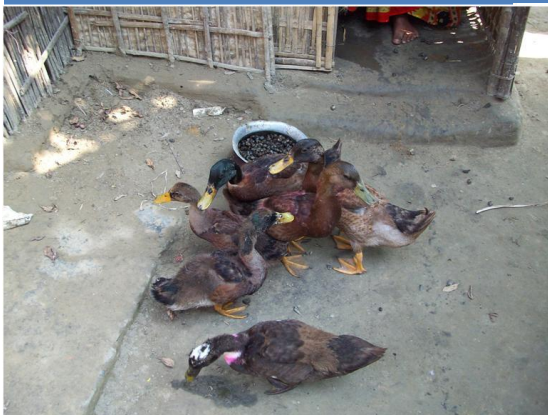


Report on

Prospective Value Chains for FSUP-H



Submitted to
CARE Bangladesh
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EDGE Consulting

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EXECUTIVE SUMMARY

CARE Bangladesh has been implementing Food Security for Ultra Poor (FSUP) project since January 2008 in the northeast of Bangladesh in three districts namely Sunamganj, Netrakona and Kishoreganj. The specific objective of the FSUP program is to sustainably improve food access and utilization and reduce vulnerability for women and their dependents in ultra-poor households. The program will reduce chronic vulnerability to food insecurity primarily by improving access to food through creating economic opportunities for women from the poorest households, and better utilization of food through improved intra-household awareness and practices. Most importantly, the action will help enable the most vulnerable people, especially women, to develop livelihoods strategies and relationships to move themselves out of poverty and food insecurity.

This value chain study was envisaged to be helpful for the project in order to revealing the value chain based opportunities and options for the target people in the region. The Field investigation took place during November and December 2010, both in project area and Dhaka (as end market). This study unfolds the potential value chains in the region that can best support the economic development of the ultra poor segment of the population.

The profile of the target people has special implication in selecting the value chains. Since, almost all of them are either landless, suitable value chain selection for them was challenging. Though the project is different IGA based activities for the economic empowerment of the target people, still general value chain development program had not been taken off so far. While selection of the value chains, the economic profile of the participants was considered in mind along with the following criteria:

1. Unmet market demand and growth potential
2. Participation of women in the value chain
3. Lack of competitive threats from other areas and also from imports
4. Presence of dynamic lead firms already engaged in or amiable to linkages with producers in targeted area

5. Potential number of beneficiaries (microenterprises, employees, etc.) who would receive economic benefits (including as applicable vulnerable groups such as women and returnees).
6. Feasibility to achieve significant impacts in project period

After an intensive exercise, the following value chains were selected that the projects can work on to get the target people benefit from them. They are:

1. Fishery
2. Duck (egg)

The study analyzes both the value chains in depth to find the constraints and opportunities and market dynamics within them to identify the potential for the target people. Other initially identified value chains were rice and rice products, vegetables, stone and coal, handicrafts, chai and net (fishery inputs), karchupi, dairy, ground nut, pottery and crab. Most of these value chains either involve limited number of people or in terms pre-selected criteria they fall below the selected ones.

In terms of demand and market growth, capture fish has high demand not only in the region but also throughout the country as well as in export market and duck eggs have always a niche market which is unmet by the supply. Though in fishing, women have little role but in sorting, cleaning and particularly in processing (dry fish making) women have significant role to play. Good number of fish processing plants in the region demonstrates the involvement of large private sector. On the other hand, duck rearing is mostly the domain of women when practiced in small scale. Considering the profile of the target people and their current acquaintance, rather than bringing up new value chains, these two show the highest potential to benefit from.

Major problems in Duck rearing are lack of technical know-how, poor access to market, lack of knowledge on high productive species, feeding and disease management and opportunity lies in unmet market demand and a strong forward market chain. Linking the producer groups with output market can ensure sustainable income. On the other hand, access to water bodies seems to be the critical constraint for the target people. Facilitating and assisting the target groups in accessing water bodies through lease and

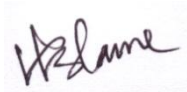
sub-lease can yield better result. However, lack of working capital is an overarching constraint for them. FSUP-H's asset transfer strategy can address this constraint and thereby the project can assist them to grow in the selected value chains by providing small grants.

The strength of both the projects is the collective force of target people. They are formed as groups and the number of group members is large enough to do cultivation by ensuring economics of scale. They can purchase inputs in lower cost and sell harvest in bulk. In group approach, they can split the members' time also to maintain their livelihood by selling labors to others' field rotationally. The projects must capitalize on this strength and take necessary interventions. Where there is provision for asset transfer, it should be disbursed in a periodic manner since agricultural activities require periodic investment.

The target people of the projects have so far made some progress in small scale income generation activities. By managing the groups properly, the projects can bring significant economic improvement in the lives of the people by developing the value chains and making the people involved in them.

ACKNOWLEDGEMENT

EDGE Consulting gratefully acknowledges the trust and confidence placed by CARE Bangladesh in conducting this research. This report could not have been written without the inputs from Khaleda Khanam, Project Deputy Team Leader; Abdur Rahim, Technical Coordinator- ED; Tayeb Ali Pramanik, Project Manager who intensely supported the study team through providing comments and feedback while conducting the study. I heartily acknowledge the contribution of the staff who provided their assistance during field visits. Finally, I would like to acknowledge the support from Asif U Ahmed, Program Director, Economic Development Unit for sharing his expert opinions while conducting this study.



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ACRONYMS

CBHQ	Care Bangladesh Head Quarter
FGD	Focus Group Discussion
FSUP-H	Food Security for Ultra Poor Households
SCBRMP	Sunamganj Community Based Resource Management Project
ToR	Terms of Reference
VC	Value Chain
WFP	World Food Program

1. INTRODUCTION

1.1 Background of the Study

CARE launched the **Food Security for Ultra Poor (FSUP)** project in January 2008.

The specific objective of the FSUP program is to sustainably improve food access and utilization and reduce vulnerability for women and their dependents in ultra-poor households in the districts of Sunamganj, Netrakona and Kishoreganj in northeast Bangladesh. The program aims that at least 40% of targeted 55,000 women from the ultra-poor (bottom 10% of the poorest) households have graduated out of extreme poverty by 2013. This will be achieved through enhancing women's leadership capabilities in participation and decision making in household, economic, social and political processes. Through a community led approach, engaging men and women, boys and girls the program will build relationships of solidarity with the targeted communities to address gender-based inequalities in social, political and economic opportunities in the northeast of Bangladesh. The program will reduce chronic vulnerability to food insecurity primarily by improving access to food through creating economic opportunities for women from the poorest households, and better utilization of food through improved intra-household awareness and practices. Most importantly, the action will help enable the most vulnerable people, especially women, to develop livelihoods strategies and relationships to move themselves out of poverty and food insecurity.

This study was envisaged to identify and assess potential value chains in the target area. Since the project beneficiaries lies at the bottom end of the poverty profile, special care has been taking while selecting and identifying suitable value chains for them.

1.2 Objective of the Study

1. Identify potential agricultural value chains in the northeast of Bangladesh in which women and the poor and extreme poor have the opportunity to participate as producer, wage earner and entrepreneurs
2. Identify the specific role of women and the poor and extreme poor in selected value chain. Where, when and what extent they can take part.
3. Analyze the production trends - Identify the strategic needs and constraints for participation of women and the poor and extreme poor in the selected value chain to appropriately design targeted interventions.
4. Explore on market linkage and institutional arrangement for linking women and small-holder producers and extreme poor people to production cycle (agri-labour, producers, service providers, traders and entrepreneurs)
5. Identify the potential socio economic and environmental impact on selected agricultural value chain.
6. Identify key market opportunities and the critical constraints to be overcome for the women and extreme poor to reach that market

1.3 Methodology of the Study

The value chain study followed both quantitative and qualitative methods for data/information collection. However, the process was fully participatory through ensuring maximum involvement of CARE and existing projects partner staff, local government representatives, market actors other stakeholders and the community. The consultant visited the project locations and conducted several sessions with the stakeholders.

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

Phase One: Preparatory stage

The study team reviewed existing literature, studies and reports on the targeted areas in order to develop a general understanding on the projects and study objective. The team reviewed FSUP project documents and other key relevant documents such as CARE programming framework and impact statements.

Phase Two: Consult with key individuals

After literature review, the team consulted with key individuals of CARE (Economic Empowerment Team and other relevant projects/program staff) to have better understanding on the projects and assignment objective both in CBHQ and in field.

