

Livelihood Pattern of Fishing Communities in South-Central Coastal Regions of Bangladesh

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| Received: 10.03.2019 | Accepted: 15.03.2019 | Published: 30.03.2019

DOI: 10.36347/sjavs.2019.v06i03.001

Abstract

Original Research Article

The aim of this study was to assess the livelihood pattern of fishermen in south-central coastal Bangladesh. The study was followed by a triangulation method (combining both quantitative and qualitative approach). Field survey for this study was conducted in Patuakhali district, a region of south-central coastal and three different villages of Patuakhali district namely Fashipara, Nayoripara, khajuraofLatachaply Union at KalaparaUpazila (sub-district) of Patuakhali District in Bangladesh. The method of sampling for the foregoing research was not random rather selective based on the purposes of the research. A total number of 180 respondents were selected randomly for face to face interview from three fishing communities. In addition, five focus group discussions and four case studies were performed in the field with the vulnerable fishermen due to explore the livelihood-induced risk of that particular community. The study reveals that the status of livelihood of the fishing community is very low which reduces their ability to meet their basic needs. It also explores that the fishing community is displaced and migrated highly nearby places due to their social and economic vulnerability, loss of physical resources, and insecurity, and they were suffering severely in terms of their unemployment, lack of housing, health problems, and their low access to the local public services. A fishing community oriented policy should be developed by the government for the betterment of the livelihood of the fishing community of coastal areas in Bangladesh.

Keywords: livelihood risk, livelihood security, fishing community, Coastal region.

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INTRODUCTION

Comparatively, in a poor or less developed country most of the people live in the rural areas and many who live in urban areas are engaged in an unremitting struggle to secure a livelihood in the face of hostile social, economic and often political circumstances [1,2]. It is suggested that two points are central to an understanding of such struggles. The first point is that even the circumstances of poverty and the reasons for poverty have to be understood through detailed analysis of social relations in a particular historical context: between those with land and those without land, between men and women, between rural and urban households [3-5]. The second point is that the modes of livelihoods that typically prevail both within households and between households are highly diverse [6]. Most of the impoverished people and hunger-bit of a poor country live in rural areas and they totally rely on farming, fisheries, forests, and livestock for attaining their livelihoods [1].

These types of sectors belong to the most affected by extreme weather events, making resource-poor farmers/fishermen/herders even more vulnerable to the disasters and impacts of climate change. In a developing country like Bangladesh, agriculture is the dominant sector of livelihood and other than farming; fishing is also considered as the significant source of livelihood pattern. The people's livelihoods who are involved in fishing activities are less diversified because of lacking endowed resources. Indeed, enhancing livelihood diversification would ultimately have a positive impact on household welfare [7]. As regard, fishing communities have less access to state-sponsored resources and privileges that avert them to diversify their livelihoods. As fishing is a non-farming option and poor people engage in these activities, the fishermen chance to switch into other option just because of less access to assets and resources. Diversified households and less diversified households differ significantly in terms of variables related to household assets, markets and institutions [8,9]. Both household welfare and rural nonfarming diversification

decisions are mostly driven by household assets including good health, education, and household age composition.

As Bangladesh is a developing country and significant portion of the people are engaged in fishing-related livelihoods but natural disasters along with other significant factors play a critical role in shaping the livelihoods of fishing communities [10]. The fishermen of south-central Bangladesh are in vulnerable situations, and they are not able to recover it as these poor and marginalized people are more severely affected by natural disasters and climate extremes for several reasons [11]. First of all, they live in marginal, extreme or unsafe areas due to the proximity to the coast, cyclone, flooding, and tidal surges. Their vulnerability and risk during the peak period of fishing are greater as they are more likely to less access to life-saving equipment, foods, hazard warning forecasting.

