high level (Skinner and Ivancevich, 1992). It used to be thought that 'training was like measles' – a dose in one's youth was sufficient for life (Jewel, 1998). It may occur in workplace or at special training facilities. It may be conducted on the job or off the job. In this connection, we were interested to know whether sample respondents got any on off the job training from any institutions. Data in this regard is shown in Table- 8.

Table- 8: Distribution of the sample respondents based on formal training attained

Training	Training	
	Frequency	Frequency in %
Yes	34	12.14%
No	246	87.86%

Source: Field Survey

From Table- 8, we see that only 12.14% of the respondents got training on their profession i.e. in drying fish. It is reported that basically the NGOs arrange different types of off the job training program for the fisher folk in general and dry fish workers in particular.

As the NGOs offer off the job training, we were interested to know about the nature of off the job training they offer from the 34 respondents who got the off the job training of the NGOs. The results have been shown in the following Table- 8 (a).

Table- 8 (a): Distribution of sample respondents based on nature of training attained from NGOs

Off the Job Training	Frequency (out of 34)	Frequency in %
Lecture Session	22	64%
Group Discussion	14	41%
Counseling	17	50%
Simulation Technique	8	23%

Source: Field Survey

N.B. Respondents answered more than one option.

Table- 8 (a) shows that among the 34 respondents who got off the job training from the NGOs, 64% of them attended the lecture session, followed by counseling 50%, group discussion 41% and simulation technique 23%. Reportedly, the dry fish workers also attained some on the job training by their predecessors or supervisors and these were obviously informal. In this connection, we were interested to know

about the nature of training attained by the respondents, which is shown in Table-9.

Table- 9: Distribution of respondents by the nature of informal on the job training attained

On the Job Training	Frequency	Frequency in %
Apprenticeship Training	129	46%
Assistantship	98	35%
Job Rotation	64	22%
Part Time Assistance	106	37%

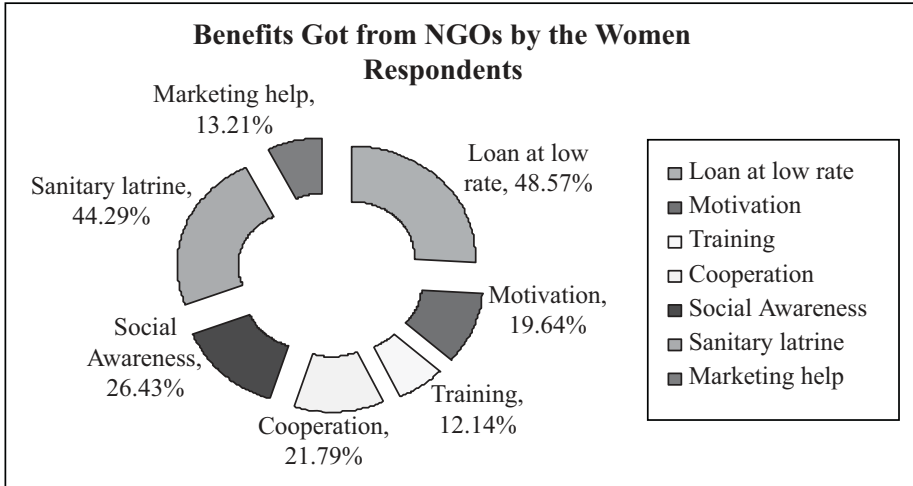
Source: Field Survey

N.B. Respondents answered more than one option

Table- 9 evidences that the women dry fish workers often attain informal on the job training among which the most popular method is apprenticeship training given to 46% followed by part time assistance 37%, assistantship 35% and job rotation 22%.

Attitudes towards NGO

NGOs help in various ways for the better livelihoods of the fishing communities. A number of NGOs operate in the study areas among which COAST, CODEC, BRAC are worth mentioning. Besides, Grameen Bank's operation is also significant in the study areas. Attitudes towards NGO is positive, because NGOs render the following benefits. They provide collateral- free micro credits, undertake social awareness program, provide technical assistance, conduct training programs, provide sanitary latrine facility, infrastructural help, marketing help, etc. In this regard we were interested to know about the nature of benefits that respondents got from the NGOs, which is shown in Figure- 4.

Figure 4: Benefits got from NGOs

Source: Field Survey

From Figure- 4, we see that the main benefit that the respondents attained from NGO is 'loan at low rate' weighted to 48.57% followed by sanitary latrine 44.29%, social awareness program 26.43%, cooperation 22%, motivation 19.64%, training 12.14%. It is reported that from NGOs they often get collateral- free loan at low rates but still the rate is higher than that of formal sources like formal commercial bank. Good to note that the rate is lower than that of the rate of Dadondars. This is a key benefit for the women dry fish workers as they don't have any access to the formal institutional sources. Besides, they got cooperation from NGOs during the natural disaster and also during their family problems. Moreover, NGOs undertake different motivational and social awareness programs for the respondents in the study areas.

Problems of Women Fishers

The UNDP Report (UNDP Report, 1994) stated that having independent income is the most important source of empowerment for rural women. This is quite true for coastal fisher women as they are also poor and distressed. They are facing a number of problems related with social, economic, political, technological matters. Again efficient marketing is essential for the growth and development of agriculture and industry. Data collected in this regard is shown in Table- 10.