Phase Three: Tools development and Field testing

During this phase, the tools for field investigation and interview with the key informants and market actors were designed. The sampling framework was also refined and the coordination, quality control mechanism, and data handling procedure were developed and finalized. Study tools are affixed in appendix 2.

Phase Four: Orientation and Work Plan finalization

The consultant provided a brief orientation in the field and also discussed with project team members about the assessment on its methodology, objective, the goal of a value chain program and the role that sector selection and assessment plays in the process. The team worked together to identify probable key informants and also the markets to visit. At this phase it also finalized the field work plan including the logistic aspects.

Phase Five: Field investigation and Value Chain Selection

Afterwards, the study team visited different markets, interview key informants and different market actors to identify and select value chains for further in-depth assessment. For short-listing of value chains, two criteria e.g. a) unmet market demand and growth potential and b) potential number of targeted people were considered. All six criteria were used to finally select the value chains for in-depth assessment (selection process described in Analysis Plan). The team consulted with respective CARE personnel prior to finalizing the selection criteria.

Phase Six: Value Chain Assessment

After the value chains being selected, the team carried out in-depth analysis of the same. The assessment revealed respective market actors and service providers, their interrelationships, market dynamics, demand-supply situation, forward-backward linkages, end markets, different channels/segments, constraints and opportunities. To carry out the assessment, the team interviewed different market actors such as input suppliers, producers, wholesalers, retailers, processors, supermarkets etc to cover the whole range of value chains through a questionnaire-guide. Value chain mapping followed a projective technique. The list of respondents is affixed in appendix 3. All the prices collected for analysis correspond to that of the period of November and December 2010.

Phase Seven: Final report preparation

This report is the last stage of the research work which encompasses the study objectives with specific recommendation on value chain development under the project context.

The detailed flow chart is depicted in Figure-1.

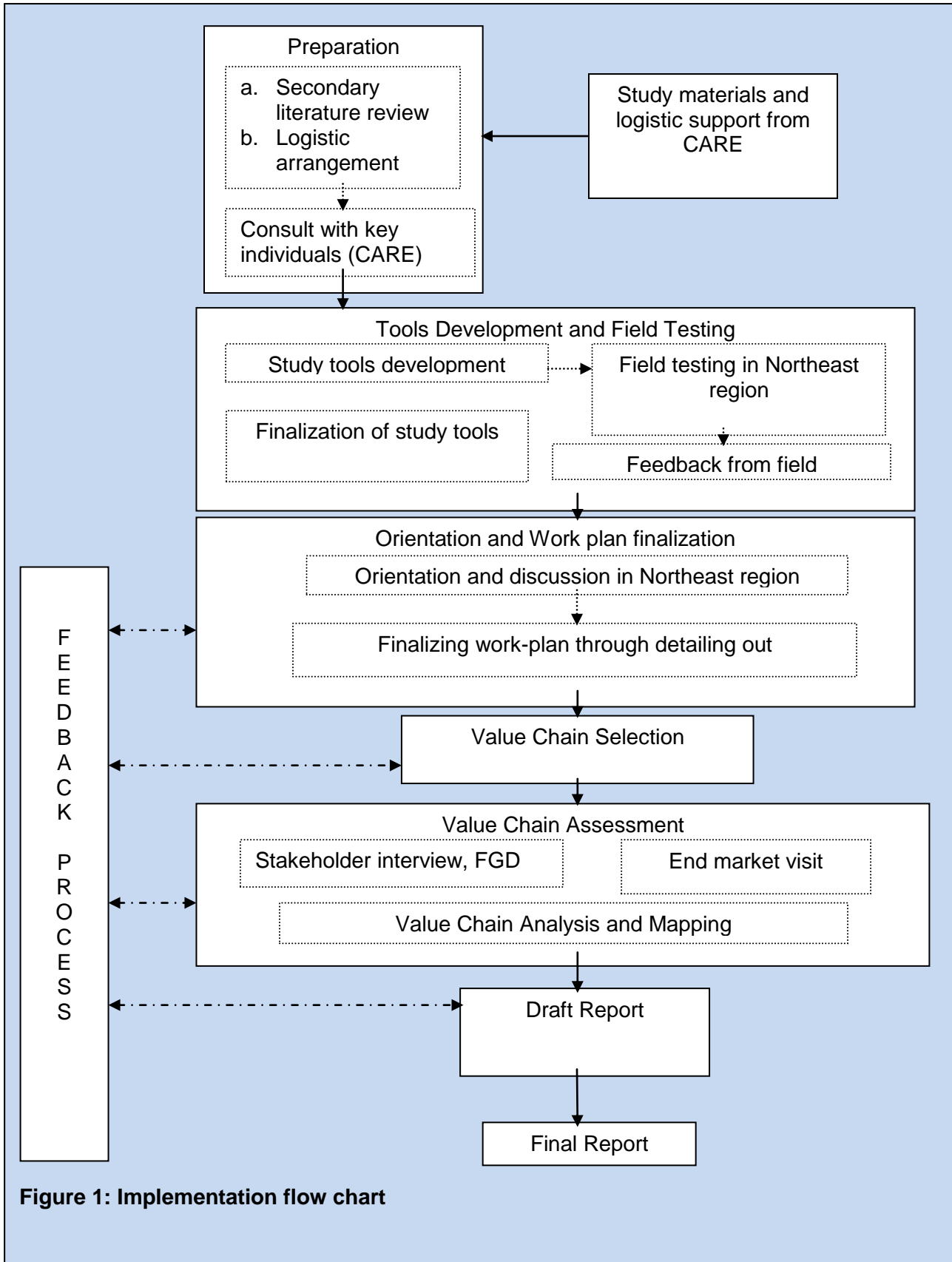


Figure 1: Implementation flow chart

Analysis Plan

The analysis plan is in congruence with the ToR provided. The assessment was based on the criteria outlined and the final selection of the value chains was based on the outline provided. The following criteria were used in identifying and researching high potential value chains:

1. Unmet market demand and growth potential
2. Participation of women in the value chain
3. Lack of competitive threats from other areas and also from imports
4. Presence of dynamic lead firms already engaged in or amiable to linkages with producers in targeted area
5. Potential number of beneficiaries (microenterprises, employees, etc.) who would receive economic benefits (including as applicable vulnerable groups such as women and returnees).
6. Feasibility to achieve significant impacts in project period

To select the potential value chains two important criteria were used such as a) Unmet market demand and growth potential and b) potential number of targeted people through an attractiveness matrix depicted in figure 2.

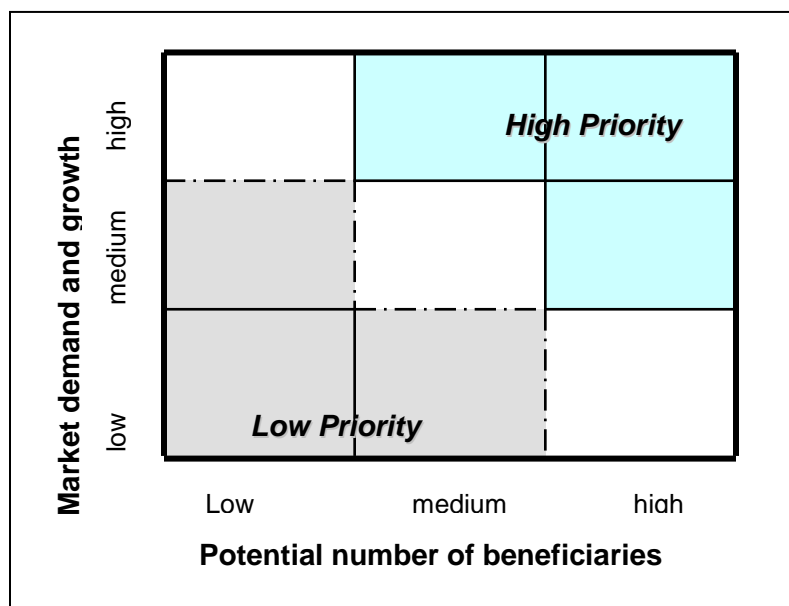


Figure 2: Attractiveness matrix

The initially found high priority value chains then underwent an assessment

considering all six criteria and then were ranked in a ranking grid shown Table 1 to finalize the value chains for in-depth assessment.