Fishermen's contribution to national economy play a significant role in promoting the growth and development of the country regarding earning of foreign remittance from exporting the fishing products outside of Bangladesh [12]. Fishing products have been largely filling up the nutrition demands of the mass people of the country particularly the people directly involving the fishing activities those who have not any access to dairy products into some extent [13]. Though fishermen involved in the fishing activities and contributing to the national economy but their livelihood activities are always considered as risky occupations as they always go to the deep sea for catching fishes with less protective resources [14]. Though their livelihood (fishing) contributes to greater extent in saving the local households from falling into poverty but simultaneously their fishing activities generate a large volume of risk for life [15]. It is not just because of the geographical proximity of the south-central communities to the Bay of Bengal, but their socio-economic placement in the lower stratum of the society turn away them to secure the life-saving equipment, foods, medicine and better shelter during the fishing in the deep sea. However, these resource-dependent communities are facing enormous risks in maintaining the livelihood standard. Though fishing as livelihood option of the fishing communities generates risk no significant research has done to date on this resource-dependent fishing communities. The main purpose of the study is to assess the livelihood pattern of fishermen in south-central coastal Bangladesh.

REVIEW OF LITERATURE

Mutahara *et al.* [16] in their study present the model results for Cox's Bazar and Satkhira areas, respectively. In both areas, the results have determined the livelihood security of individual groups. The lowest security level 14.96 % was found for fry collectors. In the Cox's Bazar area, the fry collectors live at a very marginal level, with access to but not ownership of

marine resources. Women and children are mostly involved in fry collection using very traditional instruments. In most cases, they lost their instruments and cannot go to sea during and also a long time after a storm surge. Wage laborer group is also less secure (17.88 %) because of the limited scope of work during and after a storm surge. However, they have some access to rehabilitation work with other groups like agriculture, salt farmer or dry fisher. On the other hand, the highest security was found for salt farmer group in Cox's Bazar. They have ownership to the land which they use for salt farming. They have seasonal investment and income. We found that farmers can preserve the produced salt in the field giving mud cover during the occurrence of a storm surge. Farmer, fisherman and dry fisher groups were also at relatively higher security levels.

Ahsan *et al.* [17] conducted the study to know the socio-economic condition of the fishermen and intermediaries of fish marketing chain in Cox's Bazar area, Bangladesh. Socio-economic condition of the fishermen and intermediaries were not so good in the study area. It was found that about 35% of fishermen and intermediaries were illiterate, 16% of fishermen and intermediaries were semiliterate who only could write their names. 55% household of the fishermen and intermediaries had tin shed house with the tin wall. Average income for most fishermen and intermediaries was about Tk. 400-500 and 66% were found to borrow money from a different source for continuing their business. Poor road and transport facilities, lack of credit facilities, insufficient supply of ice, inadequate training facilities and a large number of intermediaries in the chain were the main problems of the marine fish marketing chain. It is, therefore, necessary to provide institutional and organizational support, government support, extension service, and training facilities to the market operators for sustainable fish marketing systems.

Rahmatullah *et al.* [18] designed a study to assess the socio-economic status of fishermen and fishing activities dependent on the Jamuna river of Chukaibari union near Dewongonjupazila to study and understand the socio-economic status of fishermen. They found that the socio-economic status of the fishing community is very poor. Bhuyan & Islam [19] revealed some interesting facts and showed most of the fishermen was Hindu (63%) belonging to the age of 24-45 years. Most of the house was kacha (65%) and with poor sanitation facilities. For coping with the adverse situation most of them (85%) take a loan from somiti (Asha).

Islam *et al.* [20] observed the fishers coping and adaptation strategies comprise a fluid combination of complex overlapping sets of actions that the households undertake based on their capitals and capabilities, perceptions, socio-cultural embeddedness

and experiential leanings from earlier adverse situations. Broadly, these are survival, economic, physiological, social, institutional and religiosity-psychological in nature. Adaptation mechanisms involve some implicit principles or self-provisioning actions that households are compelled to do or choose under given sets of abnormal stresses to reach certain levels of livelihood functions.

