



FISH MARKETING ASSESSMENT OF SUNAMGANJ COMMUNITY BASED RESOURCE MANAGEMENT PROJECT (SCBRMP) TO IDENTIFY BETTER MARKETING OPTIONS



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EXECUTIVE SUMMARY

Sunamganj has the highest rainfall in Bangladesh and has predominantly a subsistence economy, where livelihoods are highly influenced by floods. Floodplains and seasonally flooded tectonic depressions locally known as *haors* and smaller waterbodies known as beels constitute the major land structure of the district. Hence people's livelihoods and culture are largely dominated by the haor economy where beel fisheries play a significant role. Sunamganj Community Based Resource Management Project (SCBRMP) has been operating its activities since early 2003 in Sunamganj intended to reduce poverty of the poor through an integrated rural development project approach. The project is a combination of five components where Community Based Fisheries Management is one of the important among all. The fish and fish products have growing demand in market, but the primary producers in Sunamganj make reasonably low benefit from that. This study aimed to assist the fisher as they can make more income from their harvest out of that demand.

The field investigation in Sunamganj took place during 12 through 18 May followed by visiting different markets and Chain Supermarkets in Dhaka. Altogether 83 respondents within the value chain were interviewed along with 4 FGDs with fishermen and intermediaries and different market visits.

Sunamganj district is in surplus in overall fish production. According to DoF, around 55000 MT fish was harvested in 2009. However, the total fish traded in Sunamganj comprises both local production and outside fish coming from other districts. In one hand, it exports fish captured from haor, beel and river to few major areas of the country and on the other hand, it imports culture fishes from outside along with some marine fish from Chittagong.

Fish is captured round the year from rivers and *haors*/beels in the district in addition to organized harvesting during winter. A large number of active populations are involved in fishery making it a dynamic sector and a lot of fishes goes outside from Sunamganj to other districts including Dhaka and also abroad through processing companies.

The end markets vary from Upazila to Upazila in Sunamganj mostly due to the communication system and ease of accessibility along with business linkages. For instance, the fish that goes to Dhaka and Sylhet mostly departs from Sunamganj Sadar due to good road communication. On the other hand, the fish captured from Sullah, Tahirpur and Dharmapasha Upazila (northern part of the district) goes to Bhoirab, Mohonganj (Netrokona) and Kuliarchar (Kishorganj). So many intermediaries exist along the marketing chain which represents poor capacity of aggregation and poor accessibility to the end markets by the fisher community.

SCBRMP has already formed more than 160 BUGs and handed over more than 130 waterbodies to them. In addition to providing technical training on Beel management and relevant issues, the project is now intending to extend their support for introduction better marketing system to increase the income of the fisher community. The marketing process of BUGs is largely influenced by two distinct seasons. During Open Catch, when the individual capture is small, fish is largely sold at the nearest market or to *Nigari* who roam around the beel with their boats to buy fish. And in Organized Catch season, when the group members harvest collectively, they sell their harvest in four different ways:

- Open auction at beel side to *Nigaris*
- Directly sell at local wholesale market
- Directly sell to processing plant
- Sell at Sylhet on wholesale market

SCBRMP has initiated to link the BUGs with different market actors to increase their profit margin but still a number of constraints prevail which are impeding the growth and also income of the fisher groups.

Key constraints/opportunities are:

- Poor linkages of the fishermen with markets reduce their income
- Unplanned capture of fishes results in glut during Organized Catch season leading to low income for the fishermen group
- Unavailability of fishes forces the processing company in Sunamganj to run on under-capacity (opportunity for BUGs)
- Poor linkage with production sources forces the supermarkets to procure from wholesale markets at a higher price and without traceability (opportunity for BUGs)

Having access to water bodies and increased production, the next step for BUGs' would be to increase income through selling their produce closer to end market by skipping as much intermediaries as possible. Since Open Catch and Organized Catch period yields differ in volume of fish capture at a time, SCBRMP strategies would also be different for these two seasons. However, interventions under strategies are not mutually exclusive and would complement to each other. Hence the strategies would be:

Organized Catch Period Strategy: *Develop linkage with large and institutional buyers to supply during bulk harvesting*

Two parallel set of intervention/activities will be adopted in this strategy:

Set1: Intervention 1

Make an apex umbrella of the fishermen groups for coordination

Major Activities:

- Link the apex body and also the fishermen groups with large and institutional buyers (includes processing company, Super market Chain (such as Meena bazaar, Agora, Nandan, etc.) Local (Sunamganj Sadar) and outside (Sylhet, Dhaka, Bhoirab) large traders
- Train fishermen groups in aggregation and distribution
- Educate and train the fishermen groups on institutional arrangement capacity (terms and conditions, banking etc.)

Set 2: Intervention 2

Develop a private sector Marketing Agent as a parallel option

Major Activities:

- Link the Marketing Agent with the Apex and Fishermen groups
- Link the Marketing Agent with large and institutional buyers
- Facilitate a transparent, coherent and agreeable profit sharing/ commissioning mechanism between fisher groups and Marketing Agent

Open Catch Period Strategy: *Accumulate the individual captures to reach wholesalers at local and national level*

Intervention 1:

Create intermediaries (collector/*Nigari*) among the BUGs; one from each group

Major activities:

- Equip the group *Nigari* with boat and boxes with ice facilities
- Link the group *Nigari* with local wholesalers to supply during low capture volume
- Develop transparent and agreeable model for transaction within the groups (commission, buy on cash, payment after sale etc)

Intervention 2:

Accumulate group *Nigari* collection to supply to national level wholesalers

Major Activities:

- Bring all the group *Nigaris* under one umbrella to aggregate and enable to supply in bulk
- Select one or more central accumulation points for the BUG groups
- Device transportation mechanism
- Link the BUGs with national level wholesale markets
- Accommodate the group-*Nigari* collection model within the apex Association of BUGs or private sector Marketing Agent models particularly for the open Catch period

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ACRONYMS

| | |
|--------|---|
| DFO | District Fisheries Officer |
| DoF | Department of Fisheries |
| FAO | Food And Agricultural Organization |
| FGD | Focus Group Discussion |
| GDP | Gross Domestic Product |
| LGED | Local Government and Engineering Department |
| MT | Metric Ton |
| NGO | Non Government Organization |
| SCBRMP | Sunamganj Community Based Resource Management Project |
| ToR | Terms of Reference |
| USD | United States Dollar |
| WFC | WorldFish Center |

1. BACKGROUND

1.1 INTRODUCTION

Sunamganj, observing the highest rainfall in Bangladesh, has predominantly a subsistence economy, where livelihoods are highly influenced by floods. Floodplains and seasonally flooded tectonic depressions locally known as *haors* and smaller water bodies known as *beels* constitute the major land structure of the district. Hence people's livelihoods and culture are largely dominated by the *haor* economy where *beel* fisheries play a significant role. Since in many occasions, crops are damaged by floods, an obvious alternative for the community to explore natural resource is to fishing. Ironically, these *beels* and *haors* are controlled by a small number of people by virtue of their power and influence depriving the fisher community and poor people around.

Sunamganj Community Based Resource Management Project (SCBRMP) has been operating its activities since early 2003 in Sunamganj intended to reduce poverty of the poor through an integrated rural development project approach. The project is a combination of five components where Community Based Fisheries Management is one of the important among all. The component is being implemented by the LGED with the active cooperation of Ministry of Land, Local Administration and Department of Fisheries. The objectives of the fisheries management component are:

- To provide access of fisher community to about 300 water bodies
- To improve the condition of the fish habitat
- Create sustainable fisheries management approaches with the involvement of local community
- Thus enhance fish production to diversified livelihoods options

Due to project involvement, open water fish production in project area has been increasing gradually. However, optimization of benefit from fisheries management components depends on proper marketing with appropriate value addition. The fish and fish products have growing demand in market, but the primary producers in Sunamganj make reasonably low benefit from that. This study aims to assist the fisher as they can make more income from their harvest out of that demand.

1.2 OBJECTIVE OF THE ASSIGNMENT

The overall objective of the assignment is to identify the market constraints and opportunities.

The specific objectives are to:

- Assess overall fish marketing system in project area and surroundings
- Study existing value chain

- Identify better fish marketing options and will link with participants livelihoods
- Find diverse scopes of processing of fish for adding value

1.3 SCOPE OF THE WORK

The scope of the work was as follows:

- Review and examine the SCBRMP activities and achievements in the fisheries management component to distill out the fish marketing mechanism in terms of best practices for enhanced earnings and perform discussions with the project director, project coordinator and different officials of the project.
- Carry out discussion with different personnel of NGOs, govt. office (DFO), processing companies.
- Review relevant secondary literature
- Visit the *beel/haor* fishery areas of Sunamganj district and carry out FGDs, individual interview with the fishermen and different intermediaries.
- Survey different markets and carry out discussions with market actors in Sylhet, Sunamganj and Dhaka.

1.4 STUDY METHODOLOGY

The study followed both quantitative and qualitative methods for data/information collection. However, the process was fully participatory through ensuring maximum involvement of fisher, market actors, other stakeholders SCBRMP, existing project partner staff and the community. The study team visited the project locations and conducted several sessions with the stakeholders along with interviewing different market actors in Sunamganj and beyond.

However, the research applied a mix of the **Semi-structured Interview, Focus Group Discussion, Projective Technique, and Observation Technique**. The detailed research work was completed as outlined below:

Step 1: Preparatory Stage and Review Secondary Literature

After signing the contract, the WorldFish Center study team met key project personnel, review existing literature, relevant project documents, studies and reports on the targeted areas and subject matter in order to developing a general understanding on the project and study objective. In order to having a broad idea on fish marketing chain and end markets, the team also visited two big wholesale markets in Dhaka.

Step 2: Prepare Study Tools

During this phase, the tools for field investigation and interview with the key informants and market actors were designed which were later finalized after step 3. FGD with the primary stakeholders was a key tool to assess their status from market perspective and such

questionnaire was also framed at this stage. The sampling framework was also planned and the coordination, quality control mechanism, and data handling procedure was developed and finalized.

Step 3: Study Team Orientation and Field Plan Finalization

After preparing the study tools, the WorldFish Center Lead Researcher travelled to the target area and provided orientation to the study team (arranged by the client) with regard to study objective and primary investigation tools. The key components of the orientation were market research techniques, interview and probing techniques, study methodology and analyzing technique and also discussion of the relevant issues that the project personnel encountered while implementing which added to the pre-field-investigation understanding. For better understanding on the study methodology and objective, the team went to a nearby fish trading point and discussed with fishermen and intermediaries. The orientation was followed by a detail field plan that covered the diversified context to capture all the market dimensions. Hence the probable places to be visited were not located only in Sunamganj but also in other places that the target area is linked with in terms of inputs, processing and marketing. Detail field investigation plan is affixed in appendix 2.

Step 4: Field Investigation

At this stage, the consultant, along with the study team, carried out FGDs, individual interview, visited different markets and discussed with market actors. The study coverage extended up to Sylhet and Dhaka market, considering the supply chain. Along with this, observation and projective techniques were also used to capture the market dynamics and also to develop the value chain map. Following table shows the total number of respondents interviewed during the field investigation.

Table 1: Different types and numbers of interviewee during field investigation

| Type of actor/area | fishermen | Nigar/collector | Small traders | Arotdar/large traders | Retailer | Processing company | supermarket | Dry Fish Maker | Input supplier | Key Informants | Total |
|--------------------|-----------|-----------------|---------------|-----------------------|----------|--------------------|-------------|----------------|----------------|----------------|-------|
| Sunamganj | 30 | 6 | 4 | 2 | 6 | 1 | | 11 | 4 | 4 | 68 |
| Sylhet | | 2 | | 3 | | | | | | | 5 |
| Dhaka | | | | 6 | 2 | | 2 | | | | 10 |
| Total | 30 | 8 | 4 | 11 | 8 | 1 | 2 | 11 | 4 | 4 | 83 |

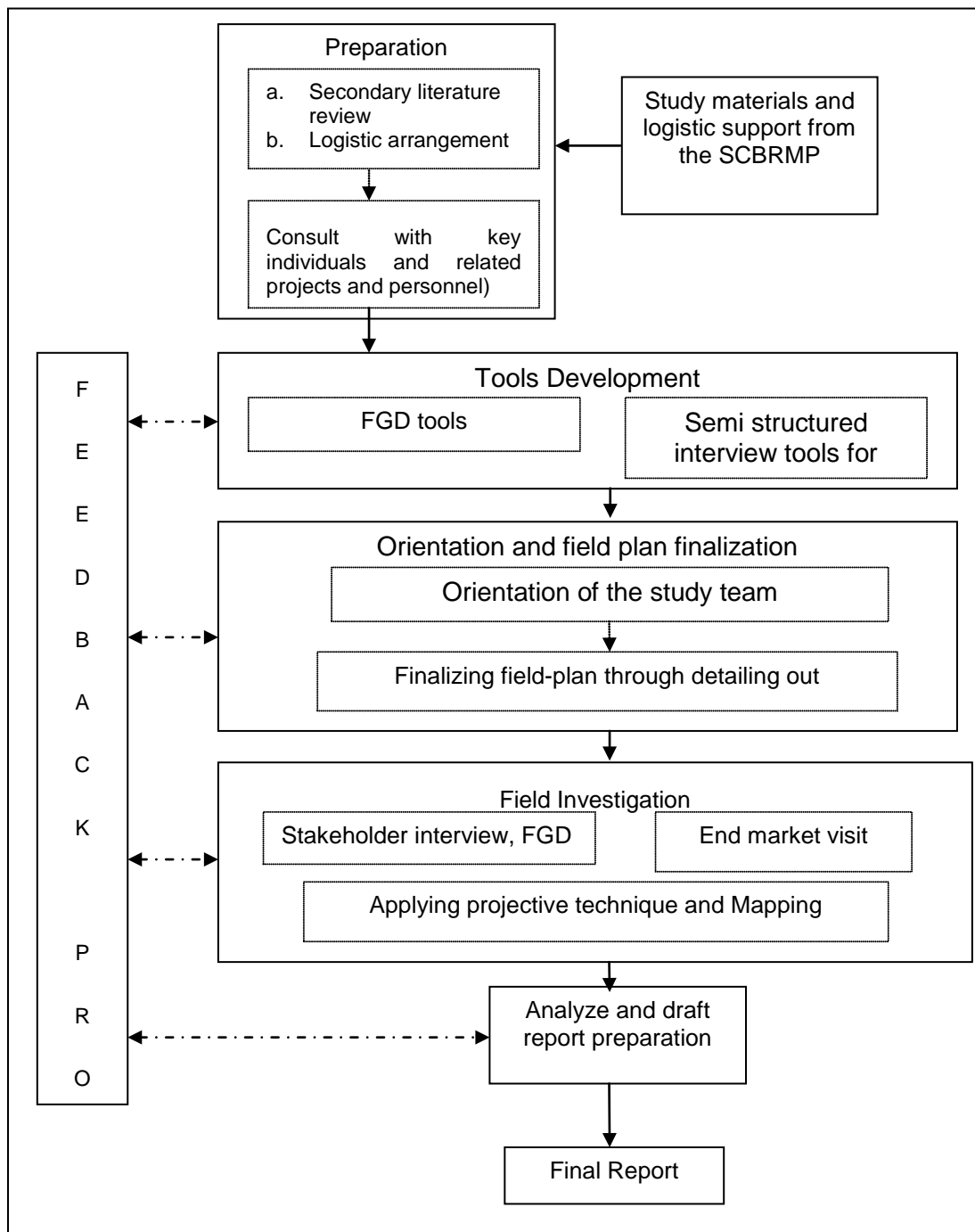
Step 5: Analyze and Draft Report Preparation

All the information collected was analyzed according to study objective. Data filtration and synthesizing was done to extract the appropriate information. Draft report has been prepared reflecting all data and information collected and in compliance with the ToR.