Table- 10: Table showing the Problems of the Women involved in Drying Fish

Problems	Frequency in %
Social Problems:	
a) Lack of Social Security	98.88%
b) Lack of Sanitation	66.67%
c) Lack of Education	88.66%
d) Early marriage	72.95%
e) Gender Discrimination	50.55%
Economic Problems	
a) Lack alternative IGA	62.55%
b) Lack of Capital	87.86%
c) High Interest Rate	82.62%
Infrastructural Problems	
a) Lack of transport facilities	68.88%
b) Lack communication facilities	56.60%
c) Lack of power supply	68.90%
d) Lack enough school	55.67%
Marketing Problems	
a) Poor Bargaining Capacity	92.86%
b) Absence of adequate marketing information.	84.68%
c) Lack of adequate fishing equipment.	71.20%
d) Absence of logistic support for efficient storage & distribution	65.00%
e) Lack of modern communication facilities	78.52%
f) Lack of easy access to credit	100.00%

Source: Field Survey

N.B. Respondents answered more than one option

Table- 10 shows that the sample respondents are facing social, economic, infrastructural, and marketing problems. Among the problems, lack of easy access to credit (100%), lack of social security (98.88%), poor bargaining capacity (92.86%), lack of education (88.66%) are the most acute problems. The next serious problems of the women workers are lack of capital (87.86%), Absence of adequate marketing information (84.68%) and high interest rate (82.62%) are worth mentioning. Due to such acute problems, the sample respondents are deprived of their basic rights and timely information and suffer from a poor livelihood.

Policy Implications

The fisheries are predominantly perceived as the activity of men. Despite the fact that there are difficulties for women to be involved in fisheries, there is a vast potential for women to contribute meaningfully in the fisheries sector. The following are the few strategy recommendations to ensure the participation of women in the production, processing and marketing of dry fish in a more befitting manner with a view to making certain the livelihood security of the women fisher folk in general and sample women fishers in particular.

Access to Credit

The women fishers are marginalized and do not have access to traditional bank credit. Adequate financial support needs to be ensured to them so that they do not fall prey to marketing intermediaries. Moreover complexity of processing bank loan needs to be simplified so that concerned fisherman can get benefit of institutional financial market.

Development of Communication and Transport Facilities

The women fishers in the coastal Bangladesh have neither access to modern communication system nor do they enjoy smooth transportation facilities. Even the private communication enabling companies like telecommunication do not have infrastructure in coastal areas. As a result, they do not have up to date information regarding natural disasters like cyclones, tidal bores etc. which creates lots of suffering in their life. Therefore, the fishers at coastal areas should have access to modern communication system.

Access to Improved Technology

Coastal communities depend on indigenous technologies in catching, cutting, sorting and processing dry fishes. The unprivileged fishermen may be given preferential access to improved technology through training and skill development.

Basic Infrastructural Development

The Government should take proper steps for the development of basic infrastructures for the coastal inhabitants so that they can enjoy education, safety, health and hygiene factors.

Ensuring Fair Price for the Harvesters

Often the fish harvesters are exploited by the money lenders (dadondars) as the dadondars capitalize on the marginalized nature of the fishing community and force them to sell their produces at low prices as they lend them money. To get rid of such kind of vicious empire of the dadondars in the coastal areas, the Government should take proper steps through legal protection and/or through ensuring credit facility to the fishers without any collateral.

Collaboration among Government Organizations, and NGOs

Different Government organizations like the Ministry of Fisheries, Local Govt. Institutions, etc. along with different local and international NGOs should initiate a collaborative approach to creating social awareness in coastal areas regarding the contribution and significance of the fishing community. The NGOs should organize training for the harvesters to improve their skills as to scientific harvesting, processing and marketing through spread of knowledge, skills, technical know-how.

Involvement of women in all development endeavors including agricultural is seen as a priority in development paradigm. Again marine dry fishes are important source of protein. Its edible parts provide protein 70-80%, fat 2.5%, minerals 10% (Calcium, phosphorus, iodine etc.). It is tasty, cheaper, and available and is a favorite food item of middle class families. Moreover, special emphasis should be given to ensure participation of women in fishery development activities so as to raise the family income leading to the better standard of living. In fact suitable profession for the women in fishery sector will be fish cleaning, cutting, drying, salting, grading, packing and the likes.

Limitations and Future Research Directions

The study has a number of limitations. It unearths women's contribution in dry fish processing and marketing from coastal Bangladesh. Future research may focus on how women's involvement in dry fish processing and marketing can aid their poverty alleviation. Secondly, sample study areas are concentrated in coastal areas of Bangladesh and the findings of the study may differ from the situation of inland fishing communities. Therefore, future research may be pursued to explore whether women's status and contribution in dry fish processing and marketing is different for inland fishing context from that of coastal context. Last but not least,

this study is just an exploratory research; hence it does not show any causal relationship between different social phenomena of coastal fishing communities. Future research may be pursued in this direction focusing on cause and effect relationship between different social phenomena involved in this sector. For example, it may be worthwhile to conduct a study focusing on causes of marginalization of women fishers and consequences of different Government and NGO initiatives in eradicating their poverty.

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