Islam *et al.* [11] with the view to understand the socio-cultural dimensions of the small scale bag net fishery practiced in coastal Gir Somnath, India, address the three research objectives: first to explore the supply chain, second to understand local governance and third to explore the values, beliefs and perceptions of local fishers. The research reveals that fishers relate, interact and negotiate with multiple parties to use a variety of resources that contribute towards their material wellbeing. The local fishery is governed by a mixed-regime where relationships make an important contribution. The worldview and beliefs of fishers are largely shaped by local fishery; however, recent trends in the fishery, such as access to markets, have influenced the attitudes and perception of the fishers in this region.

Islam and Chuenpagdee [21] attempts to capture the socially constructed nature of risk by analyzing the discourses embedded in community beliefs, myths and experiential narratives regarding coastal hazards and fishworkers' livelihoods. A significant finding of them is that the communal discourse of coastal hazards or kolu is an integral part of fish workers' resistance against formal authority and scientific knowledge systems in coastal management. The myths and beliefs of fish workers are expressions of their concerns about present forms of development and coastal resource management.

Drawing upon our research and the available literature, and using a livelihoods framework, this paper synthesizes the pathways through which climate variability and change impact fisherfolk livelihoods at the household and community level. The researchers identify current and potential adaptation strategies and explore the wider implications for local livelihoods, fisheries management, and climate policies. Responses to climate change can be anticipatory or reactive and should include: (1) management approaches and policies that build the livelihood asset base, reducing vulnerability to multiple stressors, including climate change; (2) an understanding of current response mechanisms to climate variability and other shocks in order to inform planned adaptation; (3) a recognition of the opportunities that climate change could bring to the

sector; (4) adaptive strategies designed with a multi-sector perspective; and (5) a recognition of fisheries potential contribution to mitigation efforts.

METHODOLOGY

Study regions

Field survey for this study was Patuakhali district, a region of south-central coastal Bangladesh. Three different villages of Patuakhali district namely Fashipara, Nayoripara, khajura under Kalaparaupazila(sub-district) were selected for this study.

Sampling

The method of sampling for the foregoing research is not random rather selective based on the purposes of the research. A total number of 185 respondents were selected randomly for face to face interview from three fishing communities. In addition, five focus group discussions (FGDs) were performed in the field for reliability and cross-checking of the obtained data.

Data collection and analysis

For the quantitative method, it was followed semi-structure questionnaire by face to face interview. Moreover, a number of techniques and tools of qualitative methods will be applied to collect qualitative data including case study, Focus Group Discussions (FGDs), and even brief conversation with the fishing community. The collected data was analyzed through statistical program for social sciences (SPSS) version 19. The gathered qualitative data was analyzed following the thematic analysis. Data coding and recoding were held after the gather of qualitative data.

RESULTS AND DISCUSSION

Respondent's socioeconomic characteristics such as gender, age education, occupation, and income level affect how they perceive the livelihood-induced risk. Socioeconomic conditions also contribute to increasing or reducing vulnerability and enabling or preventing individuals to take certain adaptive measures during crisis periods. In this study, the researcher has included 185 respondents to unraveling the livelihood-induced risk of resource-dependent communities, among them a significant number (98.9%) are male and the rest 0.5% of people are female. The study was conducted on different categories of respondents based on their marital status. Thus, according to the respondent's marital status, most of the respondents (93%) are married where a few numbers (5.9%) are unmarried and an only and the female (0.5%) respondent is divorced.

Table-1: Socio-demographic characteristics of the fisheries community

Socio-demographic characteristics	Categories	Frequency	Percentage
Gender	Male	183	98.9
	Female	2	0.5
Marital status	Married	172	93
	Single	11	5.9
	Divorce	2	0.5
Education	illiterate	28	15.1
	literate	56	30.3
	primary	63	34.1
	lower secondary	33	17.8
	secondary	4	2.2
Family members	1-3 members	50	27
	4-6 members	105	56.8
	7-9 members	18	9.7
	>9 members	12	6.4
Income	BDT6000-10000	62	33.5
	BDT 11000-15000	60	32.45
	BDT 16000-20000	37	20
	> BDT 20000	26	14.05