Table 1: Ranking grid for value chain selection

Criteria	VC 1	VC 3	VC 3
	Score	Score	Score	
Market demand and Growth Potential				
Participation of targeted women				
Lack of competitive threats from other areas and also from imports				
Presence of dynamic lead firms already engaged in or amiable to linkages with producers in targeted area				
Potential number of beneficiaries				
Feasibility to achieve significant impact in 2-3 years				
TOTAL				

Scale=1-10 (10 is high)

Once the value chains were finally selected, in-depth assessment were carried out to identify the market actors, their interrelationships, market dynamics, demand-supply situation, constraints and opportunities. To analyze the value chains comprehensively, information were collected in nine broad areas to capture the whole market picture. The areas are:

1. Market Access
2. Technology and Product Development
3. Organization and Management
4. Business Membership Organization
5. Materials and Input Supply
6. Finance
7. Standards and Certifications
8. Policies and Regulations
9. Infrastructure

Chapter 2

2. PROJECT AREA AND CONTEXT

2.1 Introduction

FSUP project is being implemented in three districts (Kishoreganj, Netrokona and Sunamganj) in the haor region of Northeast Bangladesh, a region with wide-spread extreme poverty and food-insecurity¹. 17 upazillas of the three districts are covered under this project. The target groups are women from 55,000 extremely poor households within the most remote and vulnerable communities, and their dependents. The final beneficiaries are approximately 280,000 children, women and men. In addition, it is expected that the total population of around 196,000 extreme poor people² in that region will greatly benefit from the project's empowerment and knowledge sharing initiatives. The following table shows location, demographic and occupational status of the region:

Table 2: Location, Demography and Occupational Status

Features	Kishoreganj	Netrokona	Sunamganj
Location	Kishoreganj District (Dhaka division) with an area of 2688.62 sq km, is bounded by Netrokona and Mymensingh districts on the north, Narsingdi district on the southwest and Brahmanbaria district on the southeast, Sunamganj and Habiganj districts on the east, Gazipur and Mymensingh districts on the west.	Netrokona District (Dhaka division) with an area of 2810.40 km sq km, is bounded by Garo Hills of Meghalaya (India) on the north, Kishoreganj district on the south, Sunamganj district on the east and Mymensingh district on the west.	Sunamganj District (Sylhet division) with an area of 3669.58 sq km, is bounded by Khasia and Jaintia hills (India) on the north, Habiganj and Kishoreganj districts on the south, Sylhet district on the east, Netrokona and greater Mymensingh districts on the west.
Population	Population 2525221; male 50.29%, female 49.71%; Muslim 92.1%, Hindu 7.2% and others	Total 1937794; male 50.71%, female 49.29%; Muslim 83%, Hindu 14% and others 3%.	Population 1968669; male 50.89%, female 49.11%; Muslim 83.62%, Hindu 15.95%,

¹ WFP, Food Security Atlas of Bangladesh, 2004.

² On an average 34% people of the targeted districts live in extreme poverty, WFP Poverty Map

	0.7%.		others 0.43% ethnic nationals 6,643 (Manipuri, Khasia, Garo and Hajong)
Occupation	Agriculture 45.48%, fishing 1.87%, agricultural labourer 21.02%, wage labourer 3.29%, commerce 11.2%, transport 2.06%, service 4.47%, others 10.61%.	Agriculture 52.05%, fishing 1.87%, agricultural labourer 21.97%, wage labourer 3.09%, commerce 7.61%, service 2.94% and others 10.47%.	Agriculture 43.43%, fishing 3.34%, agricultural labourer 24.10%, wage labourer 5.58%, commerce 7.44%, service 3.8%, others 12.31%.
Land use	Total cultivable land 187975.31 hectares, fallow land 5186.56 hectares; single crop 46.74%, double crop 39.44% and treble crop land 13.82%; land under irrigation 59.06%.	Total cultivable land 207608.26 hectares; fallow land 15702.14 hectares; single crop 29.5%, double crop 55% and treble crop land 15.5%; land under irrigation 55%.	Arable land 294021 hectares, fallow land 51752 hectares.
Land control	Among the peasants 16.19% are landless, 13.35% marginal, 29.42% small, 18.94% intermediate and 22.10% rich.	22.23% are landless, 29.87% marginal, 24.35% small, 17.67% intermediate and 5.88% rich	Among the peasants, 33% are landless, 26% small, 21% intermediate and 20% rich.
Major subsectors	Paddy, jute, wheat, mustard seed, pulse, potato, peanut, corn, sugarcane and vegetables.	Paddy, jute, wheat, mustard seed, potato, duck, fishery	Paddy, fishery, duck

2.2 What are the Major Value Chains?

As evident, most the value chains that are prevailing in the region are agriculture based though there are some others in much smaller scale. Following table shows the signification value chains in the region:

Table 3: Major value chains in the region

	Kishorganj	Netrokona	Sunamganj
Value Chains	Paddy, jute, wheat, mustard seed, pulse, potato, peanut, corn, sugarcane and vegetables.	Paddy, jute, wheat, mustard seed, potato, duck, fishery	Paddy, fishery, duck

Apart from Agriculture value chains, there are other few other value chains which have significant influence in the livelihood of the target people such as stone and coal collection, handicrafts (bamboo, cane etc) etc. However, apart from them, many of the target people are also occupied in other livelihood options such petty trading, rickshaw pulling, tailoring, snail and oyster collection etc. Few special cases of potential value chains are also visible such as crab in Kishorganj but in a very early stage and small scale.

2.3 Profile of the Target People

Who are they?

They are at the bottom section of the society in terms of well-being, food security and accessing services. They hardly have any reproductive assets. What they have is generally bedding, few utensils, clothing etc. Females basically work as maidservant, work as feriwala. They generally take 1-2 meals/day and hardly 3 times a day. Most widows in the poor communities are found to fall in extreme poverty. They have to earn for their family and if aged then for own since children do not feed them. In ultra poor community male tends to remarry to earn dowry and leave the previous wife. Consequently, even a very young woman becomes helpless and falls under ultra poor group. Sometimes ultra poor do not have their own house even. They stay in others' house where they work. Some of them have own houses but that is the only asset they have. If the family size is big, it becomes difficult for the family head to provide proper basic needs during this high priced market. So poor families where there is only one earning person, they again fall under ultra poor category. Families where there is a disable male or husband is disabled, females have to take the responsibility of the entire family. In most of the cases in poor communities, these types of families are found to fall under ultra poor class. Ultra poor people are most income poverty stricken group in the community. They do not have any fixed or regular or reliable source of income through which they can earn their livelihood.

What do they do?

Since these group of people belong to the lowest level of economic well-being, their occupation in most of the cases remain fragile and versatile. Whenever and wherever they get work opportunity, they try to grab that. Many of them are involved in agri-labor

or maidservants at better-off houses. Apart from agri-labor, they are also involved in other labor oriented jobs such as stone and coal collection. Some also remain in running petty businesses. However, fishing is another major occupation of the ultra poor people here.

How Vulnerable are they?

Flash floods and wave erosion reduce the availability of food and affect household. Only one crop of rice is produced annually and this crop can be severely affected by floods. Homestead areas, located on mounds tend to be small, placing limitations on opportunities to produce food and income using homestead resources. Fishing, a significant activity in the livelihoods of vulnerable households in the *Haor* areas is characterized by the exclusion of powerless fishing households from traditional fishing grounds. Formal governance mechanisms cannot protect the interests of the poor and food insecure, and have been generally ineffective in establishing/enforcing proactive measures necessary to enhance their food security.

Strength

However, due to CARE's long term presence in the area, there are so many platforms (groups) formed under different projects. The project has groups involving the target population which gives an opportunity to identify suitable value chains that can capitalize on this collective force.

2.4 Where are Women in the Context

Women and their dependents (elderly, children) in extreme poor households in the haor region generally own no land, have little access to agricultural land, and have small homestead plots. Women living with other family members are also vulnerable as cultural practices and patriarchal systems discriminate against women, also limiting their access to intra-household distribution of food and resources. Women consume leftover food after men, which is usually not enough for their calorie requirements. The prevailing situation has forced many of the poor households into indebtedness, pushing them even deeper into poverty. However, women also actively take part in different economic activities such as labor selling, trading, homestead gardening etc.

3. VALUE CHAIN SELECTION

This chapter describes the value chain identification and selection process through using the selection criteria. The selection criteria and evaluation was done in such a way so that it is applicable FSUP-H project to implement.