Step 6: Final Report Submission

The final report is prepared according to the comments and feedback provided by the client.

The detailed flow chart is depicted below:



1.5 LIMITATIONS

During the execution of the research, following limitations have been observed:

- The field visit to this area took place during May, 2010 when the region was having heavy rainfall almost all the time. Since road communication is not there in all the places and many roads are *kacha*, the condition of roads got poorer due to the rainfall. To accomplish whole task a wide range of stakeholders interviewed and visited several market located in remote area.



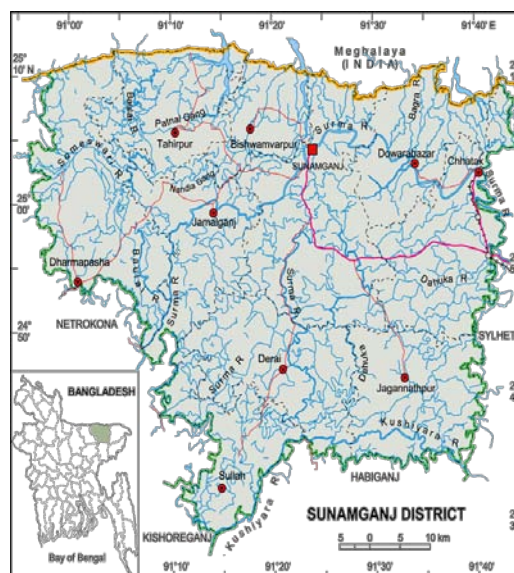
Public boats and motor cycles are common transportation means to move around in the study area

- Usually people harvest paddy during May. There is a tradition in Sunamganj; if the paddy goes under water, anybody can collect them. Since this year, early flood inundated the paddy fields, all the fishermen also engaged themselves in collecting paddy and hence, in many occasions, it was difficult during day time to find fishermen for interviews.

2. FISH AND FISH MARKETING IN SUNAMGANJ

2.1 INTRODUCTION

Sunamganj district with an area of 3669.58 sq km is located on the north-east of Bangladesh and stands on the bank of river Surma. Floodplains and seasonally flooded tectonic depressions known locally as *haors* and smaller water bodies known as *beels* constitute the major land structure of the district. Maximum land goes under water for almost seven months of a year. During that time villages in *haor* become islands being locked by water. The strong wave constantly erodes the villages and eventually makes the people homeless. Most of the agricultural land in Sunamganj fall under single crop land, and those are highly prone to early rain and flush flood.



The road communication is very poor and people have limited access to basic civic services. Scopes for livelihoods are limited. Men usually commute to nearer cities for four to five months a year in search of works leaving their family behind with hardly any source of income.

Sunamganj has the reputation of being very rich in inland open water capture fisheries production though the resource base is gradually decreasing following regular siltation. People's livelihoods and culture are largely dominated by the *haor* economy where *beel* fisheries play a very critical role. A large number of fish and prawns could be captured by men, women, and children at their doorsteps during the monsoon season. Unfortunately, these *beels* and water bodies are controlled by few powerful people.

Facts & Figures at a Glance

| | |
|---------------------------|-----------------|
| No of pond | 16684 |
| Area of pond | 2017.25 hector |
| No of river | 111 |
| Area of river | 4455.54 hector |
| No of canal | 133 |
| Area of canal | 682.43 hector |
| No of beel | 976 |
| Area of beel | 15527.25 hector |
| No of haor/flood plain | 206 |
| Area of haor/ flood plain | 122254.01hector |
| No of pona businessman | 117 |
| No of govt farm | 1 |
| No of private farm | 45 |
| No of fishermen | 60707 |

Source: DoF, Sunamganj, 2008

Fish is captured round the year from rivers and *haors* /*beels* in the district in addition to organized harvesting during winter. A large number of active populations are involved in fishery making it a dynamic sector and a lot of fishes goes outside from Sunamganj to other districts including Dhaka and also abroad through processing companies. Whatsoever, the fisher community of Sunamganj still remains under poverty.

2.2 PRODUCTION AND GROWTH

Sunamganj district is in surplus in overall fish production. However, the total fish traded in Sunamganj comprises both local production and outside fish coming from other districts. In one hand, it exports fish captured from haor, *beel* and river to few major areas of the country and on the other hand, it imports cultured fishes from outside along with some marine fish from Chittagong. The following table shows the overall fish production, demand and surplus in Sunamganj district in last three years.

Table 2: Production, demand and surplus of fish in Sunamganj in last three years

| Year | Total production (MT) | Total demand (MT) | Surplus (MT) |
|------|-----------------------|-------------------|--------------|
| 2007 | 54355.55 | 34492.50 | 19863.05 |
| 2008 | 54657.15 | 37192.50 | 17464.75 |
| 2009 | 55652.57 | 43072.88 | 12579.69 |

Source: DoF, Sunamganj

The above table shows that there is very marginal growth in the production. However, the interviews with different market actors revealed a different picture. According to them, in general, the production of Sunamganj fishery sector is decreasing.

However, though there is no concrete data on how much fish is imported to the district and how much goes outside, while discussing with large traders and arots, it was revealed that at least 50% of the total production goes outside which is substituted by the import to meet local requirement.

2.3 SEASONALITY

Two distinct seasons can be identified in the haor/*beels* in Sunamganj district such as Organized Catch and Open Catch. Organized Catch usually starts in Mid-November when the water starts drying up and the dykes surrounding the water bodies appear and continues till end of March of the following year. The Open Catch season starts when the new water of monsoon comes in May-June and continues rest of the year until the Organized Catch starts.

Open Catch

Most fishermen capture fish individually during open capture period till Ashin of Bangla year (mid September) with small boats or without any boats using variety of nets. Afterwards, the leaseholders put restriction (locally called *shashon*) on fishing. When the restriction is imposed, fishermen can still capture fish in some water bodies through a payment to the leaseholders until the Organized Catch starts. Usually, a fisherman needs to pay Tk. 100-500 for 8 hours fishing according to the availability of fish in that particular water body and/or type of fishing nets the fisherman is going to deploy. Some leaseholders also allow fishermen to fish for which the later get a fixed amount of money no matter how much is captured. The payment again varies from 100 to 250 Tk according to the amount of fish captured. However, only those *beels* that are controlled by powerful people (locally called waterlord) allow fishermen to capture fish in this way.

A different scenario exists for the *beels* that are taken lease by fishermen group. In some *beels*, they capture fish in a controlled fashion during Open Catch period and stop fishing in Ashin and do not allow others to fish even for payment. They capture in the periphery without disturbing the fish habitat much so that the fish do not move out to other water bodies.

Organized Catch

During Organized Catch, all the group members start fishing with big fishing gears in their respective *beels*. All the family members of the fishermen group join together during this period. Women do not get down on the water but work on sorting and grading on the capture site. The individual leaseholders also deploy local and outside fishermen groups to harvest for them where the former gets 75% of the harvest. Type of capture also varies in two different seasons. Big fishes are more captured during Organized Catch compared to Open Catch. Total amount of capture fish during Open Catch is only one third of Organized Catch as identified through the fish flow in local wholesale markets.

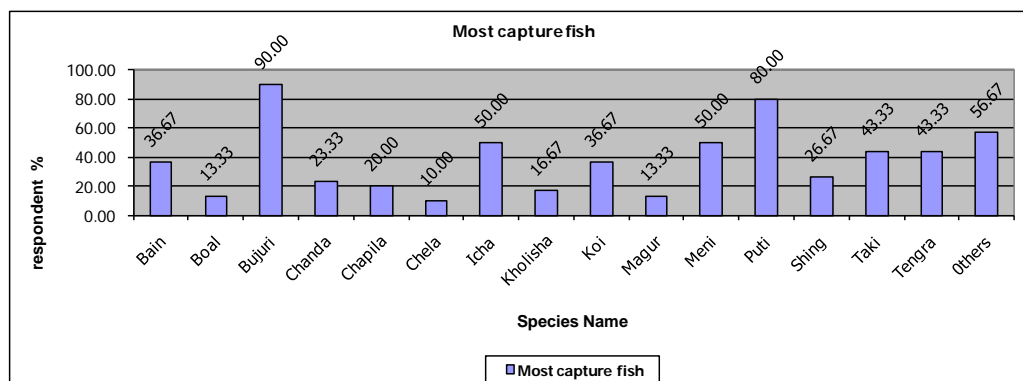
2.4 MAJOR SPECIES

A wide range of fishes are captured in Sunamganj. Major source of fish is haor/*beels* followed by rivers and a little portion comes from ponds. Following table shows the major species from these three different sources:

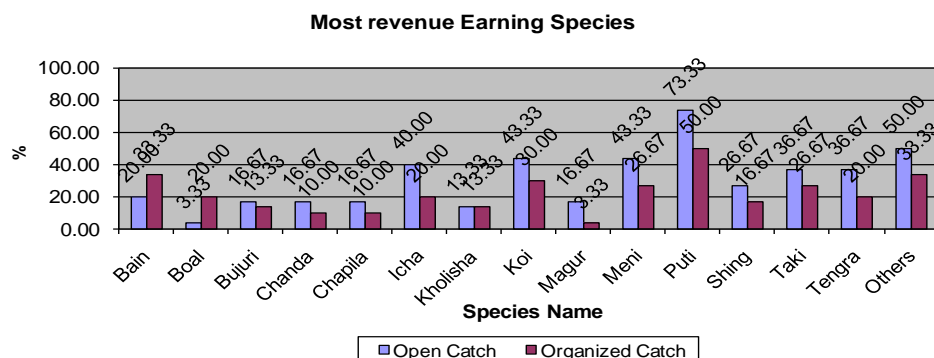
Table 3: Major fish species from different sources

| Type of source | Species | | High demand |
|------------------|---|---|---|
| | Small fish | Big fish | |
| River | <i>Ghulsha</i> (small <i>Tengra</i>), <i>Kajoli</i> , <i>Ritha</i> , <i>Ghaura</i> | <i>Ruhi</i> , <i>Boal</i> , <i>Shol</i> , <i>Mohashol</i> , <i>Bacha</i> , <i>Kalibaush</i> , <i>Bata</i> | <i>Ruhi</i> , <i>Kajoli</i> , <i>Bacha</i> |
| Haor/beel | <i>Tangra</i> , <i>Meni</i> , <i>Puti</i> , <i>Ichha</i> (small prawn), <i>Taki</i> , <i>Bujuri</i> | <i>Shing</i> , <i>Magur</i> , <i>Shol</i> , <i>Gojar</i> , <i>Boal</i> | <i>Pabda</i> , <i>Koi</i> , <i>Meni</i> , <i>Tangra</i> , <i>Shing</i> , <i>Magur</i> |
| Pond | <i>Tilapia</i> | <i>Pangas</i> , <i>Ruhi</i> , <i>Mrigel</i> , <i>Bighead</i> | <i>Pangas</i> |

From the interviews of fishermen in *haors/beels*, Bujuri and Puti came out as the most captured fishes. Following two graphs shows most captured and most revenue earning fishes opined by the fishermen of haor and *beels* in Sunamganj district.



Graph 1: most captured fish opined by fishermen round the year



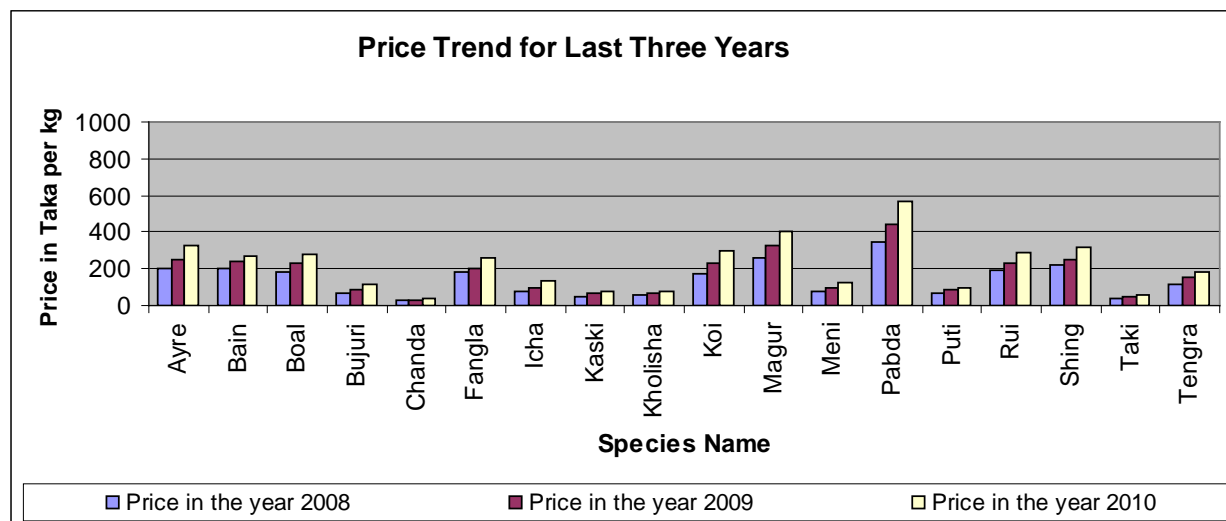
Graph 2: Most revenue earning species by fishermen

Other fishes in both the scenario includes *Goinna*, *Chikra*, *Fangla*, *Kholisha* etc.

2.5 PRICE TREND

During Organized Catch, overall price of fish at local wholesale level decreases by 15-20% compared to Open Catch period as the supply increases. Unit price (Tk per kg) of big fishes increases according to their size. For example, a ruhi sells at the rate of Tk. 120 per kg if weight is less than 2 kg, Tk. 200 per kg if less than 3 kg and Tk. 400 per kg if equal or more than 4 kg. Similarly Boal sells at the rate of Tk. 600 if weight is higher or equal to five kg.