The Table 1 shows that almost every fisherman (98.9%) of the community is Bengali, they are not well educated but have little knowledge and the house condition they belong to is not well in accordance to their livelihood. As they live in coastal areas and always were in fear of sudden hazard, they do not make well-constructed house rather they feel comfort in kacha house made by mud, bush, bamboo, and wood. Education is the determiner of every aspect of our daily life, without education it is very hard to reach one's goal. Education can lessen the sufferings of a nation. The table-01 reveals that most of the respondents in the selected areas are not well-educated categorizing accordingly illiterate, literate, primary, lower secondary and secondary at the composition of 15.1%, 30.3%, 34.1%, 17.8%, and 2.2% respectively. People of the fishing community had a superstition that the more the family members the more they can earn a profit, but this belief has become less importance towards them as the above data shows that the family members of that area are similar to the members of a family all over the country. Most of the families (56.8%) in this area have 4-6 members. Where 27% have 1-3, 9.7% have 7-9 and 6.4% has more than 9 family members.

Monthly income of the fishermen in the study area is not so high to meet all of their daily necessities. But they can meet up their basic rights with their lowest income like 33.5% for 6000-10000, 32.45% for 11000-15000 and 20% for BDT16000-20000 in a month. In comparison with monthly income and monthly expenditure, the data shows that where most of the respondents could not save their money as their expenditure is higher than their income. On the other hand, they, who have a moderate income like 1600-2000 can save a little portion of the income.

Livelihoods' pattern of fishing communities Second profession and its functionality

In the selected areas of Kuakata district, all of the respondents are from the fishing community whose main profession is fishing and they depend on fishing to lead their livelihood. Although the main profession of the respondents in this area is fishing in the sea, they also involved with different kinds of profession. Depending on fishing activities, they lead their daily life and their expenditure is almost based on the profit they got from fishing. But they also involve in different other activities and earn money that helps them to contribute to meet their daily necessities. Where 74.6% of respondents think that their second profession is enough for their livelihood when they have no works related to fishing, about 24.3% think that it is not enough to meet their daily necessities. As fishing is such an activity that could not support all around the year. So, the fishing communities have to do other kinds of job and there is a reason to involve in the second profession. The ratio of involved in the second profession of the community according to their choice and working opportunity shows that most of them work as day labor [22].

FAO in a study shows that most of the impoverished people and hunger-bit of a poor country live in rural areas and they totally rely on farming, fisheries, forests, and livestock for attaining their livelihoods [23]. These types of sectors belong to the most affected by extreme weather events, making resource-poor farmers/fishermen/herders even more vulnerable to the disasters and impacts of climate change. All of the respondents in this area not only depending on fishing but also, they lead their life by depending on different profession likes; rickshaw puller, day labor, agricultural work, home agriculture, bike raiding, micro-business, and others. In this study,

the researcher shows that about 45.4% of respondents lead their livelihood involving with day labor as their second profession.

Fishing related works and livelihood maintenance

In this study, 80% of respondents own fishing as their main profession and they think that it is enough for their livelihood. Although fishing is a seasonal activity, almost every fisherman catches fish all over the year. They catch fish, buy it to market and through the profit they gain, they maintain their livelihood[10]. Maintenance of livelihood of the fishermen in the area depends on their profession, as most of the respondents think that fishing and fishing related works are enough for their livelihood, they involved in different kinds of fishing-related activities and in the same time they work with more than one profession. The study reveals that most of the respondents (38.4%) engaged in netting, 15.7% in boat constructing, and 24.9% by money lending 9.7% by buying a boat and the rest 10.3% maintain their livelihood through money lending by interest.

Almost every member of the fishing community is related to fishing either directly or indirectly. Someone is the owner of fishing tools someone is labor whereas someone provides money for the fishing activities and they have a share of the profit of the collected fish. The data in the table no 1, indicate that, like the fishermen in the area engaged with more than one fishing related profession, it is found that they involve in activities like netting, boat construction, lending money, buying boat, taking money instead of interest at composition of 81.1%, 45.4%, 39.5%, 37.8%, and 40% respectively.