3.1 Value chain Selection Criteria:

After discussion with the project team in field the following criteria were finally agreed to be used in identifying and researching high potential value chains:

1. Unmet market demand and growth potential
2. Participation of women in the value chain
3. Lack of competitive threats from other areas and also from imports
4. Presence of dynamic lead firms already engaged in or amiable to linkages with producers in targeted area
5. Potential number of beneficiaries (micro enterprises, employees, etc.) who would receive economic benefits (target ultra poor people)
6. Feasibility to achieve significant impacts in project period

3.2 Initial List of Value Chain Candidates

Below is the list of the identified value chains in the region that suits the project context and target people:

1. Fisheries
2. Duck (egg)
3. Rice and Rice products
4. Vegetables (Tomato, Sweet Potato)

5. Stone and Coal (particularly for Sunamganj)
6. Handicraft (bamboo, cane etc)
7. Chai and Net (fishery input)
8. Karchupi
9. Dairy
10. Ground Nut
11. Pottery
12. Crab

3.3 Short-listing Exercise

The figure below shows the short-listing exercise to narrow down the list considering the two most important criteria.

Figure 3: Results of the short-listing exercise

Market Demand & Growth	high		-Chai and Net -Rice and Rice based products	-Fishery - Duck (egg)
	medium	-Karchupi -Pottery	-vegetables -stone and coal collection -Ground nut -Handicrafts	-Dairy
	Low	-Crab		
		Low	medium	high
		Potential number of beneficiaries		

3.4 Finalize Value Chain Selection

The short-listing exercise shows that Fishery, Duck (egg), Dairy, Chai and Net, and Rice and Rice based products came as the most potential value chains for further assessment considering the two most important criteria- a) Market demand and growth potential and b) Potential to benefit large number of target population. More in-depth

information was gathered on each of the five value chains with regard to the above two criteria and the additional following criteria:

- Participation of women in the value chain
- Lack of competitive threats from other areas and also from imports
- Presence of dynamic lead firms already engaged in or amiable to linkages with producers in targeted area
- Feasibility to achieve significant impacts in project period

Based on the information gathered, the five value chains were comparatively ranked on a scale of 1 to 10 against each criterion, with a rank of 10 indicating the strongest correspondence between a value chain and a criterion. The following table presents the results of this ranking exercise.

Table 4: Value chain scores according to different selection criteria
Scale=1-10 (10 is high)

Sl. no	KEY CRITERIA	Fishery	Duck (egg)	Dairy	Chai and Net	Rice and Rice based products
1	Market demand and Growth Potential	9	8	6	7	7
2	Participation of women	7	8	8	7	7
3	Lack of competitive threats from other areas and also from imports	8	8	6	6	6
4	Presence of dynamic lead firms already engaged in or amiable to linkages with producers in targeted area	9	8	6	6	5
5	Potential number of beneficiaries	8	8	6	5	5
6	Feasibility to achieve significant impact in 1-2 years	9	8	6	5	5
	Total	50	48	38	36	35
	Rank	1	2	3	4	5

3.5 Final Selection of Value Chains and Rationale

Each of the five candidates was assessed against each of the six criteria through the above scoring mechanism where Fishery and Duck distinctly appears as the most potential value chains. This two value chains are clearly well ahead than other value chains in incorporating large number of target people. In terms of demand and market growth, capture fish has high demand not only in the region but also throughout the country as well as in export market and duck eggs have always a niche market which is unmet by the supply. Though in fishing, women have little role but in sorting, cleaning and particularly in processing (dry fish making) women have significant role to play. Good number of fish processing plants in the region demonstrates the involvement of large private sector. Considering all these aspects, Fishery and Duck (eggs) were finally selected for further assessment.

Chapter
4

4. VALUE CHAIN DESCRIPTION

4.1 Fishery

4.1.1 Introduction

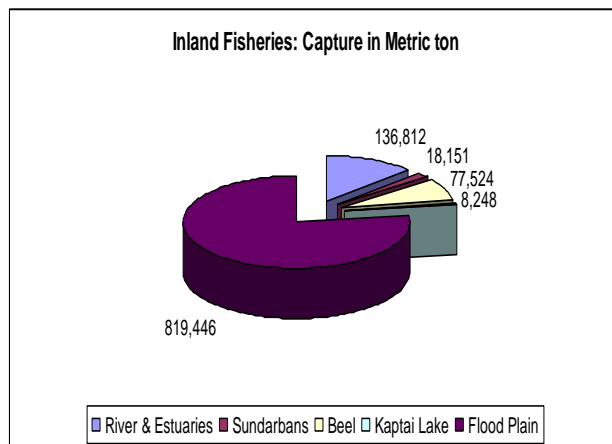
Fish is the principal source of animal protein for the people of Bangladesh. However, there is an acute shortage of food in the country and expansion of livestock production is limited due to a lack of space. For this reason dependency on fish for animal protein-rich food will increase day by day. There are many possibilities for increasing the contribution of fish to socio-economic development goals such as increasing nutrition, employment opportunities, foreign currency earnings and the establishment of different industrial organizations.³

The fisheries sector is divided into two broad sub-sectors: Inland Fisheries and Marine Fisheries. The inland fisheries sub-sector again has two major sources, i.e. open-water/captured fisheries and closed-water/cultured fisheries. About 80% of the total fish production in Bangladesh is inland fishing, which is divided equally between captured and cultured fishing.

The fate of Bangladesh's capture fisheries is inextricably tied to the condition of the nation's wetlands. Economic studies (2004) indicate that wetlands have almost twice the economic output of rice crops, exceeding Tk. 35,000/ha/year, with the largest share of their direct benefits going to poor people in rural communities.

³ "National Fisheries Policy", 1998, Ministry of Fisheries and Livestock

The inland open water fisheries contribute 41.1% of national fish production and the amount was 1,060,181 MT in 2007-2008. Of total inland open water fish production, contribution of River & Estuaries is 136,812mt (13%), Sundarbans is 18,151mt (2%), beels is 77,564 mt (7.0%), Kaptai Lake is 8,248mt (1%) and Flood Plain is 819,446mt (77%). Production rate of floodplains is highest among all the habitats of inland water.⁴



An estimated 9.5 million people (73 percent) are involved in subsistence fisheries on the country's flood plains, the number of fishermen increases dramatically to 11 million between June to October each year. There are 3.08 million fish farmers, 1.28 million inland fishermen and 0.45 million fry collectors (fish and shrimp) in Bangladesh and it is estimated that fisheries and related activities support more than 7 percent of the country's population.⁵ It is estimated that over one million people fish full time and another 11 million fish professionally on a part-time basis, with the fisheries sector providing employment for 9% of the country's labor force.⁶

4.1.2 Project Region and Fishery

FSUP-H project is located in the north-east region of Bangladesh including three districts namely Sunamganj, Kishorganj and Netrokona. Floodplains and seasonally flooded tectonic depressions known locally as haors and smaller water bodies known as beels constitute the major land structure of the region. Maximum land goes under water for almost seven months 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 the region fall under single crop land, and those are highly prone to early rain and flush flood. The road communication is

⁴ Fishery Statistical Yearbook of Bangladesh 2007-2008

⁵ National Aquaculture Sector Overview: Bangladesh, FAO

⁶ Munir, A, 2004, BCASICLARM Livelihoods Study, FSRFD. 2003, 74 MACH Project, Hail Haor Resource Valuation; DANIDA, MAEP and GNAEP Wetlands Study

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.

The region 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 people having muscle power.

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 the including Dhaka and also abroad through processing companies.

4.1.3 Production and Growth

The region is in surplus in overall fish production. However, the total fish traded in the area 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 and Kishorganj districts in last few years.

Table 5: Production, demand and surplus of fish in the region

District	Year	Total production	Total demand	Surplus (MT)
Sunamganj	2007	54355	34492	19863
	2008	54657	37192	17464
	2009	55652	43072	12579
Kishorganj	2009	76388	41000	35388

Source: DoF, Sunamganj, Kishorganj

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 fishery sector is decreasing.

However, though there is no concrete data on how much fish is imported to the region 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 (cultured fish) to meet local requirement.

4.1.4 Seasonality

Two distinct seasons can be identified in the haor/beels in the region 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 Ashwin of Bangla year (mid October) 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 they 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 water-lord) 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 Ashwin 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.

