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journal or publication title	南太平洋研究=South Pacific Study
volume	29
number	2
page range	1-12
URL	<a href="http://hdl.handle.net/10232/9557">http://hdl.handle.net/10232/9557</a>

# Livelihood Assessment of a Jatka Fishing Community at North Srirumthi Village, Chandpure, Bangladesh

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## Abstract

In Bangladesh about 1.2 million people are directly employed and another 10 million people indirectly earn their livelihood out of activities related to fisheries. An attempt was made for livelihood assessment of fishermen community at the village of North Srirumthi, Chandpure district in Bangladesh. The information was collected through community and focus group discussions, social mapping, wealth ranking, Venn diagram, historical time lines, transects, case studies and key informant interviews at Union Parishad members and Upazila level officers. The livelihood assets, vulnerability context, livelihood outcomes and strategies and poverty sensitive issues of jatka fishing community of North Srirumthi village, Chandpur has been identified and discussed. Some recommendations were also made to improve the livelihoods of Jatka fishing community as well as to increase the hilsha production from the River Meghna.

**Key words:** Hilsa fishing, jatka, livelihoods, Meghna River, *Temalosa ilisha*

## Introduction

The word 'livelihood' can be used in many different ways. The following definition captures the broad notion of livelihoods understood here 'A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (CHAMBERS and CONWAY 1992, Sustainable rural livelihoods: Practical concepts for the 21st century. IDS Discussion Paper 296. Brighton: IDS. pp.7-8).

The livelihoods approach is a way of thinking about the objectives, scope and priorities for development. Sustainable Livelihood Approach (SLA) as a framework for collecting comprehensive information about rural communities, institutions, resources and livelihood needs and aspirations. A specific livelihoods framework and objectives have been devel-

oped to assist with implementation, but the approach goes beyond these. In essence it is a way of putting people at the centre of development, thereby increasing the effectiveness of development assistance.

The hilsa shad, *Tenualosa ilisha* (HAMILTON 1822) constitutes the largest single species fishery of Bangladesh. It contributes 13% of total fish production of Bangladesh, and about 40% fishermen or 2% of total population of the country earn their livelihood depending on Hilsa fishery directly or indirectly (HALDER and ISLAM, 2008). *Hilsa shad is an anadromus species. During the commencement of the south-west monsoon and consequent flooding of all the rivers, Hilsa shad starts its spawning migration upstream. The newly hatched larvae and juveniles make their way downstream to the sea during a period of several months, feeding and growing on the way. At this stage of their life cycle they are locally known as "Jatka". Jatka the juveniles of Hilsa shad from 4-15 cm are widely available during the period from February to May in the foreshore and riverine water of Padma, Meghna and other deltaic rivers of Bangladesh (RAHMAN and HALDER 1998).*

Usually Jatka grazes for five to six months age in fresh water before they migrate to seawater. They are caught in large amount using current nets of small mesh size during their grazing period in rivers as well as in sea shore by artisanal fishermen to sell them in local markets, thus exploiting this resource in a way. Hilsa fishermen are poor and live on their day to earnings. Their average daily income is about US\$ 5.00-7.00. Many of them had no even homestead area, some of them constructed their small house on other man's land or governments land and even some of them used to live on fishing boat throughout the year.

This paper deals with the livelihood assets, vulnerability context, livelihood outcomes and strategies of jatka fishing community of North Srirumthi village, Chandpure.

## Materials and Methods

The study was conducted at North Srirumthi, Chandpure districts (Fig. 1) from November 2003 to June 2004. This area was selected, because it was characteristically a fishermen dominant area and most of the villagers were involved in jatka fishing.

Sixty fishermen were selected to collect the necessary information regarding age, family size, sex, marital status, income group, religion and experience etc. At first relation was set up with the fishermen by observation through out the village and collected information through polite greetings, chatting and apprising their opinion and comments. Livelihood assessment was performed by using a key entitled "Topical out line for SUFER (Support for University Fisheries Education and Research) livelihood assessment and initial study guidelines" (FRANKENBERGER 2002), Participatory Rural Appraisal (PRA) or Rapid Rural Appraisal (RRA) and other participatory tools (Table 1) were also used (HAQUE and BLOWFIELD 1997).