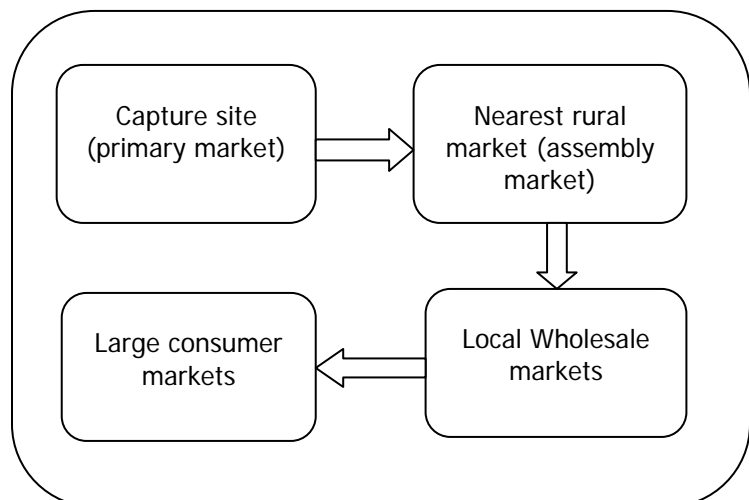
Fish price in Sunamganj is also increasing as like as that in Bangladesh as a whole. However, naturally captured fish has a higher value in market due to its taste. The following graph shows the local wholesale market price of different fish of average size in Sunamganj during last three years which clearly indicates a consistent price increase.



Graph 3: Price trend of different fish in Sunamganj at wholesale level

2.6 MARKET AND MARKETING STRUCTURE

The end markets vary from Upazilla to Upazilla in Sunamganj mostly due to the communication system and ease of accessibility along with business linkages. For instance, the fish that goes to Dhaka and Sylhet, mostly departs from Sunamganj Sadar due to good road communication. On the other hand, the fish captured from Sullah, Tahirpur and Dharmapasha Upazilla (northern part of the district) goes to Bhoirab, Mohonganj (Netrokona) and Kuliarchar (Kishorganj). So many intermediaries exist along the marketing chain which represents poor capacity of aggregation



and poor accessibility to the end markets by the fisher community. The overall distribution of fish is mainly operated through four types of markets. First, the collection point or the capture site where small lots of fishes captured by individual fishermen are accumulated by fish collectors; Second, the nearest assembly market where small traders purchase the fish stock from number of collectors; third, local wholesale markets where large traders build up sufficient volume to supply to other districts and finally, the large consumer markets where tons of fishes arrive from around. Value chain actor description and maps in section 5.2 sheds more light on this marketing chain.

3. SCBRMP FISHERY OVERVIEW

Fisheries development is one of the components of SCBRM. This component is being im

plemented to ensure access of the poor community to water bodies. The component is applying participatory Community Based Fishery Management (CBFM) approach for sustainable resource usages.

The following activities are being undertaken under this component:

- i. Identifying and demarking resource bases by mapping, surveying and installing pillars;
- ii. Excavating /re-excavating water – bodies and *khal* (canal) to restore fish habit;
- iii. Transferring water bodies to the communities with long term use;
- iv. Establishing fish sanctuaries to regain diversity and increase production of fish;
- v. Rendering training to women for raising swamp tree for restoring swamp forestry in *haor* area;
- vi. Promoting pond fish culture for raising income of indigent women;
- vii. Extending assistance to local administration and department of fisheries for enforcing Fish Conservation Acts; and
- viii. Monitoring fish production, consumption, marketing and accessing its impacts on people's livelihood.

To enhance the capacity and skill of the BUG members the project introduced a special comprehensive training for the BUG members with assistance from WorldFish Center and the Department of Fisheries.

The training included:

- i. Leadership development
- ii. Account & *bee*/ management
- iii. Open water fisheries management

- iv. Resource conservation
- v. Fish sanctuaries
- vi. Swamp tree nursery
- vii. Plantation in swamp area
- viii. Fish processing & marketing
- ix. Re-excavation/ earth work
- x. Exposure/exchange visit for BUG

After having training BUGs took a few activities for *beel* resource management including:

- Fixing demarcation pillar
- Establishing Katha and Sanctuary
- Re-excavation
- Conservation campaign and so on

In all those activities, the project provided inputs and implemented in collaboration with different concerned departments and institutes, particularly the Local Administration, Department of Fisheries and Local Government Institutions.

The fish catch which was around 47 kg/acre in 2007 increased to 126.27kg/acre in 2008, but decreased during 2009 to 73.53 kg/acre. The decline in catch occurred due to less inundation in *haor* basin following low rainfall in 2009, and besides, access to some big *beels* took place during very late season of harvesting. The average benefit received by each member increased from Tk. 2237.37 to Tk 2987.63 in 2009. The BUG members utilized their earning from *beels* in diverse areas including small trade, buying cows/goats, buying/leasing in land, releasing land from mortgage etc.

From July, 2005 to February, 2010 this project has already transferred 135 water bodies to 4,743 members by involving 21% women. Out of 135 water bodies, 36 water bodies are more than 20 acres in size and rest 99 water bodies are less than 20 acres. 72 *beels* have been re – excavated by 95,000 labor working days through contract labor organization. Water trees like Hijol and Koros have been planted in 20 *beels* with an objective of creating biodiversity. Sanctuaries have been created in 21 *beels* to ensure stock in dry season and other 56 *beels* have been demarcated. BUGs have gained 12,800,000 as a profit. Government's revenue board has received taka 8,602,401 as revenue. Training has been provided to 4,743 members with an objective of increasing fish production and management.

CHATOL UDOY TARA: AN SCBRMP CASE

Chatol Udoy Tara *beel* is located at kathalia Moja beside Kathali and Akhter para village at Shimulbak Union in south Sunamgonj Upazilla. The area of this mentioned water body is 58.20 acre. The annual lease value of this water body is Tk. 60,488.00.

Although some people of that Upazilla have been taking lease of this *beel* in the name of fisher community since 1972, the fishermen of Kathalia and Akhter para village never got the chance to take lease of that *beel*. They could not fish in the *beel* to fulfill even their own consumption demand.

15 to 20 years ago, many indigenous big fishes like *Rui*, *Katla*, *Mrigel*, *Chitol*, *Ayeer*, *Nandina*, *Kalibaus*, *Boal*, *Shol*, *Gojar*, etc and some small species were available in this *beel*. Some powerful people started pursuing to get lease of that *beel* from district office because of the availability of fishes in a large quantity. Some species have started diminishing from that time because of over fishing, using of some harmful nets and drying out through pumps.

Some Facts of Chatol Uday Tara beel

- Area 58.20 acres
- Lease value 60488.00 taka/year
- BUG formation 21 July, 2005
- Lease taken by BUG 5 August, 2005
- Tenure 10 years
- Beel transferred 26 September, 2005
- BUG member 60
- Male 51
- Women 9
- Among 60 BUG members, 54 are fishermen and rest 6 members are farmers who are dependent on water of this beel for farming.
- There is a beel management committee consisting of 9 members elected by BUG

After the handover to BUG, fish has been collected five times in this *beel* by saving sanctuaries.

Table 4: Year wise fish collection in *Chatol Uday Tara beel*

| Year | Fish production (kg) | Total income (taka) | Total expense (taka) | Labor cost (taka) | Total distributed profit (taka) | Profit (Taka per member) |
|--------------|----------------------|---------------------|----------------------|-------------------|---------------------------------|--------------------------|
| 2005-06 | 10718.10 | 569982 | 189178 | 0 | 380804 | 6105 |
| 2006-07 | 9769.00 | 659941 | 292409 | 0 | 367532 | 5000 |
| 2007-08 | 10620.40 | 539633 | 363716 | 74327 | 175917 | 2400 |
| 2008-09 | 6989.00 | 586175 | 272314 | 82300 | 313861 | 5000 |
| 2009-10 | 10906.00 | 966382 | 312504 | 130400 | 510000 | 8500 |
| Total | 49002.5 | 3322113 | 1430121 | 287027 | 1748114 | 27005 |

From above table, it is clear that fish production was a bit less in the fourth year because of the re-excavation and establishment of sanctuary in the third year which affected the fish habitat. It was also observed that species like *Rui*, *Carpio*, *Shol*, *Gojar*, *Boal* and *Kalibaus* and also the species which were on the way to diminishing like *Pabda*, *Ayeer*, *Gulsha*, *Tarabaim*, *Chikrabaim*, *Meni*, *Batashi*, *Mola* and *Khalisha* were increasing because of the establishment of sanctuary. In 2006-07, there was no *Pabda* fish whereas 50 kg and 77 kg *Pabda* were collected in the year of 2008-09 and 2009-10 respectively.

In an FGD with the BUG members, they showed their high satisfaction regarding ownership and capacity building regarding *beel* management. Year-end profit, which is a handsome amount (approximately Tk. 6000 last year), enabled them to invest or buy some assets. However, they showed their dissatisfaction on the late delivery of the profit by the Project which failed them to invest in some appropriate business.

4. MARKET DYNAMICS AND ORGANIZATION OF THE VALUE CHAIN

This chapter describes dynamics of the Sunamganj fishery sector in general and SCBRMP in particular along with the organization of the value chain and market actors and different channels through which the product reaches end markets.

4.1 CHARACTERISTICS OF FISHING AND FISHERMEN

This section describes different types of fish capture, processing and marketing practices among the SCBRMP fishermen along with general fishermen in Sunamganj district.

4.1.1 TYPES OF FISHING

In general, fishing in water bodies can be divided into three major types such as:

1. Individual fishing
 2. Group fishing with or without leasing
 3. Individual capture through leasing
1. Individual fishing: Fishermen who do not own any leased water bodies fall under this category. They mostly capture fish with small boats and small fishing gears. They fish round the year though they are able to capture more fish during Open Catch period since their access gets limited during Organized Catch. However, the member of the BUGs also fish individually during open catch period outside their demarcated *beel*.
 2. Group fishing with or without leasing: Fishermen under the SCBRMP, falls under this category. They manage and capture fish together during the Organized Catch season. As the group size varies from around 20 to 50, the group members apply rotational duty among them. In this way, every member work and gets involved in fishing. However, the profit is distributed equally among the members. Women members work on sorting and grading at the capture sites. These groups also deploy watchmen from their groups to watch their water bodies. The members also earn wages for fishing in their *beels* in addition to the revenue generated from fish selling. Out of around 1100 haor/*beels* in Sunamganj, currently 135 water bodies belong to such groups.

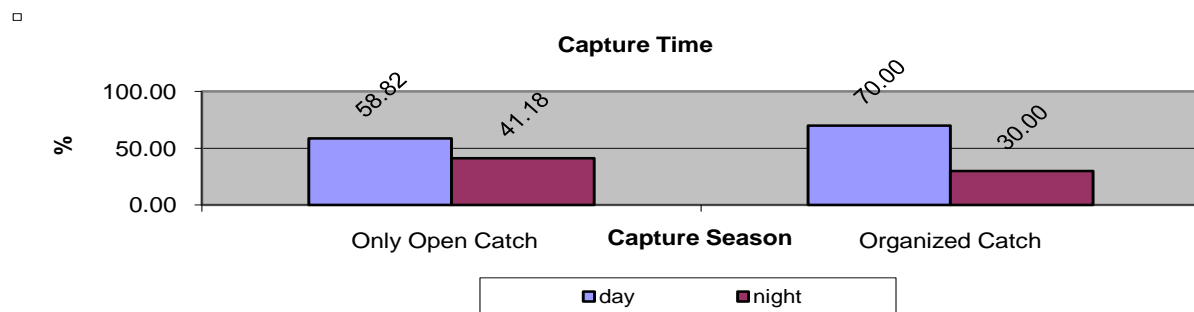
Another type of group fishing takes place for the fishermen who do not own any leased water body. Usually they group together to increase their capacity and also to get access to large traders. In cases, they are financed (boats, nets) by them. Other fishermen groups work for the individual leaseholders (local powerful people) on a harvest-sharing basis.

3. Individual capture through leasing: These are local powerful people, who, through their muscle power manipulate the leasing process and obtain lease from the concerned

authority. They develop fake fishermen groups and apply the bidding process through them. They usually deploy watchmen to watch their water bodies from fishing by other fishermen. In some occasions, they allow other fishermen to fish in their water bodies through paying money. However, they restrict the entrance of fishermen at least two months before the Organized Catch season starts. During the Organized Catch season, they employ fishermen groups to harvest for them on a harvest sharing basis where the former receive 75% of the harvest.

4.1.2 FISHING TIME

Fish is captured during both day and night in the region. Usually fishermen prefer to capture fish during night mainly because of two reasons- a) more fish appears near nets seeing lights of boats and b) fishermen can save themselves from scorching heat of sunlight. However, following graph shows the pattern of fishing time during Open Catch and Organized Catch.



Graph 4: Fishing time of fishermen

4.1.3 AVERAGE CAPTURE AND CONSUMPTION

The study found that an individual fisherman captures 4.4 kg and 2.1 kg of fishes per day during Open Catch and Organized Catch season respectively. It makes sense, since individual fishing gets restricted during organized harvest and hence the volume decreases. During organized harvest, BUG members do not fish individually anymore and harvest fish in groups. However, it was estimated that on average a fisherman keeps 12.5% of his harvest for family consumption. For own consumption, fishermen select the following fishes:

- The fish that already has become soft after capture and will get less price in market
- The fish that usually has low price in market such as Puti, taki, meni etc.
- Smallest fishes (fingerlings) which have very low price in market
- Buy low price cultured fishes from market such as Pangas.

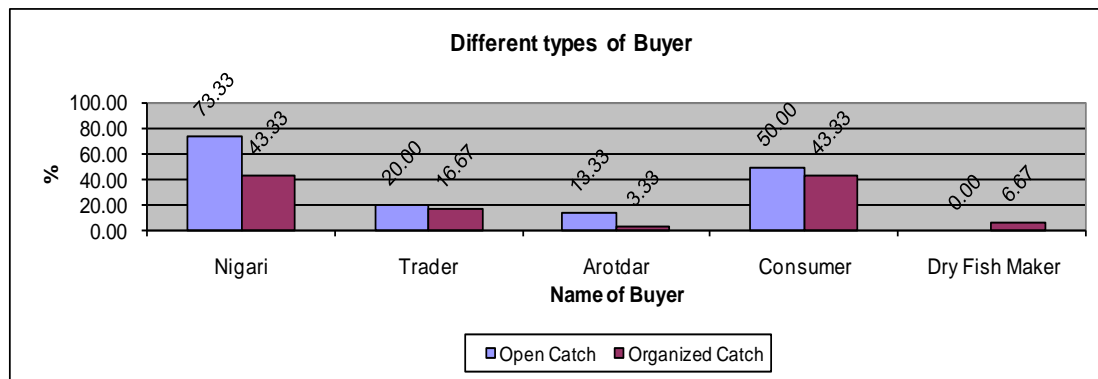
On the other hand, fishermen groups, during Organized Catch season keep little amount of fish for family consumption irrespective of the market value of the species. In such a way, they almost consume all types of fishes both small and big.