4.1.5 Major Species

A wide range of fishes are captured in the region. Major source 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:

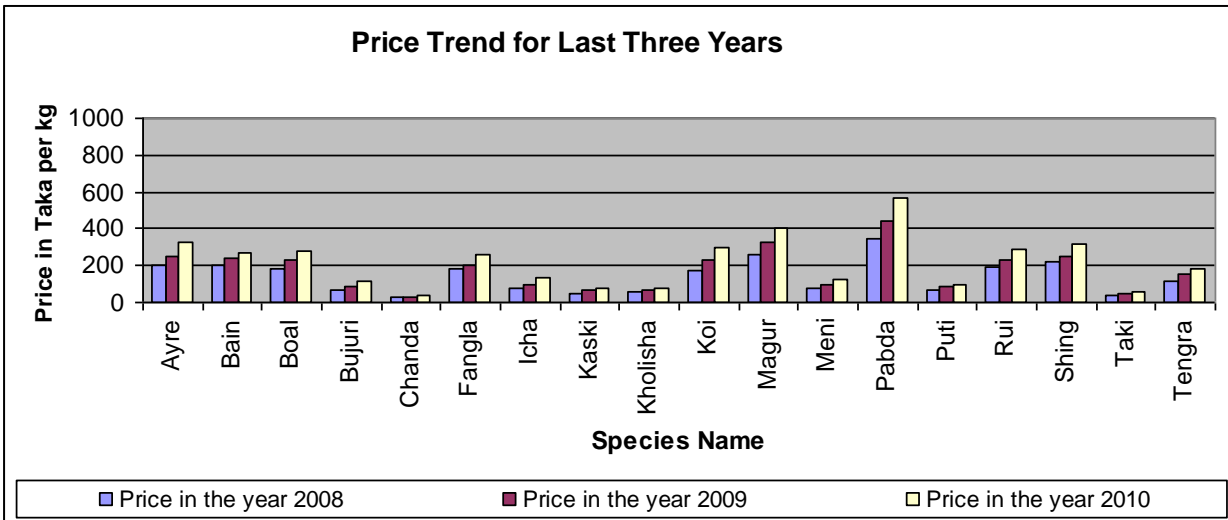
Table 6: Major fish species from different sources

Type of source	Species		High demand
	Small fish	Big fish	
River	Ghulsha (small tangra), Kajoli, Ritha, Ghaura	Ruhi, Boal, Shol, Mohashol, Bacha, Kalibaush, Bata	Ruhi, Kajoli, Bacha
Haor/beel	Tangra, Meni, Puti, Icha (small prawn), Taki, Bujuri, Baim, Pabda, Koi, Kholisha, Chanda, Boicha	Shing, Magur, Shol, Gojar, Boal,	Pabda, Koi, Meni, Tangra, Shing, Magur
Pond	Tilapia	Pangas, Ruhi, Mrigel, Bighead	Pangas

4.1.6 Price Trend

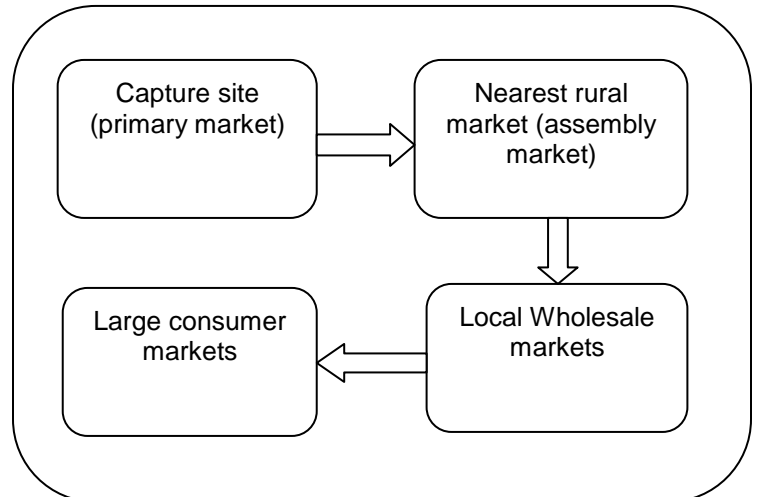
During Organized Catch, overall price of fish at local wholesale level decreases by 15-20% compared to Open Catch period as the supply increases. Unit price (Tk per kg) of big fish increases according to their size. For example, a ruhi sells at the rate of Tk. 120 per kg if weight is less than 2 kg, 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 the region 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.



4.1.7 Market and Marketing Structure

The end markets vary from Upazilla to Upazilla in whole region mostly due to the communication system and ease of accessibility along with business linkages. For instance, in Sunamganj, 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). However, Mohonganj in Netrokona and Kuliarchar and Bhoirab in Kishorganj act as fish trading hub in the region. 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 map in section 3.4 and 3.5 shed more light on this marketing chain.

4.1.8 Market Actors

This section describes different types of market actors along with their interrelationship.

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.

Fishermen

- Fishing as the secondary occupation that capture fish but not as a main occupation and capture on an irregular basis. They usually belong to the bottom end of the poverty profile. They 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 lease or sub-leaseholders and received lease formally or informally and others who do not own any beel but fish in others' water bodies. Lease or sub-leaseholders fish in their respective beels in small scale maintaining fish habitat undisturbed up to *Ashin* Bangla month (mid September) and do bulk fishing during Organized Catch season. 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.

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. These collectors, locally called *Nigari*, again, can be classified as below:

- 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 and send 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.
- Big Nigaris are comparatively larger, having stronger boats with big storage boxes and 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 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.

Table 7: 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. For instance, 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 the region to collect fish from small bazaars. During Organized Catch season, they group together and purchase in bulk.

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 the local fish
- And second who deals with fishes of other districts along with local fish

The former type is located in fish collection junctions such as Solemanpur in Sunamganj, Mohanganj in Netrokona, Kuliarchar in Kishorganj etc where fishes captured within the districts and the region arrive. They purchase fishes mostly from nigaris they are linked with. The traders/arotdars buy fishes and send them to Kishorganj (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.

On the other hand, the later type exports local 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 here through this Channel. The imported fish is for the consumption in local market. This group of traders sells fishes, both locally captured and imported ones, to local retail markets and restaurants. Some of these traders work as agent of a processing company located in the region and in mostly Bhoirab (Kishorganj). Nigari, small traders or fishermen deliver fish to the processing company which is endorsed on the name of this large trader (agent).

Processing Company/Exporter

There are around 20 fish processing companies in Bhoirab (Kishorganj) which export fish to other countries. 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. These processing companies/exporters contract large traders as supply agents. These traders supply fish by themselves or through their suppliers (nigari, small traders, and fishermen) to the company. They buy all types of fish of a given size. Most common fishes they purchase from the region are Boal, Aeir, Koi, Puti, Mola, Kechki, Bujuri, Batashi, Rui, Pabda, Tangra, gulshah, Chapila etc. They also purchase cultured fishes that mostly come from outside.

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. For example, Bahadurpur, Chandergaon, Gopalpur in Bishwambharpur Upazilla; Solemanpur, Bhatitahirpur in Tahirpur Upazilla; Behali in Jamalganj Upazilla in Sunamganj are some of the areas where dry fish 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 women labor 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 clean 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 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

Kishorganj is the biggest trading hub for dry fish in the region. In Kishorganj Sadar, there is a dry fish wholesale market where there are around 20 large arots who deal with dry fish round the year. There are few large dry fish traders with sales outlet at all district level that produces dry fish through other people and also buy from different arots. 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. They also supply dry fish to Dhaka in Karwan bazaar. Such dry fish traders are found only in big bazaars in the districts.

There are other groups of dry fish traders who come from Brahmonbaria 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.