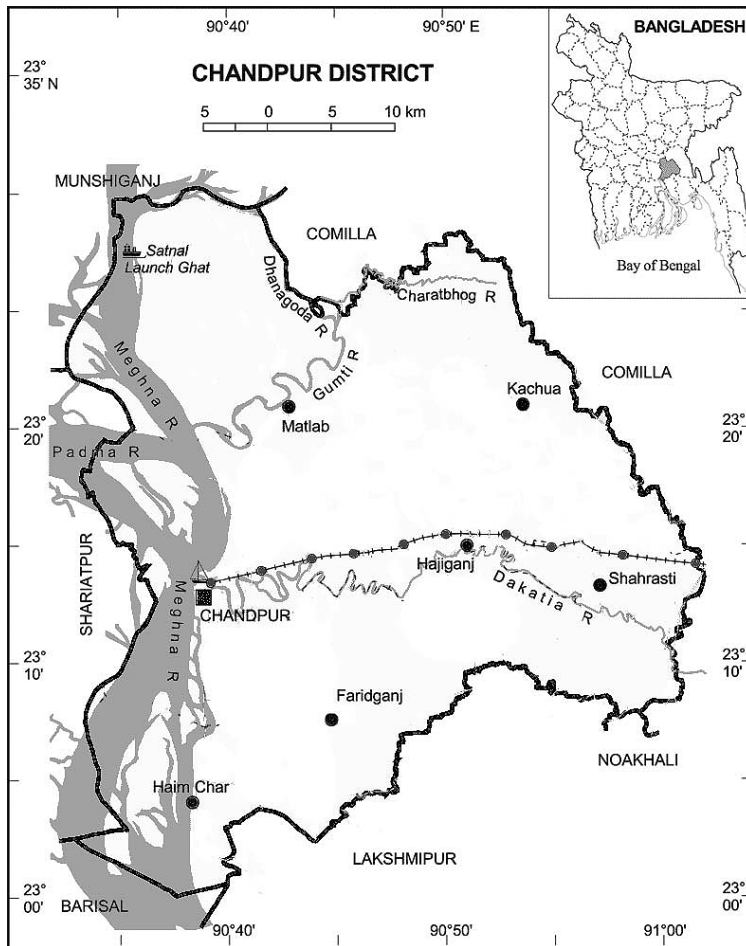


Fig. 1. Map of Chandpur district showing the study area.

## Results and Discussion

The livelihood contextual information of the fishing community of North Srirumthi, Chandpore has been presented and discussed below:

### Livelihood contextual information

#### *Political*

Many people of North Srirumthi in Chandpore district are aware of the restructures of the Local Government and Rural Development (LGRD). The villagers do not perceive any benefits from these restructures. The municipal chairman and members directed most of the benefits to their own villages. This fishing community receives assistance through LGRD, Asian Development Bank (ADB), World Bank (WB), Very Vulnerable Group Feeding

Table 1. Tools that were used for Livelihood Assessment

Techniques	Type of activity	Description
Catch ranking	Group	Matrix to analyze fish catch.
Community reporting	Group	Community members keep a diary of agreed-upon aspects of their lives.
Brainstorming	Group	Discussions on specific issues and situations.
Critical incidents	Group	Discussions of key problems in community life.
Trend analysis	Group	Mapping of historical trends on chart with community members.
Group formation	Group	Starting of group formation/ initiatives.
Problem-solving tables	Group	Analysis of problems, solutions, constraints and necessary resources.
Games	Group	To stimulate involvement (e.g., a memory game was used to encourage children's participation). Chinese whispers were also used to discuss how information is exchanged.
Group discussions	Group	Open-ended discussion.
Practical activities	Group	Introduction and discussion of new ideas.
Preference ranking	Group	Ranking of options and opportunities.
Oral histories	Individual	Individual life histories.
Community histories	Individual	Community history as recalled by key respondents.
Community questionnaire	Individual	Structured questionnaire used by community data collectors.
Selective sample survey	Individual	Structured household survey.
Selective sample survey	Individual	Exploratory and cross-checking interviews with selected respondents.
Case studies	Individual	In-depth studies of selected individuals and households.
Activity profiles	Individual	Open-ended description of respondent's activities.
Transects	Observation	Transect of village.

(VGF) cards, old age allowance, the departments of Fisheries, ASA (an Non government Organization) and Bangladesh Rural Advancement Committee (BRAC). The community of this village benefits from the district health complex and Community hospital. A prominent feature in the village is the Cemetery of Hazrat Khaza Khizir and the railway colony. Local leaders tend to make community decision regarding family conflicts. The people of this village resolve conflicts locally through 'Gram Shalishi' (Conflict resolve committee), often with the participation of municipal member. Sometimes the people of this village receive government support under the rehabilitation program at the time of natural disasters. Most of the villagers cast their valuable votes during general and local government elections.