4.1.4 IMMEDIATE BUYER

BUG members' immediate buyers vary in different seasons. During Open Catch, fish is largely sold at the nearest market or to “*Nigari*” who roam around the *beel* with their boats to buy fish. During Organized Harvest the catch of BUG people reaches end markets by four different ways:

- Open auction on *beel* side to the *Nigaris*
- Directly sell at local wholesale market
- Directly sell to local processing plant
- Sell at Sylhet wholesale markets

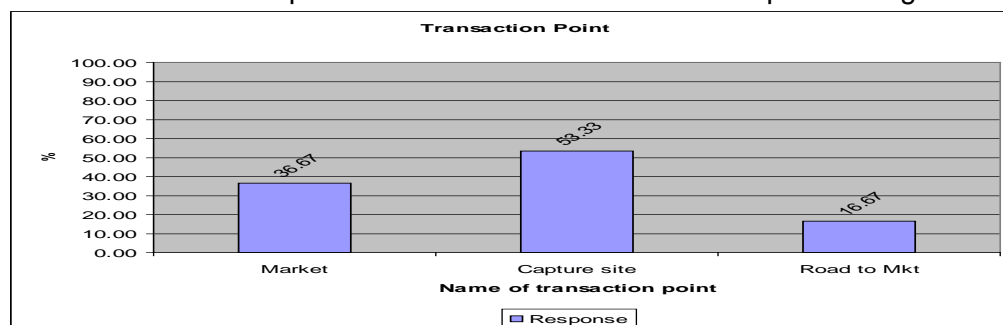
In general, fishermen sell their capture to a variety of intermediaries such as *Nigari*, small traders, Arottdars/large traders, dry fish makers etc in addition to consumers. These buyers are not mutually exclusive i.e. a fisherman can sell his capture to both *Nigari* and consumers. However, such transaction varies in different seasons. The following graph shows the degree of such incidences.



Graph 5: Different types of buyers for fishermen

4.1.5 SELLING POINT

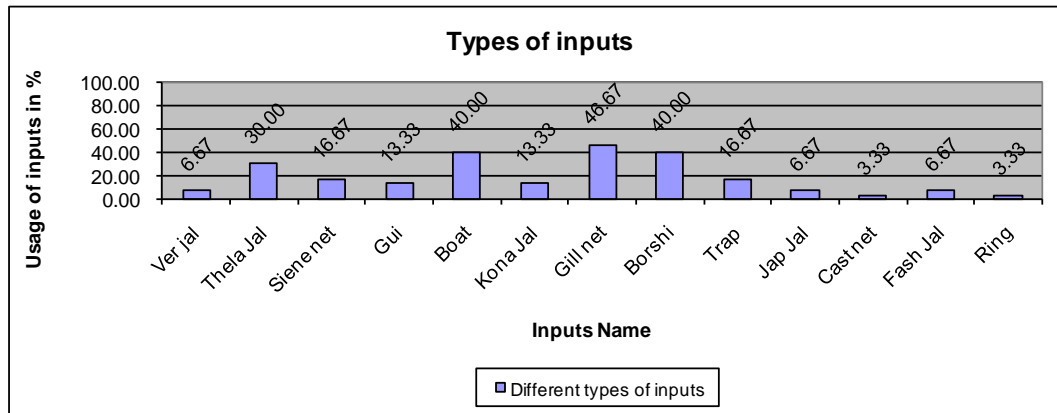
In general, selling fish at the capture site has the highest preference among the fishermen and BUG members mostly due to poor communication and transportation means. The following graph shows the transaction points for the fishermen and their respective degree.



Graph 6: Selling points for fishermen

4.1.6 USAGE OF FISHING GEARS AND BOATS

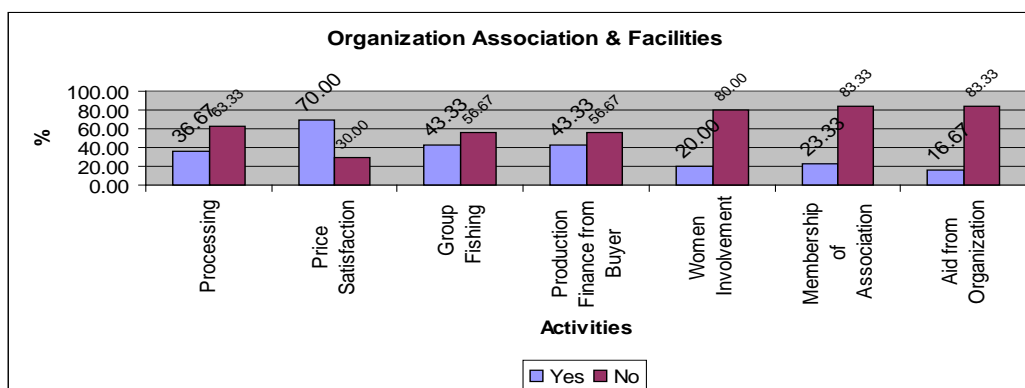
So many types of fishing gears are used in the area to capture fish. Though there is restriction by the government to use certain types of nets and to capture fish in certain time of the year, the practice still exists. Following graph shows the usage of different types of fishing gears by the individual fishermen in the project area. BUG members were found to deploy gill net, seine net, trap, *Ber jal*, long line mostly during Organized Harvest.



Graph 7: Usage of different types of fishing gears by fishermen

4.1.7 OTHER ISSUES

The following graph shows that 36% of the fishermen undertake some processing activities that include sorting, grading and dry fish making. However, 70% of the fishermen are satisfied with the price they receive. 43% of the fishermen undertake some sort of group fishing and all of them are financed from their buyers either as advance payment or to purchase fishing gears. 20% of the fishermen involve their women in fishing related activities mostly during processing. 23% of the fishermen belong to some groups or Association. Only 16% fishermen received assistance from development organization in the form of training, credit or hardware.



Graph 8: Different issues of fishermen

4.2 MARKET ACTORS

This section describes different types of market actors along with their interrelationship in Sunamganj fishery as a whole with highlights on the marketing chain of BUG members.

Input supplier

Various types of fishing gears (nets, spears etc) are the major inputs along with fishing boats. However, due to the demand, there are so many boat makers in the district. It takes, on average, 4 days for two persons to make a boat of 20 feet and it costs Tk 4000. There are cheaper quality boats as well which uses low quality timber and has less life length and also costs less. There are shops in big bazaars and in all Upazilla level markets where different types of nets are sold. These shops usually buy different types of strings from Dhaka (Chawkbazaar) and make nets of different types and sizes according to the fishermen (buyer) requirement. They also sell strings and accessories if the buyer needs.



A fishing net retailer in Bishwambharpur Upazilla bazaar

Fishermen

There are mainly three types of fishermen.

- River fishermen who mainly capture fish from Surma river. This type of fisherman fishes in groups of around 20-30 by using *Mohajal* or *Berjal* and motorized boat provided by local large traders. This type of fishing is expensive because the net and the boat they use cost 1.5 to 2 lac taka which is provided by the traders. The fishermen are not contracted to sell their fish to the traders. Usually they sell their capture to traders, local processing factory, in big markets, also in Sylhet and Dhaka. The trader/financer receives 25% of revenue excluding fishermen's daily expense like food and fuel. Rest 75% is distributed among the group members equally. Major types of fishes they capture from river are *Pabda*, *Chital*, *Rani*, *Mohashol*, *Nanid*, *Keski*, *Kali baus*, *Lasu*, *Chingri*, *Aeir*, *Bata* etc. There are around 10,000 such fishermen in Sunamganj district.¹
- Fishing as the secondary occupation that capture fish but not as a main occupation and capture on an irregular basis. There are two types of people in this category. First, who capture fish sporadically along with their farming or other



A landless, part-time fisherman retailing unsorted fish in a local bazaar

¹ Source: FGD with River fishermen and *Nigaris*

occupation and second, who belong to the bottom end of the poverty profile and hardly possess any cultivable land or any productive assets. The later groups do not own any boat or big nets and mostly depend on agri-labors. They do not have regular access to any water bodies as well and fish in nearby areas with small nets and less fish habitat where the restriction is low. They mostly collect for own consumption and if the volume reaches 1-2 kg, they take it to nearby market for retailing. They usually do not sort fish and sell as it is harvested. The number of such fishermen was difficult to determine since a major portion of the population who do not have big nets or boats and have no or limited access to fishing, belong to this category.

- Haor/beel fishermen, whose major occupation is fishing, can be classified in two categories. One, who own any *beel*/haor as BUGs and received lease formally and others who do not own any *beel* but fish in others' water bodies. BUGs fish in their respective *beels* in small scale maintaining fish habitat undisturbed up to *Ashin* of Bangla month (mid September) and do bulk fishing during Organized Catch season. During Open Catch period they fish surround or outside their demarcated *beel*. However, later group fish in others' water bodies through payment or take part during Organized Catch as fish-sharing basis. Most of them fish individually with their small boats and nets. Their major capture fishes are Puti, Koi, Kholisha, Icha, Chanda, Boicha, Meni etc. altogether, around 30-40 thousand such fishermen exist in the area.²

Although no *beels/haors* beyond a specific size are supposed to be taken leased by individuals or powerful elites, such mishaps are commonplace in the area. The powerful people apply for particular water body under the name of fishermen group which is formed by them on purpose. They identify few local fishermen or residents near the *beels* who have control over the community and form Association and apply through their name. Only those few people are benefitted by the powerful person, which is mostly some cash incentive, and afterwards, the *beel* goes under the control of that person. However, in some cases, after taking the lease, the person sub lease it to local people if management seems difficult or there is such option to get a quick return with profit. Then the *beel* is managed by the local sub lease holders who in many cases belong to fishermen community if not again some second tier powerful people.

Fish Collector/*Nigari*

This group of people can be defined as those who collect fish from fishermen on fishing sights. Usually, these types of market actors perform the sorting/grading of fishes if not done at fishermen level. These collectors, locally called as *Nigari*, again, can be classified into three types.

- River fish collectors who collect fish from the fishermen fishing in Surma river. They collect fish in groups round the year. They have their own boats and big nets. Collecting fish from rivers of different areas requires big capital and a group of people. This

² FGD with market actors and KI interview

business needs around 30-35 thousand taka capital. Group business also has some advantages which are as follows:

- Every member in a group invests money. Thus they raise a big capital.
- Collecting fish in a group ensures larger collection which is difficult for an individual.
- Group collection also ensures smooth supply and distribution.

Usually these *Nigaris* sell their collection to a variety of market actors such as consumers in retail market in Shologhar Fish Market in Sunamganj Sadar, processing companies through agents, large traders/*Arotdars* in Sunamganj bazaar and also in Sylhet.

Major fishes they collect from the river are *Guilsha*, *Aeir*, *Batashi*, *Kajli*, *Shal Baish*, *Pabda*, *Ghaura*, *Bacha*, *Rui*, *Boal* etc. There are around 1500 such *Nigaris* operating in the district.³

- Small *Nigaris* collect fish from *beel/haors* with their small boats. They roam around the fishing areas where fishermen catch fishes and keep buying according to their purchase capacity. Their buying capacity is comparatively low, worth 2000-3000 taka. After collection, they bring it to nearby bazaar, where they sell to small mobile traders or in Arots. However, during Organized Catch season, when movement through boats become difficult, they reach the harvesting site of around 2/3 kilometers distance on foot, carry the purchase on their shoulder and bring it to nearby bazaars. During Organized Catch season, they sort fishes and species like meni, shing and mola are sent to processing companies through company's agents. This type of *Nigari* can also purchase fish on credit depending on his relationship with the *beel* owners or with the fishermen. Many such small *Nigaris* join together during Organized Catch season and trade in bulk. These small *Nigaris* are also buyers of fish from the BUG members during both Open Catch and Organized Harvest seasons. Around 2000 such *Nigaris* are operating in Sunamganj district.⁴



- Big *Nigaris* are comparatively larger, having stronger boats with big storage boxes and access to ice. They are linked with large traders who export in bulk to Dhaka or Sylhet. These *Nigaris* are pre-financed by the traders. In Solemanpur bazaar (a big wholesale market), there are around 80 such *Nigaris*. One trader contracts with around 20 *Nigaris* and distributes around Taka 3 lac among them to



Boxes and big boats of big Nigaris in Solemanpur wholesale market

³ FGD with river *Nigaris*

⁴ FGD with haor/beel *Nigaris*

purchase fish for him. These *Nigaris*, in turn, are connected to fishermen. One *Nigari* has contract with around 70 fishermen and he also sometimes gives small amount of money in advance to them. These amounts are adjusted with both fishermen and *Nigaris* for the fish supplied. However, none of these contracts are formal and obviously spill effect persists. As like as small *Nigaris*, these *Nigaris* are also buyers of BUG members during both the seasons. Around 1000 such *Nigaris* operate in the district.

Table 5: Average buy/sell of fish per day for such type of *Nigari* is as follows-

| Category (Avg sale in kg) | Open Catch | Organized Catch |
|---------------------------|------------|-----------------|
| Small fish | 80-100kg | 260-300kg |
| Big fish | 20-30kg | 50-70kg |

Small traders

These traders move intra district to different small local bazaars where the small *Nigaris* bring their collection. They buy the collection and carry to larger wholesale markets to different Arots. In Noakhali bazaar in South Sunamganj Upazilla there are around 20 such small mobile traders. They take their merchandize to Lamagazi and Sylhet Sadar markets. They transport the fish through Bus. These small mobile traders are scattered all over Sunamganj to collect fish from small bazaars. During Organized Catch season, they group together and purchase in bulk. There are around 1000 such small mobile traders in the district.⁵



A small trader is bargaining with a Nigari in Noakhali bazaar in South Sunamganj

Large Traders/Arotdars

These traders are located in big wholesale markets. In Solemanpur bazaar, for instance, there are 4-5 such large traders whereas in Sunamganj district market, there are around 10. These traders accumulate the fish captured from different sources such as *Nigaris*, fishermen, small mobile traders and afterwards mostly supply to Dhaka, Sylhet, Bhoirab along with supplying to processing company.

These large traders can also be classified in two types:

- First who only deals with Sunamganj fish
- And second who deals with fishes of other districts along with Sunamganj fish

⁵ Source: Discussions with small traders

The former type is located in fish collection junctions such as Solemanpur where fishes captured within the districts arrive. They purchase fishes mostly from *Nigari* they are linked with. The traders/Arotdars buy fishes and send them to Bhoirab, Dhaka (Jatrabari, Karwanbazaar) or Sylhet Arots and also to processing companies in Chittagong. These traders use river transports to supply fish outside as their location is less suitable for road transportation.