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. Their buyers are also mostly the lower tier of consumers. 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*)

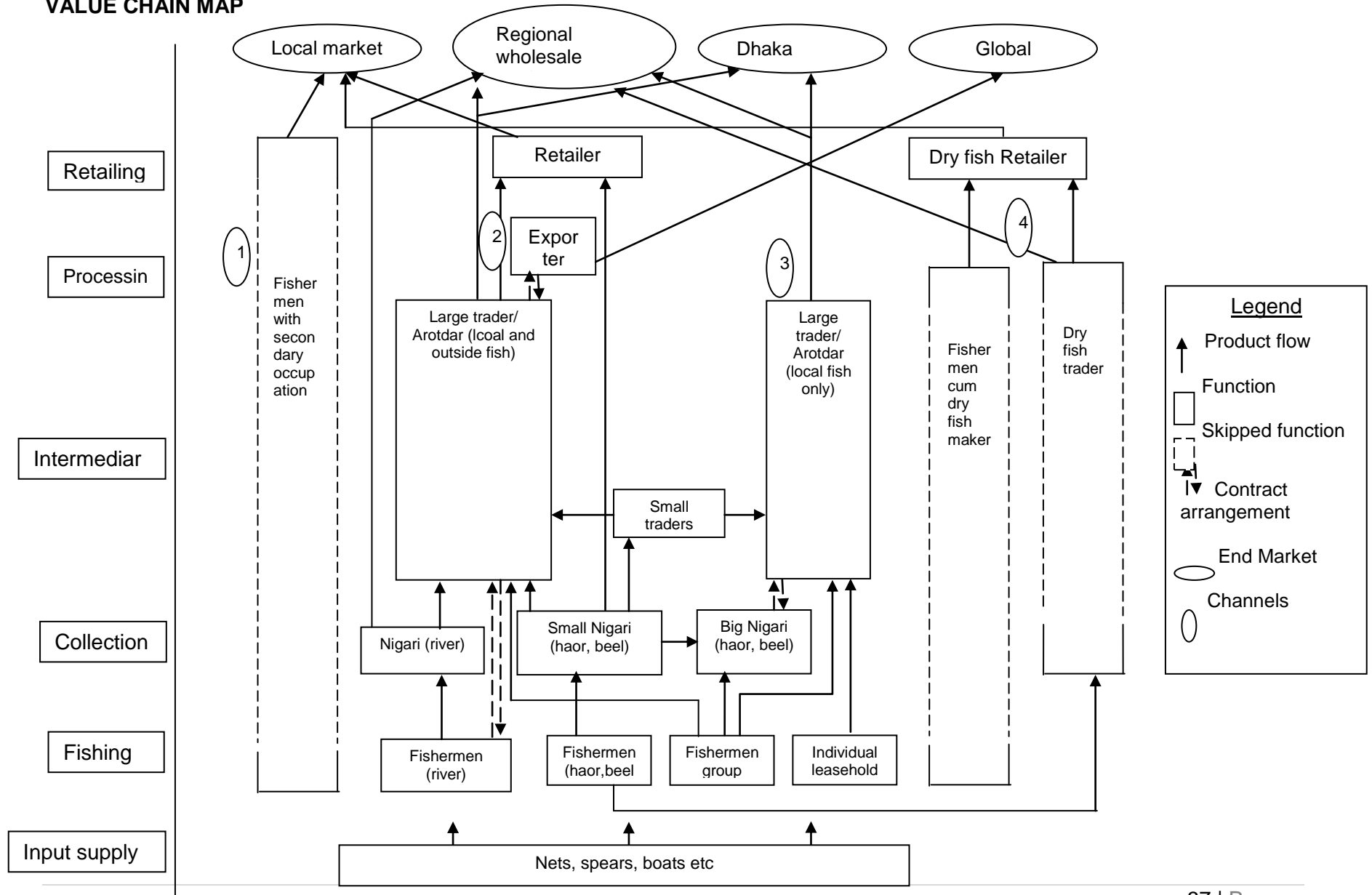
out of that and would sell each pack at the rate of Tk. 30 making the retail price as Tk. 120/kg.

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.

4.1.9 Value Chain Map and Channels

This section portrays the value chain maps, showing different types of actors and their interrelationship in graphical form. The map is followed by a brief description of different channels prevailing in the value chain.

VALUE CHAIN MAP



VALUE CHAIN CHANNELS

Channel 1: Occasional fishermen to local retail market

These fishermen cater to a little portion of the total fish trade in the region. 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 local fish and outside cultured fishes such as Pangas, Ruhi, Katol, Talapia etc coming from Mymensingh, 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: Local fish to regional and 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.
- *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. Large arotdars in Kishorganj Sadar also outsource their collection through a large number of traders by

providing them *dadon* in the region. However, traders coming from outside such as Brahmonbaria took the entire production back to their place and market afterwards.

4.1.10 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 fish 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.

4.1.11 Value Addition/Distribution at Different Actor Level

Fish price varies in a range in wholesale markets as it is sold in auction. 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 8: Fish price of different fishes in Jatrabari wholesale market, Dhaka⁷

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

The following table shows the price of fishes at a Chain Super market in Dhaka on a particular week.

Table 9: 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

⁷ Price collected during Nov-Dec 2010

⁸ Price collected during fourth week of Nov-Dec 2010

Table 10: Fish price at different market actor level⁹

Species	Fisher men	<i>Nigari</i>	Small trader	Local <i>Arot</i> (Large trader)	Processing company (buying price)	Local retailer	Dhaka wholesale <i>Arot</i>	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

Using this information it is possible to calculate prices at each stage of the chain as a percentage of the final retail price in Dhaka.

Table 11: Actors' receive amount as percentage of final retail price

Species	Fishermen	<i>Nigari</i>	Small trader	Local <i>Arot</i> (Large trader)	Processing company (buying price)	Local retailer	Dhaka wholesale <i>Arot</i>
Aeir	66%	70%	72%	74%	76%	76%	82%
Bain	77%	80%	83%	86%	91%	91%	91%
Boal	80%	83%	86%	86%	91%	86%	86%
Bujuri	48%	60%	68%	72%	80%	80%	88%
Icha	39%	44%	47%	50%	56%	67%	78%
Kaski	36%	45%	55%	59%	64%	68%	82%
Kholisha	62%	69%	69%	73%	77%	77%	77%
Koi	75%	78%	80%	83%	85%	85%	88%

⁹ Price collected during Nov-Dec 2010

Species	Fishermen	<i>Nigari</i>	Small trader	Local Arot (Large trader)	Processing company (buying price)	Local retailer	Dhaka wholesale Arot
Meni	63%	65%	70%	75%	80%	80%	90%
Pabda	81%	84%	86%	87%	93%	89%	93%
Puti	71%	75%	75%	79%	82%	82%	86%
Shing	64%	70%	72%	76%	80%	80%	90%
Taki	46%	54%	54%	62%	69%	69%	77%
Tengra	75%	77%	77%	79%	83%	81%	83%

It can be seen that fishermen get between 36% and 81% of the final retail price in Dhaka. If this calculation were done in terms of the percentage of the local retail price or price paid by processor, then the fishermen would get a larger share as the final prices at these outlets are lower than the Dhaka retail prices. In general fishers get a larger share of the retail price for high value species. This is to be expected as margins in the marketing chain reflect costs of moving fish through the chain which are largely fixed on a per kg basis and do not change with the species or value of the fish.

The same information can also be presented in terms of the share of the final Dhaka retail price that accrues to each actor in the market chain. Thus, in the table below, for *Aeir* fish, the fishermen gets 66% of the final retail price, with the *Nigari* adding 4%, small trader 2%, local Arot 2%, Dhaka Arot 8% and Dhaka retailer 18%.

Table 12: Value Addition at each actor level

Species	Fishermen	<i>Nigari</i>	Small trader	Local Arot (Large trader)	Dhaka wholesale Arot	Dhaka retailer	Total
<i>Aeir</i>	66%	4%	2%	2%	8%	18%	100%
Bain	77%	3%	3%	3%	6%	9%	100%
Boal	80%	3%	3%	0%	0%	14%	100%
Bujuri	48%	12%	8%	4%	16%	12%	100%
Icha	39%	6%	3%	3%	28%	22%	100%
Kaski	36%	9%	9%	5%	23%	18%	100%
Kholisha	62%	8%	0%	4%	4%	23%	100%
Koi	75%	3%	3%	2%	5%	13%	100%
Meni	63%	3%	5%	5%	15%	10%	100%
Pabda	81%	3%	1%	1%	6%	7%	100%
Puti	71%	4%	0%	4%	7%	14%	100%

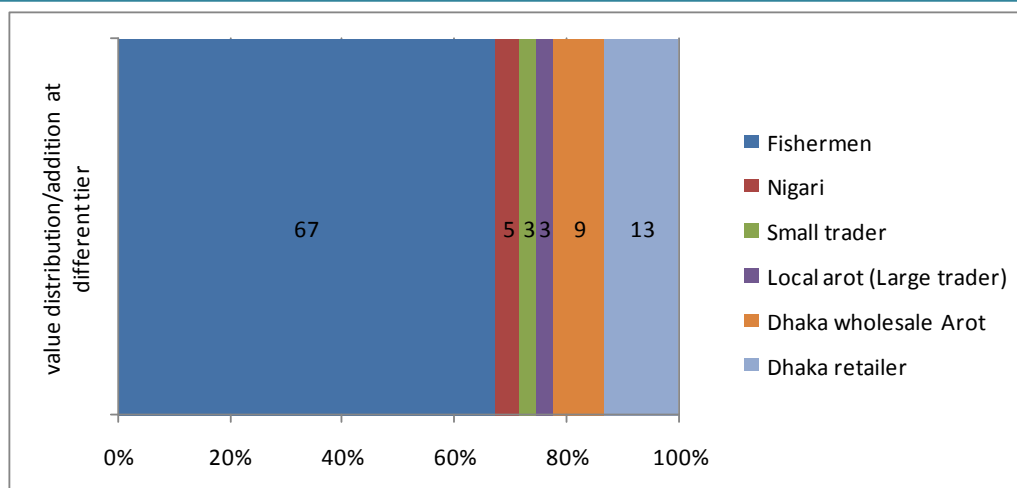
Shing	64%	6%	2%	4%	14%	10%	100%
Taki	46%	8%	0%	8%	15%	23%	100%
Tengra	75%	2%	0%	2%	4%	17%	100%

Margins can also be calculated in terms of absolute amounts (i.e. Taka per kg).