### *Cultural*

Most of the women are discouraged from participating in NGO (Non government Organization) meetings and in different initiatives. Gradually this tradition is going to be changed. Women have less freedom both socially and economically than men. The

movement of women outside of the household often depends on the outlook of the husband and the economic situation of the household. For fish culture, the participation of women is much less than that of men. NGO's like ASA, 'Green Umbrella' and 'Shudipto Chandpure' have created opportunities for women in the village through training, micro-credit and ongoing technical supports. Two different religious and ethnic groups, Muslim and Hindu are living in the community. There is no conflict among ethnic groups. The people of this village trust superstition due to lack of education. The tendency of early marriage is higher in this area than the adjacent areas. There is no marriage occurs without dowry.

### *Infrastructure*

In Srirumthi village transport and communication is well connected to the district town by a road. There is a market and an embankment (town-protection embankment) in the village. Residents are provided gas, electricity and telecommunication services. There are three primary schools, one high school, one Madrashah (religious school), five mosques, one temple, one post office, one railway club, two piers and one fish landing center. Besides, small shops; radio, television and newspapers are also available.

### *Historical*

According to statements of some villagers, erosion of the Meghna river is the main natural disaster for them as they lost their property through erosion of the Meghna. One fish market has gone under water by erosion of the Meghna. A dam was built to protect the Chandpure town. Wild fish harvesting have decreased over the last 10 years due to over fishing. The fishermen community has settled here three hundred years back, when they started fishing in adjacent rivers and canals.

### *Education*

The education status is not good in North Srirumthi. About 80% can read and write. 72% of the villagers have education up to elementary five grades, 15-20% have a level of education between junior to higher secondary and rest have higher education. In the North Srirumthi Govt. Primary School, the total number of student is about 300 of which 100 are boys and 200 are girls. There are only three teachers. The average student's attendance is about 95%. There are more girls than boys attending school and although one or two boys have excellent results, the average annual results of girls are better than that of the boys. Girl's education is encouraged through the provision of a government stipend. A number of people also have technical skill in poultry rearing and fish culture.

### *Health*

The village is located adjacent to the Chandpur district town. Most of the Government hospital and private clinics are situated in the town. As a result, the residents have easy access to the district hospital. Common diseases included colds and fevers, dysentery, diarrhea and other water born diseases. Some residents use sanitary latrine. On average, two

thirds of the latrines are old traditional type. People drink ground water from the tube-wells. A few tube-wells and deep tube-wells have been tested and are found no arsenic contamination. Out breaks of epidemic diseases such as cholera or small pox has not been occurred over the last 10 years. The villagers are aware about family planning and most of the couples use different birth control methods. Presently, infant mortality is much lower than in the recent past. The poor and illiterate people often go to the Kabiraj (traditional doctor) and rely on their services and treatment. One or two health staffs of community hospital regularly visit the villagers to provide children health care and advice regarding family planning.

### **Livelihood Resources**

#### *Human labor*

Total population of the North Srirumthi is about 6000 (estimated 2001) out of which 3100 are male and 2900 are female. About 55% of the population is engaged in fish harvesting. 20% as daily wage laborers, 15% in small business and 5% in services and others 5%. Most of the daily wages laborers are involved in fish landing center, pier and railway station.

#### *Education and training*

Three primary schools and one high school are providing teaching and learning facilities. Generally some Govt. and Non-govt. staffs occasionally visit the poorest members of community and residents to provide them training and support.

#### *Health*

According to the residents, there is no much health trouble that affect on their capacity to work. They do not care about minor illnesses like colds, coughs or fevers, and they continue their work in such cases.

#### *Social*

Most community members know each other and they have fare personal relationship. During shocks and risks they co-operate with each other. There are five social classes like rich, upper middle, middle, lower middle and poor or landless class depending on their monthly income. The rich, upper middle, middle and poor classes has monthly income of US\$ 220>, 150>, 100> and <100 respectively. The poor and the poorer live on hand to mouth. Poor and landless people have a great difficulty supporting each other during the periods of shocks. They do not observe any ceremonies except, Muslims observe Eid festivals and Hindus observe Durga puja. There is a trend of divorce and get second marriages in the village. They pay and take dowry for marriages.