An Arotdar/large trader keeping in Lamgagazi bazaar; fish is traded outside

On the other hand, the later type exports Sunamganj fishes to outside along with selling in local market, at the same time import fishes from Mymensingh, Narshingdi, Dhaka and Comilla. Fishes from Myanmar also reaches Sunamganj through this Channel. The imported fish is for the consumption in local market. This group of traders sells fishes, both Sunamganj origin and imported ones, to local retail markets and restaurants. Some of these traders work as agent of a processing company located in Sunamganj Sadar. *Nigari*, small traders or fishermen deliver fish to the processing company which is endorsed on the name of this large trader (agent). The agent pays them in cash and he receives the amount from the company after 2-3 weeks. 50% of the merchandize of the later group go outside mainly to Dhaka, Bhoirab and Chittagong. Rest 50% is consumed locally. Processing company is the major buyer consuming 30-40%, 10% by local restaurants and the remainder is consumed through local retail market. Their procurement can be described as follows:

- For *beel*/haor fishes: 60% from *Nigari*, 20% from fishermen and 20% from *beel* owners
- For river fishes: 50% from *Nigari* and 50% from fishermen

Out of their total merchandize, 60% comes from *beel*/haor and rest 40% from river. They usually transport fish through buses' roof top, as it is the cheapest means. Only during Organized Catch, sometimes, they supply through truck if the volume permits and is financially feasible.

Processing Company/Exporter

There is a fish processing company, named Saidowla (Pvt) Ent. Ltd. under Euro Foods Groups, in Sunamganj district which exports processed fishes to the UK, the USA, Australia and Middle East. They have their own wholesale outlets in those countries and hence procure fishes according to availability and also their capacity. They source fish not only from Sunamganj but also from other parts of the country such as Bhoirab, Shatkhiria, Bagerhaat, Kihorganj, Mymensing and also from Myanmar and India to meet their requirement. They contract large traders as supply agents. These traders supply fish by themselves or through their suppliers

(*Nigari*, small traders, and fishermen) to the company. The company is financed by a Commercial Bank, which provides trade financing. The Bank visits plant's warehouse and disburses 80% of the ready stock. Hence, the processing company receives trade finance after 2-3 weeks, in general, for their merchandize. After receiving the finance from the Bank, the company pays the large traders (agents). However, the agents have to pay their suppliers in cash when they deliver fish either to their *Arots* or to the processing company on their behalf. The processing company usually pays 10-20% higher price to their agents than the agents pay to their suppliers. Hence, only those who have high working capital can do business with the processing company.



Saidowla (Pvt) Ent. Ltd., a fish processing company under Euro Foods Groups in Sunamganj

The company usually intends to receive fish in sorted condition. However, they sort the fish after its arrival, then grade, weigh and take records of the supply and pay later accordingly.

They buy all types of fish of a given size.

Most common fishes they purchase from Sunamganj districts are *Boal, Aeir, Koi, Puti, Mola, Kechki, Bujuri, Batashi, Rui, Pabda, Tangra, gulshah, Chapila* etc. They buy small fishes of mixed species but require at least five species in a chunk. They also purchase cultured fishes that mostly come from outside Sunamganj.

Fishermen cum Dry Fish Maker

Dry fish making is the most common processing activity for value addition. However, not all the fishermen dry fish commercially. There are some specific areas/villages which are prominent for making dry fish. Bahadurpur, Chandergaon, Gopalpur in Bishwambharpur Upazilla; Solemanpur, Bhatitahirpur in Tahirpur Upazilla; Behali in Jamalganj Upazilla are some of the areas where dry fish is produced in bulk. Dry fish is produced during Organized Catch season when the supply shoots up and the price of fresh fish falls down at local level. Most of these dry fish producers are also fishermen. They start producing dry fish after *Kartik* (mid October) through *Choitra* (mid March) of Bangla month. Usually it takes 4-5 days to produce *Puti* dry fish whereas 2-3 days for *Chanda, Icha, baim, Chapila* and *Kechki* dry fish. There are approximately 2000 dry fish makers as estimated.

Dry fish are of three types- a) *Chapa Shutki*, b) *Shutki* and c) *Salted Shutki*

- a) **Chapa Shutki** is made of the oil that is extracted from *Puti* fish. Women are engaged as labor to clean the fish, bring out the inside materials from *Puti*. The female labors receive the inside materials as their labor charge which they later stir fry to extract oil. 40 kg of *Puti* can generate as much as 4 kg of oil. One kg of fish oil they sell at the rate of Tk. 40. The cleaned *Puti* is then sundried for 4-5 days. However, dry fish makers buy the oil from the women. Afterwards, the inner side of a 50 kg clay pot (locally called *Motka*) is washed with the *Puti* oil and then the sun-dried fish to be made Chapa is kept inside the *Motka*. The more time it remains inside the *Motka*, the more it becomes enriched with oil and thus tastier. The dry fish maker sells the *Chapa shutki* bringing it out from the *Motka* as and when required of any quantity, even throughout the year. *Chapa shutki* of *Puti* is sold in the market as much as Tk. 500 per kg.
- b) **Shutki** is the dry fish which is only sundried and no other materials is used further. The process is as like as Chapa *Shutki* except from the oil mixing part. One kg of *shutki* of *Puti* is sold in the market at the rate of Tk. 400.
- c) **Salted Shutki** also follows the same process as like as *Shutki* but it requires putting salt on the sundried fish. Putting salt also protect the fish from getting infected by insects. However, 1 kg of salted fish is sold at the rate of Taka 250-300.

Dry fish making is not common among all the fishermen since it involves some infrastructure development and also requires extra efforts and skill. Since, in general, fishermen in Sunamganj capture fish regularly and sell them instantly in the market, dry fish making is not an attractive business for them as it gives money after a certain time span.

Large Dry fish trader

There are few large dry fish traders with sales outlet in Sunamganj district who produce dry fish through other people. They buy fish during Organized Catch, hire labor/women to clean and produce dry fish for them. Women labor usually gets the oil extracted from fish as labor charge. These dry fish traders also import dry fish from Chittagong (marine dry fish) and Netrokona (Mohanganj) to meet the local demand. Only in District Sadar market, there are around 10 such dry fish traders. They do both wholesale and retailing. They also supply dry fish to Dhaka in Karwan bazaar. Such dry fish traders are found only in big bazaars in the district. Approximately, 100 such dry fish traders exist in the area.

There are other groups of dry fish traders who come from Brahmonbaria district during Organized Catch season. They buy fish in bulk, engage local people to make dry fish for them and finally take the dry fish produced back to their place. As estimated, in Organized Catch, 50 to 100 such dry fish traders appear in Sunamganj to produce dry fish.

Retailing

Fresh fish retailing is done through fishermen or fish retailers in the market. Small fishermen who mostly capture fish on an irregular basis brings the fish directly to the retail market and sell them to consumers. In most cases, their fishes are not sorted or graded and sold in a mixed form. On the other hand, retailers in the big bazaars buy fish from Arots/large traders in sorted/graded form and sell accordingly. However, selling unit is an interesting phenomenon. Small fishes are not sold in any form of weight, rather in small packs (locally called *bhaga*) and big fishes are sold in kg. Hence, retail price, when converted into Tk/kg, in many occasions takes big leap from the wholesale price

for small fishes. For, instance, 1 kg of puti fish's wholesale price in Sunamganj Arot is 75 taka. The retailer would make 4 pack (*bhaga*) out of that and would sell each pack at the rate of Tk. 30 making the retail price as Tk. 120/kg. Dry fish retailing is the domain of different type of people. In Big bazaar such as district Sadar market, dry fish wholesalers and retailers are the same people. Their average sale weekly is around 2500 kg. In Upazilla level small markets, the retailers buy dry fish from district wholesalers and retail in their respective places.



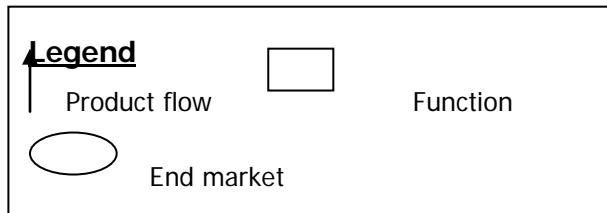
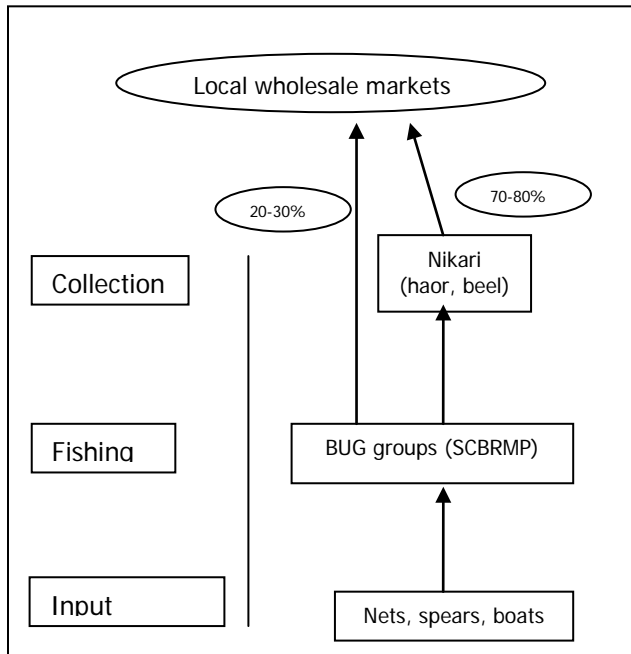
A dry fish wholesale cum retailer in Sunamganj Sadar market

4.3 VALUE CHAIN MAP AND CHANNELS

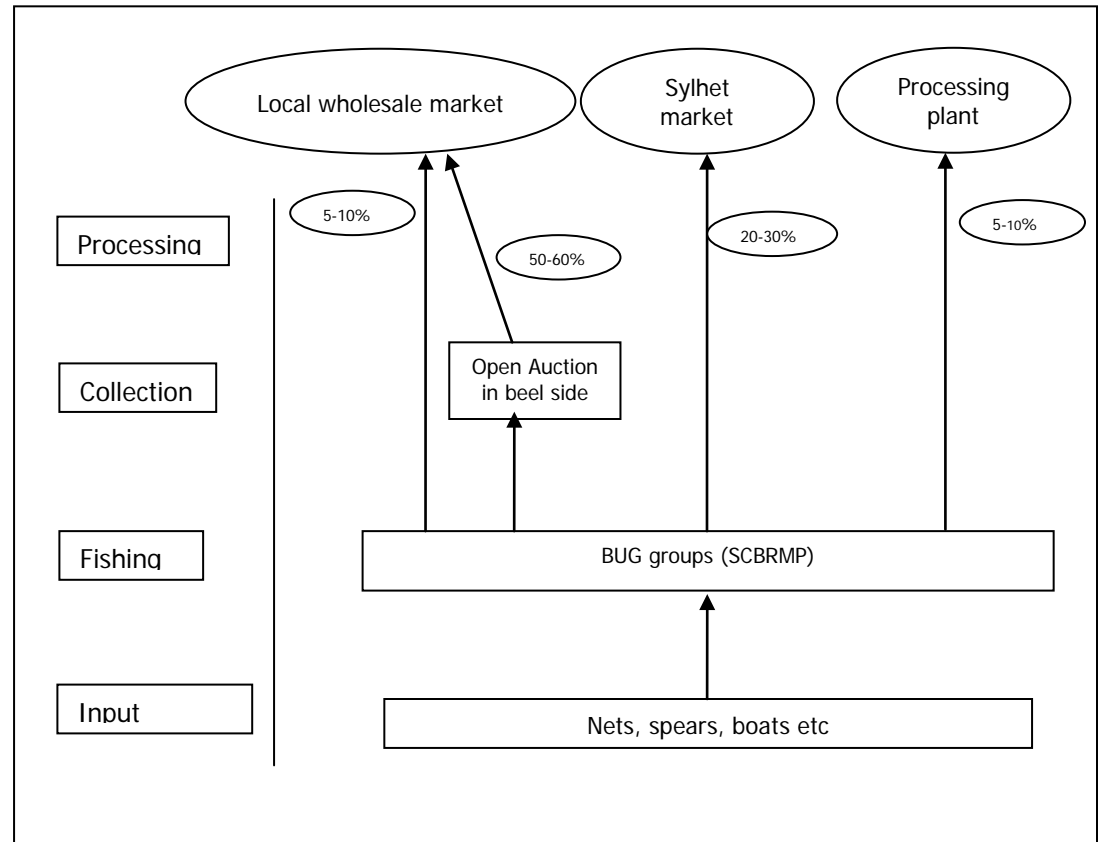
This section portrays the value chain maps of Sunamganj fishery in general followed by BUG groups in particular. However, for BUG group, simplistic value chain map is drawn showing the different channels up to end market demonstrating different types of actors and their interrelationship in graphical form. The maps are followed by a brief description of different channels prevailing in the value chain.