Fishing at the deep sea

Fishing is such types of activity that need to be prepared. The profit of fishing depends on the quantity of fish caught by the fishermen and it depends on the preparation of the fishermen before going to catch fish. If the tools of catching fish are well, the probability of getting fish is higher. On the other hand, as it takes more than one day to return home from catching fish, the fishermen need to take some necessary equipment to stay at deep sea. The fishermen need to make

themselves prepare for fishing, so they get ready to go fishing and it takes time for their preparation. Responses of the study show that a very significant percentage of the respondents (35.7%) take 1-5 days to prepare themselves for fishing, where about 30% need 11-15 days and 18.9% need more than 21.

When the fishermen go fishing, they need to stay for some days at deep sea. Where 39.5% of respondents stay at deep sea for 0-5 days, 55.7% of respondents stay about 6-10 days for fishing (see table 1). Fishing at deep sea by the fishermen is now a common issue, almost every fisherman goes to deep sea for fishing. They collect fish by staying at the deep sea and returning back, sold the fishes to market. It is very risky to stay at deep sea, but they take these risks as it is the main profession of the community and they lives on the profession. Fishing is not cultivation but a profession and the fishermen take it as only their main profession and by heredity they catch fish from the deep sea. Although it is such risky that can be the cause of death, they with their responsibility to themselves and their family, have engaged in fishing. They could not migrate to another work, and like to fishing at the deep sea, as it is easy to find more fishes at the deep sea during the rainy season.

People go to deep sea for fishing and stay there for some days. In this reason they go altogether with their neighbor, family person, and friends as fishing at deep sea is not only risky but also it takes the assistance of others to get the highest portion of fishes. In the study, the researcher reveals that in the community, almost 45.4% of people go to deep sea with a group of people combining of 16-20 members.

Profit distribution and labor domination

As the people go too deep sea with a group where someone has a net, someone have a boat, someone has other tools of fishing, they distribute their profit depends on their proportion of contribution in fishing. They distribute their collected fish based on season, expenditure, income, and a number of labor. The study with the highest distribution procedure shows that about 77.30% of people distribute their collected fish from deep-sea based on their income (see figure 1).

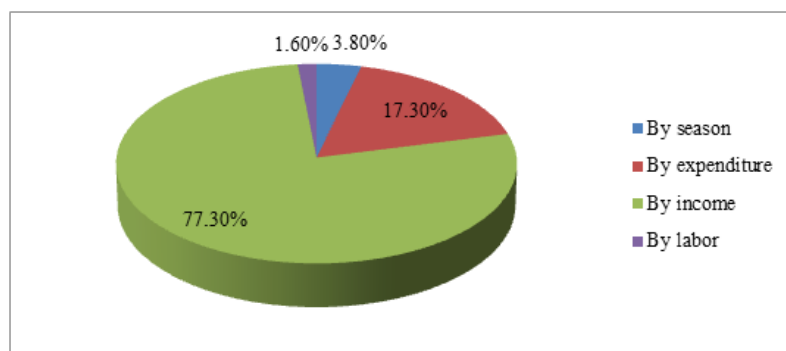


Fig-1: Profit distribution

Season, expenditure and income are the prime determiners of distribution of fish among the fishing community. Everyone has a portion of the money for oneself, in response with the question to their proportion of money from the distribution; a large number of responses go in favor of 37.5% money for 81.1% people who are engaged in fishing activities. The study reveals that a significant number of fishermen who are about 11.9 percent of the total population, have got 40% money from the total income.

The proportion of money in this distribution is not equal to everyone; someone gets more money whereas someone gets a few as the boat-owner get a large number of the total income. It is about 92.4% responses which reveal that boat-owner is the highest profit maker in fishing at the deep sea. Domination is the nature of almost every society across the world, and it is the practices from the birth of civilization. Domination based on the class held by the group in a society. The labor classes are dominated as they do not get an equal portion of fish.