#### *Physical*

There are 250 families in the village. Most of the houses are made of tin-shed, some are traditional structures and only a few are buildings. Most of the poor households live on

railway land along the river. Middle class people have access to tin roofs and many have more than one boat and several nets. They have sufficient number of tube wells. There are 3-4 ponds in the village. They used these ponds for fish culture and other domestic usages. Most of the rich and middle class have a television (black and white), Radios, and Tape recorders. There are about 40-50 small shops owned by the villagers. Some shop owners have TVs in their shop. Most of the fishermen have boats, nets or other fishing gears.

### *Natural*

The village is located on the bank of the Meghna river. The fishermen catch jatka from the Meghna. Turbid waters are suitable for jatka fishing. Beside these, there is no other natural resource. However, the fishermen have easy access to fishing in the Meghna river without any fishing license. Although there are some govt. lands in the village, usually they are leased from the railway. Riverine fisheries resources are decreasing day by day due to over exploitation.

### *Economics*

There is no commercial bank in the vicinity. So, the people often take credit from local moneylenders with a high rate of interest. ASA, is working in the village to provide loans and other social and development assistance. The marketing facilities are very good. The fishermen can sale their fish with high prices. The fishing community has a co-operative system for saving money. Members of the fishing community hope that low interest loans might improve their livelihoods. As their resources are very limited, people have a tendency to migrate from the village to find better job opportunities.

## **Institutions and Organizations**

### *Government Organizations*

Government, LGRD and NGO's are working in this community. Government organizations including the academic institutions are very few in this village. Residents have access to the district hospital. BFRI (Bangladesh Fisheries Research Institute) and educational institutions play an important role in their livelihood. The Govt. through local administration is providing food grains as VGF, old age allowance and food for work.

### *Training and extension services*

The training has real and positive impacts on the extension of livelihoods. A number of people received training and services only a few of them are fully utilizing their skills to improve their livelihoods due to the financial constraints. People want more training on fishing and other income generating activities. NGO's are currently providing a wide variety of trainings such as, aquaculture, livestock, poultry, etc.

### *Collaboration/ Integration/ Networking*

There is a limited collaboration among the different Govt. agency and NGO's. Health department through community hospital is providing health care facilities. The World Bank,



ADB and LGRD collaborate in road maintenance and other infrastructures development programs.

#### *Private sectors*

There are no private sectors in the area. Fish trading is very common among the fishing community. The fishermen buy fish from other fishermen and sale in the local retail market. There is no significant role of commercial bank in the development of the private sector.

### **Livelihood strategies**

#### *Major livelihood strategies (On farm and off farm income)*

Fishing is the major livelihood activity among the poor. They catch jatka from January to May with peak catch in March-April. Off-farm activities included rickshaw, van pulling, small business, labor and brokers. Some people migrate to Chandpure town and Dhaka city to work as a industrial day labors and rickshaw pullers. So, there is a link among poverty, vulnerability and livelihoods.

#### *Major risk and coping strategy*

The erosion of the river bank is a major risk for the villagers. The second major risk for fishermen is that of oversupply, leading to a drop in the price of fish. Fish diseases, dowry and double marriages are also risk for this community. Sickness of an earning member of a family can also be a major risk. For poor family the major risk is the damage of fishing nets. Most people do not have alternative strategies for risk management.

#### *Investment*

There is no commercial bank in the area to take a loan for fishing. As a result, the fishing community usually obtains loans from the local moneylenders with informal interest rates. They made a contract that they must sale their fish to the moneylenders at a lower price than the market price. Households in the poor fishing community also obtain loans from NGO's like ASA. Some households regenerate capital through their livelihood activities.

#### *Mutual support*

As there is no conflicts, fishing community members tend to assist each other to extend mutual support for various functions like house maintenance and repair, marriage etc. Sometimes poor families receive financial assistance from the local govt. (Chairman/ members) or rich people during their crisis.

### **Livelihood outcome**

#### *Food security*

Most of the households are not food secure. The poor households need continuous adjustment to their diets according to their income throughout the year. Usually, they eat rice with pulses soup, vegetables and fish. Generally, members of poor households consume

two meals per day. The poor generally consume eggs 1-2 days per month and meat very rarely. They also consume other foods depending on the seasons. During rainy season they suffer from food scarcity and often consume only one meal per day. Food security depends on assets which influence various mediating factors, activities and intermediate outcomes.

### *Education*

The community has awareness about education, health and environment. Education rates at both primary and secondary levels are increasing. The drop out rate among males at the secondary level is particularly getting high, because at this stage they begin to engage in income generating activities like fishing, day laborers, etc. Most of the poor households cannot send their children to school. Education has improved human capital, resource utilization, and nutritional status and empowerment of women in the village. For this, various awareness activities contributed to increase in school attendance among children particularly, from poor households.