4.3.1 VALUE CHAIN MAP OF SCBRMP FISHERY

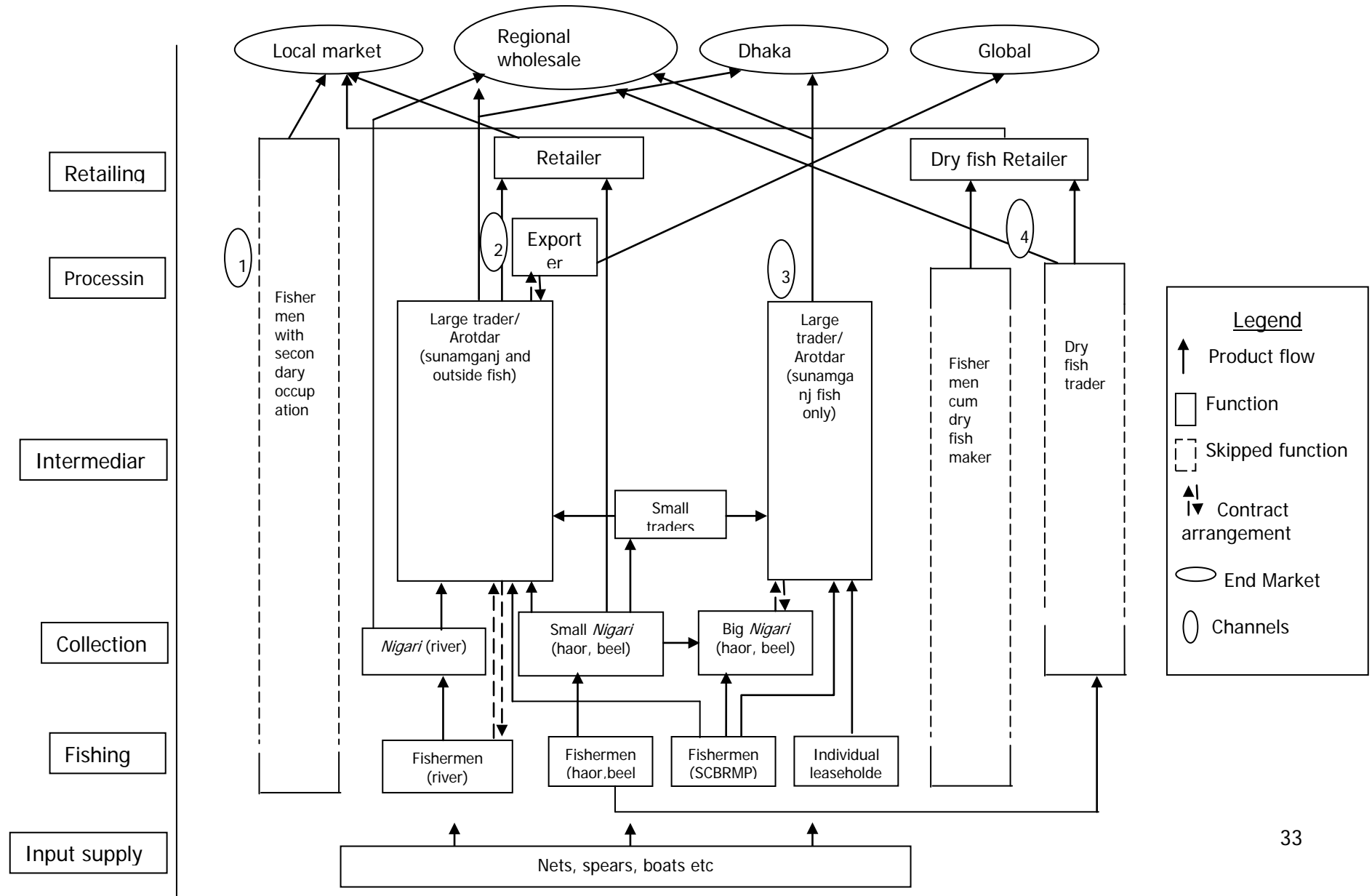
Open Catch



Organized Harvesting



4.3.2 VALUE CHAIN MAP OF SUNAMGANJ FISHERY



4.3.3 VALUE CHAIN CHANNELS: SCBRMP FISHERY

Open Catch

During open Catch season, BUG members mostly sell their capture through *Nigaris* approximating to around 70-80%. Since during Open Catch, individual capture is of small quantity, it makes more sense for the fishermen to sell on fishing sight to the *Nigaris* who roam around.

On the contrary, around 20-30% of the total capture volume also reaches nearby local wholesale markets by the BUG members directly.

Organized Harvest

Channel 1: Direct Sale to Local Wholesale Markets

Only around 5-10% of the total capture reaches local nearby wholesale markets by the BUG members directly. Since communication and transportation is difficult in the region, only those *beels* having nearer wholesale markets follow this channel sporadically if the price at capture sight falls down.

Channel 2: Sale at Capture Site through Auction

Again this is the most dominant channel among all in terms of volume of transaction. Approximately, 50-60% fish is traded through this channel. On harvesting days, a number of *Nigaris* appear at the fishing site and buy fish through auction. Fishermen usually prefer to sell through this channel since they do not need to carry the harvest to the market arranging transportation and also due to the uncertainty of price in markets.

Channel 3: Direct Sale to Sylhet Wholesale Market

Approximately 20-30% of the BUG capture reaches Sylhet Wholesale markets directly. Major wholesale markets are Lamagazi, Kajir bazaar etc. However, BUG members do not supply fish regularly to these markets and hence have weak linkages with the buyers. They sell fish to these markets when the price at capture site falls down due to the syndication of the *Nigaris*.

Channel 4: Direct Sale to Processing Plant

There is a processing plant in Sunamganj Sadar where the BUG members also sell their harvest. However, the capacity of the plant is much higher than the current supply of the members. The plant usually pays the price that is more or less equivalent to retail price.

4.3.4 VALUE CHAIN CHANNELS: OVERALL FISHERY

Channel 1: Occasional fishermen to local retail market

These fishermen cater to a little portion of the total fish trade in Sunamganj district. In most cases, they capture with their small nets (*tana jal*) and for own consumption. In cases, when the capture volume reaches 1-2 kg, they take it to the nearest retail market and sell to the consumers. Their major occupation is agri-labor along with some other periodic labor work such as earth work, stone collection etc. Children of these families also capture fish for household consumption.

Channel 2: local and outside fish to local and local fish to outside market

This channel deals with the major transaction volume amounting approximately 70% of the total trade. Its end market constitutes of three different segments of buyers:

- *Local retail market*; consumes both Sunamganj fish and outside cultured fishes such as Pangas, Ruhi, Katol, Talapia etc coming from Mymensing, Narshindi etc to the local large traders
- *Local restaurants*; consumes all sorts of fishes both local and outside supplied through large traders
- *Processing company*; consumes the local fishes supplied through nominated suppliers (among large traders) and after processing export to global market.
- *Outside market (regional such as Sylhet, Bhoirab and Dhaka Market)*; large traders export local fishes to Arots in those places

Channel 3: Sunamganj fish to outside districts

Large fish traders in fish collection junctions around the district are the major players of this channel. After sourcing the fish from backward market actors, they export this fish mainly to Bhoirab, Dhaka, Kishorganj (Kuliar Char) and Sylhet. Though this export continues round the year but the volume gets three-fold during Organized Catch season.

Channel 4: Dry fish channel

This can be subdivided into two channels:

- *Integrated dry fish channel*
This channel deals with the fishermen who capture fish and dry by themselves. However, they produce dry fish only during Organized Catch season, when the supply of fish increases and price of fresh fish falls down. There are few cluster areas in Sunamganj district such as Bahadurhat in Bishwambhapur Upazilla where all the villagers produce dry fish. They sell this dry fish to the local dry fish sellers in a periodic basis.
- *Large dry fish traders outsourcing the operation*
These large traders buy fish in bulk and engage other people to produce dry fish for them. The local traders sell it to local market as well as export to Dhaka. However, traders coming from outside such as Brahmonbaria took the entire production back to their place and market afterwards.

4.3.5 DISTRIBUTION IN DHAKA MARKET

Distribution in Dhaka market can be described as follows:

Wholesale Arots to Chain Supermarket

Dhaka wholesalers import from throughout the country. Small fishes mostly starts coming from *Kartik* (mid October) and continue till Magh (mid January). However, small fishes from Haor region start coming a bit early, around June-July.

In Dhaka, mostly from Jatrabari and Kawranbazaar (two largest fish wholesale market), there are wholesale traders (with or without Arots) who supply fresh fish to Supermarket chain such as Meena bazaar, Agora, Nandan, PQS etc. There are around 8-10 supermarket chain shops in

Dhaka who procure fresh fish from these suppliers in every alternate days. These suppliers supply fish in credit and realize weekly. Average purchase of such supermarket chains for every two days is around 2 ton of different species. For example, the breakdown of such volume for Meena Bazaar is shown below:

- 400 kg sea fish
- 600 kg small fishes of indigenous species
- 1000 kg of big fish (both captured and cultured)

Wholesale Arots to different fish markets

The two big wholesale markets supply fish to hundreds of fish market around Dhaka City where there are small Arots or wholesalers of fish.

Wholesale Arots to retailers

Retailers of all the markets buy fish from wholesale Arots of those markets and sell to the consumers.

4.4 VALUE ADDITION/DISTRIBUTION AT DIFFERENT ACTOR LEVEL

Fish price varies in a range in wholesale markets as it is sold in auction. However, table 9 shows the prices of different fishes in Jatrabari wholesale market in Dhaka, table 10 shows the price variation of different fishes at different market actor level and table 11 shows the retail price of different fishes at Shwapno Supermarket Chain shop during the field investigation period. It is noteworthy to mention that, fish price varies according to size and freshness and hence not all the prices shown below of a particular species at different level correlate to a constant size. However, in general, as observed, price increases at each tier and a major leap takes place at retail level.

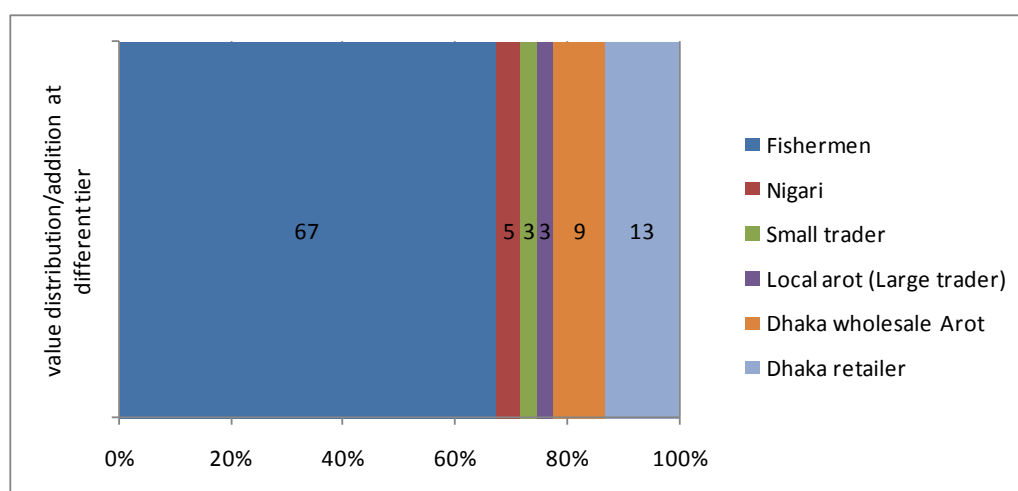
Table 6: Fish price of different fishes in Jatrabari wholesale market, Dhaka⁶

| Species Name | Wholesale Price (Tk/kg) |
|--------------|-------------------------|
| Icha | 110-160 |
| Tengra | 150-200 |
| Puti | 80-120 |
| Meni | 150-180 |
| Khoilsa | 80-100 |
| Guilsha | 350-400 |
| Pabda | 500-600 |
| Taki | 80-100 |
| Bain | 280-320 |
| Shol | 130-160 |

⁶ Price collected during fourth week of May 2010

Table 7: Fish price at different market actor level⁷

| Species | Fisher men | Nigari | Small trader | Local arot (Large trader) | Processing company (buying price) | Local retailer | Dhaka wholesale Arot | Dhaka retailer |
|----------|------------|--------|--------------|---------------------------|-----------------------------------|----------------|----------------------|----------------|
| Aeir | 330 | 350 | 360 | 370 | 380 | 380 | 410 | 500 |
| Bain | 270 | 280 | 290 | 300 | 320 | 320 | 320 | 350 |
| Boal | 280 | 290 | 300 | 300 | 320 | 300 | 300 | 350 |
| Bujuri | 120 | 150 | 170 | 180 | 200 | 200 | 220 | 250 |
| Icha | 70 | 80 | 85 | 90 | 100 | 120 | 140 | 180 |
| Kaski | 80 | 100 | 120 | 130 | 140 | 150 | 180 | 220 |
| Kholisha | 80 | 90 | 90 | 95 | 100 | 100 | 100 | 130 |
| Koi | 300 | 310 | 320 | 330 | 340 | 340 | 350 | 400 |
| Meni | 125 | 130 | 140 | 150 | 160 | 160 | 180 | 200 |
| Pabda | 570 | 590 | 600 | 610 | 650 | 620 | 650 | 700 |
| Puti | 100 | 105 | 105 | 110 | 115 | 115 | 120 | 140 |
| Shing | 320 | 350 | 360 | 380 | 400 | 400 | 450 | 500 |
| Taki | 60 | 70 | 70 | 80 | 90 | 90 | 100 | 130 |
| Tengra | 180 | 185 | 185 | 190 | 200 | 195 | 200 | 240 |



Graph 9: Value distribution/ addition at different tier of the value chain (considering average price of all types of fishes)

⁷ Price collected during third and fourth week of May 2010

Areas of Value Addition

Up to small traders, value addition mainly takes place through contributing own labor and usage of tools and equipments and transportation costs for shorter distance. However, large Nigaris use ice for storing bulk fishes. On average, 1 kg of fish requires ice worth Tk. 5 at all level of value addition. For transportation to Dhaka wholesale markets through bus as the large traders do, it requires Tk. 5 per kg. However, transportation through trucks costs more- Tk. 10 per kg. Hence, large traders transport through trucks only when they collect bulk amount to load a full truck and the price at their selling point rises. As opined by the traders, wastage during transportation is very low, around 2-3% which also gets sold due to unmet market demand.

Table 8: Retail price of fishes at Shwapno Chain Supermarket⁸

| Species Name | Retail price (Tk/kg) |
|--------------|----------------------|
| Mola | 290 |
| Tengra | 250 |
| Bojuri | 300 |
| Baila | 285 |
| Bain | 450 |
| Koi | 200 |
| Shing | 500 |
| Aeir | 450 |
| Boal | 290 |

4.5 CONSTRAINTS AND OPPORTUNITIES

This section describes the constraints and opportunities prevailing in Suanamganj fishery in general and then their relevance to SCBRMP.

Fishermen level Constraints

Constraint:

Poor access to water bodies restricts farmers from nurturing and capturing fishes.

Though the fishermen and the community adjacent to water bodies of appropriate size are entitled to get the highest priority to apply for the bid as the current government policy says, several factors restrict such accessibility. The bidding process require group or Association of fisher community which requires organized and collective effort and the poor fisher people, in many cases, fail to form such groups due to their lack of knowledge, mistrust and political

⁸ Price collected during fourth week of May 2010

reasons. Local powerful people capitalize on this issue and manipulate to form a dummy Association through which they acquire the water body. As a result, fishermen are deprived of their rights in accessing haor/bee/s and thereby improve their livelihoods.

However, the underlying causes to this constraint can be summarized as:

Underlying causes

- Improper implementation of policy
- Lack of capacity of fisher community to organize for accessing public water bodies
- Presence of strong and powerful local people accessing water bodies

Relevance to SCBRMP

SCBRMP is working on this issue and has achieved significant success in addressing this constraint. So far, they have already organized more than 160 such groups and enable them to access more than 130 water bodies through proper legal channel and also in process to facilitate more.

Constraint

Poor linkages of the fishermen with markets reduce their income

As mentioned earlier, most fishermen fish individually during open catch period and sell to the collectors moving around them. Individual catch is little and carrying it to distant places or larger buyers is not economically feasible. Even during Organized Catch period when the capture increases, they sell to the nearest buyers. On the other hand, many fishermen receive advance money from their buyers for which they are forced to sell their capture to them. For the fish that reaches Dhaka, it was found that it changes as many as seven market players to find its final consumers. Thus the profit margin gets divided in each hand and the fishermen get a little share of the final price. The underlying causes to this constraint can be summarized as:

Underlying causes

- Poor infrastructure and communication system
- Presence of so many intermediaries
- Absence of bulking mechanism at fishermen level to attract large buyers
- Fishermen receives pre-finance from their current buyers and hence are forced to sell to them

Relevance to SCBRMP

SCBRMP has already introduced a number of measures to address this constraint though not sufficient. During Organized Harvest, they invite new *Nigaris* in the auction site so that syndication is prevented. The Project also helps the fisher groups export their capture to Sylhet

along with supplying to local wholesale markets. However, this supply is erratic and not grounded in a consistent relationship between buyers and sellers. Hence, the fisher groups, being unsure about the price in wholesale markets, prefer to sell to *Nigaris* at capture sites.