Table 13: Margin at each actor level (in Taka)

Species	Fishermen	<i>Nigari</i>	Small trader	Local <i>Arot</i> (Large trader)	Dhaka wholesale <i>Arot</i>	Dhaka retailer	Total
Aeir	330	20	10	10	40	90	500
Bain	270	10	10	10	20	30	350
Boal	280	10	10	0	0	50	350
Bujuri	120	30	20	10	40	30	250
Icha	70	10	5	5	50	40	180
Kaski	80	20	20	10	50	40	220
Kholisha	80	10	0	5	5	30	130
Koi	300	10	10	10	20	50	400
Meni	125	5	10	10	30	20	200
Pabda	570	20	10	10	40	50	700
Puti	100	5	0	5	10	20	140
Shing	320	30	10	20	70	50	500
Taki	60	10	0	10	20	30	130
Tengra	180	5	0	5	10	40	240
Costs							
Ice			5	5	5		
Transport		2	2	2	10		

The table above suggests that local level intermediaries (*Nigari*, small trader, local *Arot*) work on a margin of around Tk10 to Tk20 per kg, while Dhaka *Arots* and retailers each have margins of about Tk20 to Tk50 per kg. The table above also shows estimates of ice and transport costs, which absorb a significant proportion of the margin of traders. The following graph shows the value addition of fish (average of all types of fishes) at different tier of the value chain up to Dhaka retail end.



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

It can be concluded from above analysis that fishers get a fair share of the final retail prices and that traders margins are not excessive. However, there is opportunity for the fishers to increase their income if they could get closer to Dhaka retail end through bypassing a number of intermediaries and thereby accumulate the profit.

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.

4.1.12 Constraints and Opportunities

Constraint:

1. **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 require organized and collective effort and the target people, in many cases, fail to form such groups due to their lack of knowledge, mistrust and political 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/beels and thereby improve their livelihood.

A project by LGRD called SCBRMP is working in Sunamganj on this issue and has achieved significant success in addressing this constraint. So far, they have already organized more than 200 such groups and enable them to access water bodies through proper legal channel and also in process to facilitate more.

Probable Intervention

- Mobilize existing CARE Groups to get access to leasing process
- Mobilize group funds to get water bodies through direct or indirect leasing
- Assist groups in lobbying and accessing water bodies

2. 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 margin divides under each hand the fishermen get a little share of it.

Probable Intervention

- Assist groups in bulking their capture/harvest
- Create small accumulators within the groups
- Link groups/accumulators with nearby wholesale market

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

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. 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.

Probable Intervention

- Develop coordination team among the groups to decide on organized harvest

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

The dry fish makers produce it 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. Improved techniques can yield in higher income for current and potential dry fish makers. The underlying causes to this constraint can be summarized as:

Probable Intervention

- Train interested groups on improved fish processing techniques
- Link dry fish maker groups with large buyers

Opportunity

1. Unavailability of fishes forces the company to run on under-capacity.

The processing Companies are in dearth of supply and running on under-capacity. During Open Catch period, the situation gets worse. They have much higher demand of capture fishes (both small and big) of haors/beels but the supply is very erratic and insufficient. Hence, they have to source from outside districts such Shatkhira, Bagerhat, Khulna-mostly cultured fishes and also from Myanmar and India.

Probable Intervention

- Link fisher groups with local processing companies
- Link fisher groups with agents of processing companies

2. Poor linkage with source 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 the consistent supply. Hence, they source from different wholesalers in Dhaka fish wholesale market. Since quality and freshness and also chemical (formalin) mix 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. Every alternate 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.

Probable Intervention

- Arrange linkage workshop with large super market chains
- Link coordination body of the groups with super market chains

4.2 Duck (egg)

4.2.1 Introduction

Bangladesh is mainly an agricultural country. Its agriculture consists of mostly micro, small and medium farmers. The growth of this segment means the growth of the economy. This huge segment cultivates crops and fish, produces vegetable, raises cattle and rears birds. Poultry (indigenous and broiler) and duck are the predominant ones among birds. They add a substantial amount to their household income.

Benefits of Duck Production

- Duck lays egg at very low cost as it scavenges food from natural sources (snail, oyster, small fish, etc.) and household food waste.
- It can be raised at very low care and labor.
- Its egg is larger than that of chicken thus having more nutrition.
- Its indigenous species lays egg longer than that of chicken.
- Its egg can be stored longer than that of chicken.
- Diseases of duck are less than that of chicken.

Among the species indigenous ones are predominant. Mostly small farmers rear this kind. The farmers who are medium to large use high yielding species. Khaki Campbell, Indian Runner, Jinding, Peiking or Beijing and Mascovi are the high yielding varieties.

Table 14: Bangladeshi Species at a Glance

Species	Colour	Purpose of Production	No. of Eggs
Khaki Campbell	Feather-White, Head & Neck- Bronze	Egg	200-300
Indian Runner	Feather- White, Black, Grey, Blue, and Tan	Egg	200-250
Jinding	Feather- Mixture of White & Black, Head- Green	Egg + Meat	150-160
Peking/ Beijing	Feather- White	Egg + Meat	150-250
Mascovi	Feather- White, Black, Chocolate, and Blue,	Egg + Meat	100-125
Indigenous/ Deshi	Feather- White, Black	Egg + Meat	80-100

Picture 2.1: Major Species of Duck in Bangladesh



Khaki Campbell



Indian Runner



Peking / Beijing



Jinding



Muscovy



Indigenous

Households all over Bangladesh keep duck. The practice of keeping indigenous poultry and duck is very common in Bangladesh. However, production distribution of ducks is asymmetric in the country. With some natural advantages some areas are suitable for duck production. Sunamgonj, Netrokona, Kishoregonj and Gaibandha are the main duck producing districts where former three districts comprise the FSUP-H region.

4.2.2 Market Dynamics

There are mainly two types of duck farmers. One is small the other is large. The small ones keep 2-20 (on average 8 - 10) ducks and the large ones keep at least 200 ducks. There are even farmers having more than 1500 ducks. Small farmers collect hatching/breeder eggs randomly and use hens for hatching. Large farmers buy day old ducklings, several weeks old ducklings for egg production. Ducks lay egg in two peak seasons.

Farmers rear ducks mainly for egg production. Large farmers' purpose is definitely egg production whereas small farmers sell both eggs and ducks in retail market time to time whenever they need money. Small farmers also consume both eggs and duck meat on several occasions. On the other hand, large farmers hardly consume their flock's egg or meat.

The region exports duck and its eggs to other districts meeting its internal demand. Wholesalers and arotiders take the eggs to the large markets of Chittagong and Dhaka as Tejgaon Bazar, Kaptan Bazar, and Karwan Bazar. Eggs go to other districts from Dhaka.

Farms migrate to higher lands when water level rises and natural food becomes scarce. Farmers take their flock to other upazilas/districts where natural food would be available. Some farmers take their flock of ducks to their relatives; some send theirs with the flock of others and some have built houses to other places.

The predominant species of duck among the large farmers in the region are Indigenous, Khaki Campbell, and Jinding mostly. Khaki Campbell and Jinding are mainly used for egg production in large farms. Small farmers bother less about the species. They mainly keep indigenous (deshi) species.