Labor don't earn more money from fishing as he is non-owner of fishing tools and he has no investment in fishing also he has zero capital. That's

why he makes a little profit from fishing at deep sea. The study reveals that a significant response (51.1%) is in favor of the reason that non-ownership of fishing tools and the boat is responsible for their lower profit than the boat and net owner. The vulnerability of the labor class is increasing as they have no adaptive capability[24]. The fishermen in the coastal areas of south-central Bangladesh are more vulnerable as they could not adapt to the vulnerable condition of the coastal areas. They do not cope with the hazardous situation as they have no money capital, have lack education and knowledge about disaster coping mechanism[25].

Season and support of fishing activities

Fishing at deep sea depends on the condition of the sea, weather and also on the probability of getting fish during a specific time period. The government has specific banned time to catch fish from the sea. That's why the time of fishing at deep sea depends on a specific season. Here the researcher found that almost all of the people (63.6%) in the fishing community go for fishing at rainy season. Where 9.4% go for fishing at monsoon and a significant number of respondents (21.7%) go to sea for the fishing whole of a year except banned time (Figure 2).

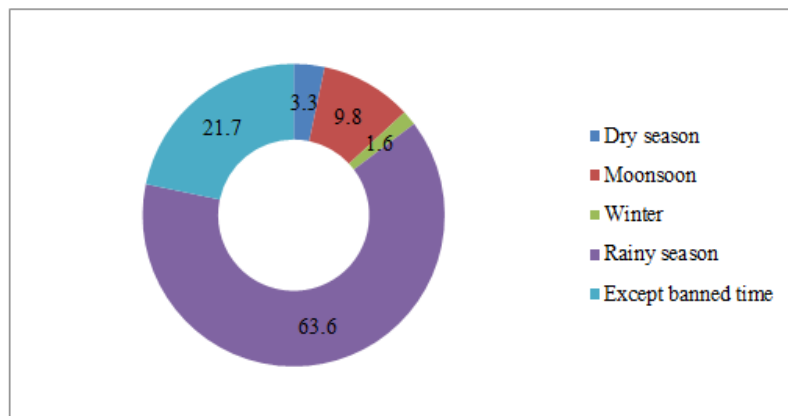


Fig-2: Season of fishing

Fishing is the main profession of the coastal community in Kuakata, the south-central region of Bangladesh. Without wishing the people of the area also involved in different kinds of earning activities. Here the researcher has found the condition of the fishermen whose basis profession is fishing and focus on their vulnerabilities based on their income and expenditure[26]. The researcher also analyzed the livelihood pattern depends on the income with correlation to expenditure that tells about the supportive capability of their profession to their livelihood[27]. Fishing activities support the livelihood of the fishermen in a different extent that is highly supportive, supportive, moderately supportive, less supportive and very low supportive. In the study, it has shown in the above data that 42.9% respondent think that fishing activities are supportive to livelihood, 30.4% think it as

moderately supportive and about 21.2% think it as highly supportive.

CONCLUSION

The assessment of livelihood pattern is an important tool to learn the peoples' ability to conducting livelihood which will help policymakers to design context-specific policy. The study assessed the livelihood pattern of the fishing community of coastal dwellers through a quantitative approach. The study reveals that the status of livelihood of the fishing community is very low which unable them to meet their basic needs. It also explores that the fishing community are displaced and migrated highly nearby places due to their social and economic vulnerability, loss of physical resources, and insecurity, and they were suffering severely in terms of their unemployment, lack of

housing, health problems, and their low access to the local public services. Another big concern is related to the policy arrangement. Bangladesh has no policy on displacement and internal migration or resettlement. However, the findings of this study have a number of policy implications on disaster management, urban development and urban housing, and rural development and poverty alleviation in Bangladesh. This study suggests a holistic management policy, community-based interventions, resilience and development-oriented disaster policy for the marginalized affected people. A community led post-disaster recovery policy is also necessary for improvement of livelihood opportunities. Policy makers must therefore consider how best to deal with future migration in a way that can maximize win-win solutions where possible, and protect those who are the most vulnerable. Climate change is not the sole factor influencing migration, and it is important to understand the interplay between the various local ‘drivers of migration’ such as lack of employment opportunities and social insecurity at the local community level in order to design and develop appropriate local and national-level plans.

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