On the contrary, during Open Catch, there is no marketing support from the Project side. The BUG members capture individually and sell their small volumes to *Nigaris*.

Constraint

Unplanned capture of fishes results in glut during Organized Catch season leading to low income for the fishermen group

Price follows supply. In wholesale markets, the price varies in every minute. Hence, a well-thought marketing plan through getting information from different markets can yield in higher profit. There are a number of fish wholesale markets in and around Sunamganj with which local large traders are linked with and receive regular information regarding price and supply. Fishermen and groups are unaware of this market information due to their limited access. The underlying causes to the constraint can be summed up as:

Underlying causes:

- Absence of coordination among the fishermen and *beel* users
- Poor linkage and communication of the fishermen with wholesale markets
- Lack of institutional services to arrange planned and coordinated fishing

Relevance to SCBRMP

A more systematic harvest juxtaposed to well-planned marketing strategy is scarce which leads to excess harvest on a particular day to result into lower price for the harvest. During Organized Catch, fishermen group harvests without any coordination to the markets. However, they inform the fish collectors in advance and very occasionally large buyers as well. BUG members prefer to sell at fishing site since they are afraid of the price fluctuations in wholesale markets since they do not have strong and consistent linkages with wholesalers. SCBRMP has been trying to increase the competition by including more buyers in the fishing sights. Though some large traders have expressed that they get prior information on Organized Catch but mostly those information come from individuals and local powerful people enjoying the leasing facility and fishermen groups have little linkages with them. There are no such service providers who can organize and plan the capture for the fisher groups.

Constraint

Absence of proper management of water bodies limits the optimum resource utilization.

A well planned management of a water body can yield few times higher than current situation. In this regard, there are few water bodies such as Tanguar Haor restricted from leasing and fishing. There are so many rules and regulations to preserve and maintain the water resources

imposed by the Government. Usage of specific types of nets (*current jal*), fishing during the breeding period, restriction of fishing in sanctuary, usage of chemicals and pumps to clean the surface of water bodies etc are some rules that are in place. However, violation and irregularities in execution is commonplace. Ironically, fishermen have limited options to earn their livelihood for which they continue such malpractices even knowing the consequences. BUG member are comparatively careful in extracting resources but malpractices still exist. Not all the group members are equally satisfied with the return they receive and hence intend to get extra benefits by capturing fish through improper means such as using banned nets, capturing fish in sanctuary locations etc. However, underlying causes to this constraint can be summarized as:

Underlying causes

- Lack of alternative income generating activity
- Poor knowledge of fishermen regarding potential income
- Mistrust and weak relationship among *beel* users on resource usage and harvest

Relevance to SCBRMP

SCBRMP has also achieved significant success in addressing this constraint. The *beels* that are delivered and managed by the BUGs under the project are well maintained leading to increasing fish habitat and bio-diversity. Fisher groups are trained on different aspects of managing and conserving natural resources. Fisher groups are not allowed to fish in the *beels* during open catch and in sanctuaries and also extreme fishing through drying out the *beels* are not practiced.

Constraint

Limited knowledge on fish processing and marketing limits increased income earning opportunity

The dry fish makers in Sunamganj produce in traditional methods which increase production cost, time and is prone to infestation. Inability to generate bulk volume also limits their scope to attract large buyers. SCBRMP conducted training to improve the productivity of the local dry fish makers and brought in good results. Scaling up of such initiative can yield in higher income for current and potential dry fish makers. The underlying causes to this constraint can be summarized as:

Underlying causes:

- Traditional fish processing techniques
- Lack of large volume to attract big buyers

Relevance to SCBRMP

The project also has addressed this constraint through arranging trainings for the dry fish makers among a number of BUGs. Due to absence of resource personnel, the project has not

extended the capacity building support. However, scaling up of this activity could have increased the number of skilled dry fish makers and thereby increased income of the target people.

Processing Company Level Constraints

Constraint

Unavailability of fishes forces the fish processing company in Sunamganj to run on under-capacity.

The processing Company in Sunamganj is in dearth of supply and running on under-capacity. During Open Catch period, the situation gets worse. Currently, they, on average, export 60-100 ton of fish per month which could be much extended if supply were available. They have a cold storage facility which can accommodate 150 ton of fish at a time and the processing plant can process as much as 4 ton of fish per day. They have much higher demand of capture fishes (both small and big) of *haors/beels* but the supply from Sunamganj is very erratic and insufficient. Hence, they have to source from outside districts such as Shatkhira, Bagerhat, Khulna-mostly cultured fishes and also from Myanmar and India. In Open Catch season, on average they procure 50-100 kg of fish everyday from Sunamganj and on Organized Catch season it raises up to 5-7 ton per day. However, this high volume in Organized Catch is also erratic and many times, they arrange labor workforce but the supply do not arrive. Since the processing company deals with on credit, sometimes cash payment motivate the suppliers to sell somewhere else. On the other hand, for the fishermen, selling on credit is not lucrative where there is market to pay in cash even with less profit.

Underlying causes

- Payment mechanism
- Poor road communication and centralized collection system
- Bank disburses money after certain accumulation on the company warehouse

Relevance to SCBRMP

The project has already supplied BUG fish to the Processing Company in Sunamganj though not in a regular basis. However, the project should link the BUGs with the company direct and should take the role of facilitation to arrange discussion, negotiation and deal making between the buyer and seller. One limitation of the company is that they buy on credit and pay after 2-3 weeks. Since, during Organized Catch, BUGs sell in bulk and the money goes to bank account, they get the profit later. Hence, BUGs can therefore easily supply to the company and the company can pay the BUG through accounts payee cheque in a later date. In this way, both the parties can stick to their current payment and recovery mechanism and thereby gain a win-win situation.

Supermarket Level constraints

Constraint

Poor linkage with sources forces the supermarkets to procure from wholesale markets at a higher price and without traceability.

The Chain supermarkets in Dhaka are also suffering from getting fresh fishes from direct sources. The main concern is consistent supply. Hence, they source from different wholesalers in Dhaka fish wholesale market. Since quality and freshness and also chemical (formalin) mixed fishes are big concerns for them, they always opt to procure fish from farmers directly. However, consistent supply, delivery and payment issues restrict their advancement in this regard. They usually buy on credit from the suppliers. On every alternate day, each supermarket requires, on average, 2 ton fish of different species and sizes. The suppliers are supposed to supply them 10% additional (might not get sold and unusable) and hence make the price accordingly. In addition, they are supposed to take the unsold fish back while supplying the new stock.

Underlying causes

- Inability of fishermen to supply directly and consistently
- Absence of proper direct delivery mechanism from fishermen level
- Inability of fishermen to negotiate with the payment and delivery mechanism

Relevance to SCBRMP

The project has also tried to link the BUGs with the Supermarket chain in Dhaka City. In this regard, they arranged a workshop last year in Sunamganj and a number of supermarket chain representatives attended there. They showed their interest to procure directly from the fisher groups but the mechanism has yet to be established. Among them, Meena Bazaar planned to send a refrigerated container to Sunamganj to collect fish in an experimental basis but it did not get materialized. However, as mentioned earlier, to establish a business linkage between the supermarkets and the BUGs, a sustainable model has to be in place which addresses both parties' interest.

4.6 SWOT ANALYSIS

| | |
|--|--|
| Strength <ul style="list-style-type: none">• Large number of water bodies and fish habitat• Acquaintance with fishing of a large number of people• Abundance of diversified and variety of fishes• High demand for natural and captured fishes at consumers' end• Availability of fish to market round the year• Success cases of already formed BUGs | Weaknesses <ul style="list-style-type: none">• Presence of so many intermediaries• Absence of planned marketing system to cater to institutional and high end markets• Poor road communication system |
| Opportunity <ul style="list-style-type: none">• Surplus in local production to export outside• Presence of processing company to link with• Emergence of super market chain to cater high end consumers looking for fresh natural fish• Aggregate and reach large and institutional buyers• Improving dry fish making and marketing• Replace Myanmar and Indian fish due to better customer preference | Threat <ul style="list-style-type: none">• Over and unplanned fishing poses threat to natural fish habitat• Individual/powerful peoples' reposition to capture the water bodies |

5. CONCLUSION AND RECOMMENDATION

5.1 CONCLUSION

The overall discussion clearly delineates that the BUG members are at the nascent stage in terms of their growth. Number of leased *beels* is increasing, re-excavation and sanctuaries are taking in place resulting into higher capture volume, more number of BUG formation is in process and so on. Many of the key constraints prevailing in the sector are addressed or being addressed by the project. However, not so much efforts have been undertaken in developing the marketing channels which can significantly increase their income. Hence, at this stage to develop the value chain further, following key aspects and/or constraints are imperative to take under consideration to develop well-rooted strategies for undertaking different interventions.

- Being naturally captured, Sunamganj fish has high demand in market (in Sunamganj and beyond)
- Segregated and individual fishing during open catch limits the income of the fishermen
- Low organizing capacity restricts the fishermen from accessing large and institutional buyers

5.2 VALUE CHAIN DEVELOPMENT STRATEGY

Having access to water bodies and increased production, the BUGs' next step would be to increase income through selling their produce closer to end market by skipping as much intermediaries as possible. Since Open Catch and Organized Catch period yields differ in volume of fish capture at a time, strategies would also be different for these two seasons. However, interventions under strategies are not mutually exclusive and would complement to each other. Hence the strategies would be:

Organized Catch Period Strategy: *Develop linkage with large and institutional buyers to supply during bulk harvesting*

Open Catch Period Strategy: *Accumulate the individual captures to reach wholesalers at local and national level*

5.3 INTERVENTIONS UNDER STRATEGIES

Under each of these strategies, a number of interventions are proposed as discussed below:

Organized Catch Period Strategy: *Develop linkage with large and institutional buyers to supply during bulk harvesting*

SET 1

Intervention 1:

Make an apex umbrella of the fishermen groups for coordination

Major Activities:

- Link the apex body and also the fishermen groups with large and institutional buyers (includes processing company, Super market Chain (such as Meena bazaar, Agora, Nandan, etc.) Local (Sunamganj Sadar) and outside (Sylhet, Dhaka, Bhoirab) large traders
- Train fishermen groups in aggregation and distribution
- Educate and train the fishermen groups on institutional arrangement capacity (terms and conditions, banking etc.)

SET 2

Intervention 2:

Develop a private sector Marketing Agent as a parallel option

Major Activities:

- Link the Marketing Agent with the Apex and Fishermen groups
- Link the Marketing Agent with large and institutional buyers
- Facilitate a transparent, coherent and agreeable profit sharing/ commissioning mechanism between fisher groups and Marketing Agent

Open Catch Period Strategy: *Accumulate individual captures to reach wholesalers at local and national level*

Intervention 1:

Create intermediaries (collector/*Nigari*) among the BUGs; one from each group

Major activities:

- Equip the group *Nigari* with boat and boxes with ice facilities
- Link the group *Nigari* with local wholesalers to supply during low capture volume
- Develop transparent and agreeable model for transaction within the groups (commission, buy on cash, payment after sale etc)

Intervention 2:

Accumulate group *Nigari* collection to supply to national level wholesalers

Major Activities:

- Select one or more central accumulation points for the BUG groups
- Device transportation mechanism
- Link the BUGs with national level wholesale markets
- Accommodate the group-*Nigari* collection model within the apex Association of BUGs or private sector Marketing Agent models particularly for the open Catch period

APPENDICES

APPENDIX 1: SCOPE OF WORK

APPENDIX 2: FIELD INVESTIGATION PLAN

| Field Investigation Plan | | | | |
|--------------------------|----------------|---|----------------|---|
| Date & Day | Time | Details | Time | Details |
| 12.05.10. Wednesday | 8:00am-10:00am | Team Orientation | 10:00am-5:00pm | Market Actor interview at Noakhali fish market. Meeting with team member |
| 13.05.10. Thursday | 8:00am-4:00am | FGD with traders at Solomonpur in Tahirpur Thana. | 4:00pm-6:00pm | Discussion with CBRMP employee at Tahirpur Thana |
| 14.05.10 Friday | 11:am-12:30pm | FGD with traders at World Fish office. | 6:00pm | Interview with large traders at Borobazar in Sunamgonj sadar. |
| 15.05.10. Saturday | 9:00am-11:00am | Interview with exporter | 11:00am-4:00pm | One to one interview with fishermen |
| 16.05.10. Sunday | 9:00am-2:30pm | Interview with NGO, DFO and dry fish maker | 3:00pm-5:00pm | Meeting with CBRM officials |
| 17. 05.10. Monday | 8:00am-2:00pm | Interview with fishermen, trader and dry fish maker at Gastola in | 3:00pm-6:00pm | Interview with fishermen, trader and dry fish maker at Chatulo Udoy Tara in |
| 18.05.10. Tuesday | 8:00am-2:30pm | Visit dabor gat fish landing center. Interview with market actors at Lamagazi | | Back to Dhaka |

*On 18th May, 2010 the consultant team left Sunamganj and field investigation continued till 25th May, 2010 by World fish's local officials.

** The field investigation in Dhaka started on 22nd May to visit wholesale markets and supermarkets. Interview continued till 25 May.

APPENDIX 3: STUDY TOOLS

KI Interview guide

Date:

Interviewee:

Interviewer:

Affiliation:

Contact Info:

1. General view of capture fish and fisher community in Sunamganj district.
2. What is the trend of fish capture (species, demand-supply, prices, and seasonality)?
3. What are the value addition measures (processing) taken currently and what are the potential scopes for captured fish?
4. How does the fish reach the end market? Where are the major markets?
5. Who are the lead players in these marketing chains?
6. What are the general constraints faced by fisher community, processors, venders and others in the value chains?
7. How is the government policy affecting the growth of the value chain?
8. What are current government, NGO, development project efforts for the development of the sector?
7. Is there any recent issue that has changed or is supposing to change the sector significantly?
8. Any relevant printed information to share?
9. Would you please name someone so knowledgeable as you from whom we can get such information?
10. Other comments, suggestions, observations:

Question guide for Fishermen

Date:

Interviewee:

Interviewer:

Years in fishing:

other occupation:

Location:

1. What types of fishes you capture most? Name five in order of gross revenue in Open Catch and Organized Catch season? In which time of the day do you capture fish?