### *Health*

Although there is no general hospital, the overall health condition is fairly good due to awareness. Infant mortality and pregnancy related mortality rates are low. For serious illnesses they visit the town health complex. The community hospital staffs visits the area very often.

### *Outcome of women's focus group discussion*

Women are the most vulnerable groups in the women's focus community. Males make major household decisions. Only women participate in decision about the marriage of their children. They are also aware of the birth control and family planning programs. They do not support the dowry.

### **Demographic and socio-economic profile of the village**

About sixty fishermen were selected as informants to collect the necessary demographic and socio-economic information like age group, family size, marital status,

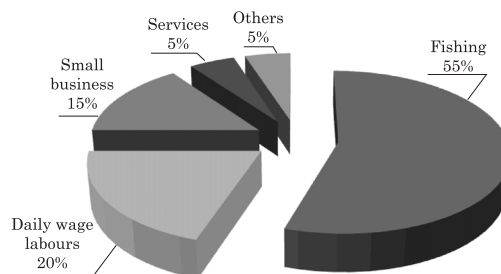


Fig. 2. Income sources of poor households of North Srirumthi Village.

educational situation, religion group, income group, experiences, profession group, types of profession group etc. The results are shown in Fig. 2 and Table 2, 3, and 4. Education level in fishermen group was very low. Only 8.34% of them had elementary education and 5% had above elementary education (Table 2). Age group analysis indicated that most of the fishermen were young, age within 20 years (Table 3) and 33.33% of fishermen were in age group 21-30.

Table 2. Educational status of fishermen

Education level	Number	Percentage
Illiterate	20	33.33 %
Signature group	32	53.33 %
Elementary (I-V)	5	8.34 %
Above Elementary-V	3	5 %
Total	60	100 %

Table 3. Experiences of fishermen

Years of experience	Number	Percentage
5-9	10	16.67 %
10-14	20	33.33 %
15-19	8	13.33 %
20-24	7	11.67 %
25-29	5	8.33 %
30-34	5	8.33 %
35-39	4	6.67 %
40+	1	1.66 %
Total	60	100 %

Table 4. Age group of fishermen

Age group	Number	Percentage
11- 20	23	38.33 %
21-30	20	33.33 %
31-40	10	16.67 %
41-50	5	8.33 %
51+	2	3.34 %
Total	60	100 %

From the present study, it was found that North Srirumthi is a very poor village dominated with fishermen. The main natural resource for the villagers is the River Meghna. They have access to this river for fishing to maintain their livelihood. It has been estimated from the survey conducted by BFRI that the total catch of 'jatka' is about 3456 metric ton and 442.37 million in number. If all these 'jatka' get the opportunity to grow and if each piece of 'jatka' attains on average 0.6 kg weight in a year considering only 20-22% survivability of them, the probable additional production of hilsha would be more than 45000 mt yr<sup>-1</sup> (MAZID 1998). More than 50% of total Jatka are caught from the Meghna River near

Chandpure. AHMED *et al.* (2002, 2008) demonstrated that hilsa population was over exploiting in the River Meghna. Moreover, the exploitation of jatka is one of the major factors for significant decline of hilsa production in the river systems of Bangladesh that also affects the livelihood of fishermen. The livelihood can be sustain and improve through through community based fisheries management. For the sustainable jatka conservation, poverty can be reduced and improved livelihood of jatka fishermen. Govt. and NGOs should be provided training opportunities for life skills development (Literacy and adult education) and technical support and training in the fisheries. By gaining fishing knowledge the fishermen will be well learned and they could show good performance in fishery sector and ultimately fish production of the country will be increased.

### Conclusions

It reveals that the livelihood of North Srirumthi villagers are directly related to fishery resources of the Meghna River. To increase the production of hilsa as well as to improve the livelihoods of Jatka fishing community it is advised to protect catch of Jatka from Chandpur nursery ground (Shatnol to Nilkomol) during the period of March to mid April by banning Jagat ber and current jal having smaller mesh size. The fishermen must be motivated to aware of the fisheries laws and can be done so mass media, campaign, leaflet, poster, drama etc. Since the open water capture fisheries are seasonal, govt. and NGOs should come forward to create employment opportunities for the fishermen and their family members so that they can earn throughout the year. For rehabilitation of jatka catchers the following alternative income generating activities may be undertaken, such as, homestead agriculture, cattle farming, poultry farming, cow fattening, small handicrafts, etc.

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