Major types of fishes captured:

Five major capture in order of gross revenue

| Sl | Open Catch | Time of | Organized Catch | Time of |
|----|------------|---------|-----------------|---------|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

2. What is your average capture per day in kg? And per day income in taka?

| | Open Catch | Organized Catch |
|-----------------|------------|-----------------|
| Average capture | | |
| Average income | | |

3. Is there any significant change in capture types during last few years? If yes, what?

4. Which fishes have the highest demand in market (in order)? Please mention their price in last three years?

| Sl no | Name of fish | Price (Tk. per kg) | | |
|-------|--------------|--------------------|------|------|
| | | 2008 | 2009 | 2010 |
| 1 | | | | |

| | | | | |
|---|--|--|--|--|
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

5. If the demand is high, why can't you capture more?
6. What kind of inputs do you use for fish capture? Do you get credit/lease/rent from your input suppliers, in what terms?
7. Do you face any kind of problems in accessing inputs? If yes, what are they?
8. Have you recently adopted or heard of any new technology/tools/technique to improve your business? If yes, what? If heard and not adopted, why?
9. To whom do you sell your product (intermediaries-who or direct to consumers? What percentage goes to each?

| Open Catch | | Organized Catch | |
|------------|------------|-----------------|------------|
| Buyer | Percentage | Buyer | Percentage |
| | | | |
| | | | |
| | | | |
| | | | |

10. How (advance sell, production finance etc) and where (capture site, market, road to market etc) does the transaction take place?
11. Are some markets (customer groups) better than others in terms of sales and revenue growth? Which ones? Why don't you always exercise the best one?
12. Do you undertake any processing activity? If yes, what? (Intended processing or leftover processing?)
13. Describe the fish capture (time of capture/duration) and/or processing (including sorting/grading) methods (includes cost-benefit analysis)

Processing methods:

Cost of production (breakdown and sale value)

14. Are you satisfied with the price you get (for both unprocessed and processed)? If not, why?
15. Do you ever collaborate with other fishermen on fish capture/process and/or marketing? If yes, how?
16. Do you get production/capture financing from your buyers? What are the terms?
17. Are women involved in your sector? If yes, where? How women can play more roles?
18. Are you a member of any group or association? What function does it play? What more can it do?
19. Are you getting or have received any kind of assistance from any organization? If yes, what are those?
20. What assistance might help you better run your business?

Question guide for Market Intermediaries (market vendors, processors, retailers etc)

Date:

Interviewee:

Interviewer:

Years in fishing:

other occupation:

Location:

1. What are the fishes and fish products you buy and sell?
2. Which of the products are in greatest demand?
3. Where do you buy the products from? Why do you buy from there?
4. Who do you buy from? [fishermen, *Nigari*, trader, arottdars; explain sourcing mechanism]
5. Where do you sell? [buyers, price, quantity etc]
6. How much do you sell per day in Open Catch and Organized Catch seasons?

| | Open Catch | Organized Catch |
|----------------------|------------|-----------------|
| Average sell in kg | | |
| Average sell in taka | | |

7. Do you undertake any processing activity? If yes, please describe?
Processing method:

Cost of production (breakdown) and sale value:

8. What are the constraints you face in procuring fishes/fish products?
9. What are the constraints you face in selling fish/fish products?
10. Do you collaborate with other traders? Please explain.
11. Who are the lead players in this sector?
12. What is the growth trend of this sector?
13. Are you getting or have received any kind of assistance from any organization? If yes, what are those?
14. What assistance might help you better run your business?

FGD Checklist for Fishermen

1. What are the fishes you capture most? Among these which are high demand in the market?
2. What kind of input do you use in fish capturing? How do you get these inputs?
3. Where and how do you sell your product?
4. Do you undertake any processing activity? If yes what, when and how?
5. How does seasonality factor affect your fishing?
6. Do you collaborate with other fishermen? If yes when and how?
7. Where do you get your finance?
8. What are your problems regarding input, capture and marketing?
9. What are the roles of women in fishery sector?
10. What kind of services can improve your business?

FGD Checklist for Intermediaries (traders, *Nigari* etc)

1. What are the fishes you buy and sell mostly? Among these which are in high demand?
2. Where, how and who do you buy your merchandise from?
3. Where, how and who do you sell your product?
4. Who are the major players in this sector?
5. How is the growth trend of this sector?
6. Do you undertake any processing activity? If yes what, how and when?
7. Do you collaborate with other players? If yes when and how?
8. What are the major problems in accessing and selling your merchandise?
9. What kind of assistance might improve your business?

APPENDIX 4: LIST OF INTERVIEWEES

One to One Interviewee List

| Sl no | name | actor type | address/contact |
|-------|---------------------|----------------------|---|
| 1 | Nasiruddin | Fisherman | Hason Nagar, Sunamgoni |
| 2 | Delwar | Fisherman | Aftabnagar, Sadar Sunamgoni |
| 3 | Mintu Biswas | Fisherman | Joykalas, South Sunamgoni |
| 4 | Kaiol Biswas | Fisherman | South Sunamgoni |
| 5 | Romiz Uddin | Fisherman | Solomonpur, Tahirpur |
| 6 | Md. Rahimuddin | Fisherman | Manik Khila, South Sreepur |
| 7 | Md. Jasim | Fisherman | Solomonpur, Tahirpur |
| 8 | Surendra Biswas | Fisherman | Joykalas, South Sunamgoni |
| 9 | Oroni Biswas | Fisherman | Joykalas, South Sunamgoni |
| 10 | Suklal Biswas | Fisherman | Joykalas, South Sunamgoni |
| 11 | Provat Biswas | Fisherman | Joykalas, South Sunamgoni |
| 12 | Babul Das | Fisherman | Joykalas, South Sunamgoni |
| 13 | Nazir Uddin | Fisherman | Dekarhaor, South Sunamgoni |
| 14 | Sorab Mia | Fisherman | Dekarhaor, South Sunamgoni |
| 15 | Al-Amin | Fisherman | Noagaon, Joykalas, S.Sunamgoni |
| 16 | Siddiq Mia | Fisherman | Doriabaz, Sunamgoni |
| 17 | Kamal Hossain | Fisherman | Dekarhaor, South Sunamgoni |
| 18 | Adul Kahar | Fisherman | Dekarhaor, South Sunamgoni |
| 19 | Borhan Uddin | Fisherman | Saobeel, Sunamgoni |
| 20 | Anwar Hossain | Niqari | |
| 21 | | | |
| 22 | Naravan Chandra | Dry Fish Maker | Bahadurpur, Bishwampur |
| 23 | Abdul Munaf | Dry Fish Maker | Doriabaz, Sunamgoni |
| 24 | Md. Giashuddin | Dry Fish Maker | Doriabaz, Sunamgoni |
| 25 | Abu Taher | Dry Fish Maker & | Sreenathpur |
| 26 | Iqbal Hossain | Dry Fish maker | Patharia, S.Sunamgoni |
| 27 | Md. Din Islam | Dry Fish maker & | Doriabaz, Sunamgoni |
| 28 | Amirul Islam | Q.C Manger | Saidwala Pvt. Ent. Ltd, Weskhali, Sunamgoni |
| 29 | Abid Hossain | Factory Manager | Saidwala Pvt. Ent. Ltd, Weskhali, Sunamgoni |
| 30 | Shewanul Haque | HR and PR Manager | Saidwala Pvt. Ent. Ltd, Weskhali, Sunamgoni |
| 31 | Zillur Rahman | Dry fish trader | Boro bazar, Sunamgoni Sadar |
| 32 | Md. Idris Ali | Large trader/arotdar | Jaannatbari road, Sunamgoni Sadar. 01715-336751 |
| 33 | Ashil Kanto Bormon | Dry Fish Processor | Bahadurpur, Bishwampur |
| 34 | Barun Bormon | Dry Fish Processor | Bahadurpur, Bishwampur |
| 35 | Kumud ranjan Sarkar | Dry Fish Processor | Bahadurpur, Bishwampur |
| 36 | Montush Bormon | Dry Fish Processor | Bahadurpur, Bishwampur |
| 37 | Hemandra Bormon | Retailer | Dowarabazar, Sunamgoni |
| 38 | Abdul Awal | Retailer | Dowarabazar, Sunamgoni |

| | | | |
|----|---------------------|-------------------|--|
| 39 | Hakim Munshi | Retailer | Dowarabazar, Sunamgoni |
| 40 | Subol Das | Retailer | Nilpur Bazar, Sadar Sunamgoni |
| 41 | Comol Das | Niqari | Bahadurpur, Bishwampur |
| 42 | Ranian Bormon | Niqari | Bitqoni Bazar, Sunamgoni |
| 43 | Akhil Chandra Banik | Niqari | |
| 44 | Keramot Ali | Niqari | Bitqoni Bazar, Sunamgoni |
| 45 | Nitta Nondo | Retailer | Dowarabazar, Sunamgoni |
| 46 | Kumud ranjan Sarkar | Dry fish | Bahadurpur, Bishwampur |
| 47 | Subash Das | Fisherman | Paknar Haor, Jamalqoni |
| 48 | Ronioni Kanto | Fisherman | Paknar Haor, Jamalqoni |
| 49 | Arfan Ali | Fisherman | Paknar Haor, Jamalqoni |
| 50 | Ashik Mia | Fisherman | Daira Khocha Haor |
| 51 | Md. Akram Ali | Fisherman | Daira Khocha Haor |
| 52 | Fulmia | Fisherman | Baqhzur |
| 53 | Foni | Fisherman | Shimulbash Haor |
| 54 | Arif Hossen | Sub Lessee | Jamalqoni |
| 55 | Khakon | Fish Net Seller | Sunamgoni Bazar |
| 56 | Moshin Mia | | Jamalqoni |
| 57 | Chadrul Amin | Fish Net Seller | Derai Bazar |
| 58 | Sohel Mia | Niqari | Lalpur, Mollapara, Sadar Sunamgoni |
| 59 | Sirai Mia | Trader | Patharia, S.Sunamgoni |
| 60 | Yusuf Ali | Trader | Anwarpur Vatipara, Derai |
| 61 | Sahid | Niqari | Monwarpur, Sadar Sunamgoni |
| 62 | Babul Mia | Trader | Dowarabazar, Sunamgoni |
| 63 | Dhonoioy | | Fatepur, Bishwampur |
| 64 | Asish Pura Kaesto | Fish Net Maker | Fatepur, Bishwampur |
| 65 | Jomsher | Fish Processor | Patharia, S.Sunamgoni |
| 66 | Milon Bormon | Fisherman | Fatepur, Bishwampur |
| 67 | Bidhavhuson | Fisherman | |
| 68 | Reboti Bormon | Fisherman | Kholachanpur, B.pur, Sunamgoni |
| 69 | Kaiol | Fisherman | Sologhar, Sadar Sunamgoni |
| 70 | Sheron Mia | Trader | Lalpur, Sadar Sunamgoni. 01738-015772 |
| 71 | Liton | Arotdar | Karwanbazar, Dhaka, 01735-579904 |
| 72 | Moshiur Rahman | Arotdar | Karwanbazar, Dhaka. 01712-495425 |
| 73 | Md. Tazul Islam | Arotdar | Jatrabari, Dhaka. 01715-156615 |
| 74 | Quddus Mia | Arotdar | Jatrabari, Dhaka. 01718-266323 |
| 75 | Iskandar Mia | Arotdar | Jatrabari, Dhaka. 01712-141565. |
| 76 | Juel | Arotdar | Jatrabari, Dhaka, 01718-447799 |
| 77 | Mir Abdul Hafiz | Asst Purchase | Gemcon Food and Agricultural Products Ltd, House 44, |
| 78 | Moshiur Rahman | Asst Manager, | Gemcon Food and Agricultural Products Ltd, House 44, |
| 79 | Shafikul Islam | Salesman, Shwapna | Panthopath, Dhaka |
| 77 | Sultan Ahmed | KI | DFO, Sunamqoni |
| 78 | Abdul Matin | KI | Deputy Project Manager, CNRS, 73/3, Natunpara, |

| | | | |
|----|--------------------|----|---|
| 79 | Sarwar Hossain | KI | Project Manager, CNRS, 73/3, Natunpara, Sunamgonj. |
| 80 | Fisheries Support | KI | Fisheries Support Coordinator, SCBRMP, Project |
| 81 | Siraiul Islam | KI | Executive Director, ERA, Sunamgoni Sadar, Sunamgoni |
| 82 | Pradip Kumar Nandi | KI | Social Organizer, SCBRMP, Tahirpur, Sunamani |
| 83 | Rashidul Hasan | KI | Social Organizer, SCBRMP, Tahirpur, Sunamgonj |

Focus Group Discussion List (2)

| Group Discussion | participants type | participants | address/contact |
|------------------|-------------------|------------------|-----------------------------------|
| 1 | Arotdar/Trader | Habul | Solomonpur, Tahirpur 01719-948287 |
| 2 | Arotdar/Trader | Chandan | Solomonpur, Tahirpur 01712-134471 |
| 3 | Arotdar/Trader | Saidul | Solomonpur, Tahirpur |
| 4 | Arotdar/Trader | Noyon Babu | Solomonpur, Tahirpur |
| 5 | <i>Nigari</i> | Md. Saiful Islam | Solomonpur, Tahirpur |
| 6 | <i>Nigari</i> | Safiqul Islam | Solomonpur, Tahirpur |
| 7 | <i>Nigari</i> | Habibur Rahman | Solomonpur, Tahirpur |
| 8 | <i>Nigari</i> | Alamgir | Solomonpur, Tahirpur |
| 9 | <i>Nigari</i> | Pervez | Solomonpur, Tahirpur |
| 10 | <i>Nigari</i> | Jochek | Solomonpur, Tahirpur |
| 11 | <i>Nigari</i> | Khasrul | Solomonpur, Tahirpur |
| 12 | <i>Nigari</i> | Seful | Solomonpur, Tahirpur |
| 13 | <i>Nigari</i> | Shuruzzaman | Solomonpur, Tahirpur |
| 14 | <i>Nigari</i> | Sha-alam | Solomonpur, Tahirpur |
| 15 | <i>Nigari</i> | Akthar Hossain | Shologor, Sunamgonj |
| 16 | Fisherman | Shurjalal | Shologor, Sunamgonj |
| 17 | <i>Nigari</i> | Binondo Bormon | Shologor, Sunamgonj |
| 18 | <i>Nigari</i> | Nirob Bormon | Shologor, Sunamgonj |
| 19 | <i>Nigari</i> | Rosomoy Bormon | Shologor, Sunamgonj. 01729-725219 |
| 20 | <i>Nigari</i> | Probod Bormon | Shologor, Sunamgonj |
| 21 | <i>Nigari</i> | Ripon Bormon | Shologor, Sunamgonj. 01712-389318 |
| 22 | <i>Nigari</i> | Shadon Bormon | Shologor, Sunamgonj |
| 23 | <i>Nigari</i> | Sribash Bormon | Shologor, Sunamgonj |
| 24 | <i>Nigari</i> | Amjad Ali | Shologor, Sunamgonj. 01723-765852 |
| 25 | <i>Nigari</i> | Shiraj Mia | Shologor, Sunamgonj |

*Another FGD took place with Chatol Uday Tara BUG group