In the duck sub-sector women involvement is very high. Since most of the duck farmers are of small size, the small flocks are managed by the women in the household. When the size of the flock is more than 20, a male is needed to look after it.

Price of duck egg varies from season to season. Duck lays egg between its two moulting (feather changing) periods, February – March and September – October. Therefore, during the two peak seasons of laying eggs, production of duck goes high. However, farmers get lower price for eggs during hot season, March – April to June – July.

Seventy percent of the total production of eggs is exported. The rest are consumed locally. In each district of the region, there are central large egg wholesale market mainly in Sadar, which act as the accumulation center and then export to Dhaka and other large cities.

4.2.3 Demand – Supply Analysis

In the core of any market lies demand and supply of a product. Some people have some extent of demand for goods or services and some people supply that. It is not likely that demand and supply will always be equal. Most often demand is higher than supply as in this world of scarcity resources are limited to produce goods and provide services.

4.2.3.1 Demand Side

The Value Chain study found that there is strong demand for both the egg and meat of duck. There is a segment of egg consumers that prefers duck egg than chicken egg. It considers duck egg to be of indigenous kind. It also believes that duck egg has more nutrition than poultry egg. Few consumers of duck egg complained that they don't get enough steady supply of duck egg round the year.

A survey on bakeries was conducted, which reveals that they prefer duck egg to poultry egg. Even 3 – 4 years ago they used duck egg as one of their prime raw materials. However, poultry egg gradually replaced it as its supply became more regular along with lower price than duck egg. They still would buy duck egg if regular and sufficient supply of duck egg can be assured.

Duck meat is considered to be of indigenous kind and a segment of consumers consider it to be tastier than broiler and more organic. Its demand rises higher during winter.

4.2.3.2 Supply Side

At each haat day during the peak season of duck egg production, at least 10 five ton truck filled with duck eggs is exported from each districts to other districts (mainly to Dhaka). These eggs go to the large arots of Tejgaon, Kaptan Bazar and Jatrabari of Dhaka and are readily sold to the wholesalers. The wholesalers sell them to retailers of Dhaka and other wholesalers and retailers of other districts. At Tejgaon egg arot it was found that during the lean period of egg production, each wholesaler sells around 5000 eggs per day and during the peak period around 13,000 eggs per day.

4.2.4 Market Actors

Input Sellers

Input sellers include feed sellers and medicine sellers. Feed sellers are mainly poultry feed sellers. In Netrokona some medicine sellers are specialized for animal and bird. The rest keep medicines for animal and bird along with those for human. Medicine sellers buy medicines of different drug producing companies and vaccines from the staff of Upazila Livestock Hospital.

Hatchery

Hatcheries collect fertilized eggs from large scale egg producers. The egg producers keep 10% male duck in their flock so that eggs get fertilized because the hatcheries demand so. Hatcheries hatch eggs with traditional rice-husk technology that takes 28-30 days for the ducklings to come out. They sell day old duckling to several days' (2-8) old duckling to duck farmers who would go for egg production. Most of the time they take orders from large duck farmers and duckling paikers who also take orders from other large duck farmers of other districts.

Table 15: Cost- Benefit Analysis of Hatchery

Item	Cost (Tk.)	Remarks	Calculation
Establishment	28	The set up of hatchery costs 22000 taka having 10 years of lifetime (avg productivity 25000 ducklings per hatchery per year)	(Tk 22000/ 10years/ 25000 ducklings) * 315 ducklings
Egg	4725	10% unfertilized eggs and 30% wastage during hatching; total 40% wastage; to get 315 ducklings 525 eggs are needed	Tk 9 * 525 eggs
Feed	83	Average duckling keeping days are 3.5 days (ducklings are sold out between 1 to 7 days of hatching)	5 gm per duckling * 315 ducklings * 3.5 days = 5.5 kg * tk 15
Transportation	175	Orders about 1500 eggs from each farmer or paiker and carrying cost is 500 tk.	(500/1500)*525
Employee	25	Temporary labor costs 2000 tk for a month	(2000/25000)*315
Rice husk	400	27 kg rice husk needed for 315 eggs	Tk 15 * 27 kg
Cost of Goods Sold (COGS)	5436		
Selling price	6930	Average duckling price is 22 taka (20-25 taka per Day Old Duckling)	Tk 22 * 315
Net Operating Income	1529		

Average Yield = 25000 ducklings

Total cost (Approximately) = 25000 * 17.25 = Tk. 431,250

Total sales = 25000 * TK. 22 = Tk. 550,000

Total Profit = Tk. 118,750 per year; Approximately Tk. 9895 per month

Unit cost = Tk. 5436/315 = Tk 17.25

Unit selling price= Tk. 22

Duck Farmers

Duck farmers are divided into distinctly two groups. One is large and the other is small. Large ones are defined in the sub-sector study as having at least 100 ducks for egg production. On the other hand the small ones are the households having 2- 20 ducks.



Most large duck farmers buy one to seven day(s) old duckling from hatcheries and keep on rearing them for egg production. Most of the time, they place orders for ducklings beforehand so as to ensure the procurement of ducklings. Some buy several weeks' duck from other farms so that they do not have to bother about feeding and rearing till egg production. They keep a duck as long as it is productive and sell it after about two years. By the time they sell a flock of aged egg producing ducks, they raise another flock to fill in.

Small farmers preserve duck eggs from their own flock. Seldom, they buy duck eggs from markets or neighbors for hatching. They do not bother about eggs of high yielding varieties. Most of the small farmers sell the eggs they get directly to local markets. Besides, there are small paikers who collect eggs from them roaming from door to door.

Large Farmers (300 Ducks)

Assumptions:

Average size of large farms is 300 ducks.

Mortality rate of ducklings while carrying is 5%.

Mortality rate of ducks while rearing is 10%.

Farmer provides vaccine of cholera and plague.

Farmer sells duck egg at his farm gate.

Average egg productivity of duck is 225.

The farm is on farmer's own land.

Farmer does not migrate during flood season.

Farmer needs not lease water body for the flock to swim and search food.

Farmer vaccinates the flock by a paravet.

Item	Cost (Tk.)	Remarks	Calculation
Duck Nest	3500	9 feet X 27 feet	
Duckling	6630	Buys 300 ducklings to sustain 270 ducklings	300 @ 22 taka
Transportation	600	Distance might increase or decrease the cost	300 @ 2 taka
Feed (Starter)			
Feed (Rest of the year)	198000	40 kg rice per day per 300 duck	15 tk/kg * 40 kg * 330 days
Vaccination	300	Vaccines for cholera and plague	300 @ 0.50 tk * 2
Vaccinator (Paravet)	300		300 @ 0.50 tk * 2
Medicines and Vitamins			
Vitamin A, D, & E	960	60 ml-60 tk for 75 ducks, 4 times a year	4 bottles @ 60 tk * 4 times

Ciprosol	240	100 ml-240 tk for 4000 ducks, (Only 7.5 ml is needed for 300 ducks, the rest is spoiled)	
Flamil	125	100 gm-125 tk for 4000 ducks (Only 7.5 ml is needed for 300 ducks, the rest is spoiled)	
Rudivit	1500	100 ml-125 tk for for 100 ducks, 4 times a year	125 tk * 3 * 4 times
Enbavit L	420	1 kg- 140 tk for 100 ducks	140 tk * 3
AB par	150	100 gm 50 tk for 100 ducks	50 tk * 3
Cost of Goods Sold (COGS)	212,695		
Selling price	303,750	Mortality rate 10%, avg productivity 225 eggs/year, avg price 500 tk per 100 eggs	270 ducks * 225 eggs * 5 tk (500 tk per 100)
Net Operating Income	91,055	Monthly income is Tk. 7588 that is only from selling duck eggs	91055/12=7588 Tk.

Yield= 270 ducks * 225 eggs =60750 eggs

Unit cost= Tk. 212, 695/60750= 3.5 tk

Unit selling price=Tk. 5

Small Farmers (10 ducks)

Item	Cost (Tk.)	Remarks	Calculation
Duck Nest	333	5 feet X 5 feet with expected life of 3 years	1000/3 = 333 tk
Duckling		Farmer hatches his own duckling	
Feed	360	Provides least feed (2 kg per month), ducks scavenge food from homestead and other water bodies	24 kg * 15 tk
Vaccination		Does not vaccinate or NGO free service	
Cost of Goods Sold (COGS)	693		
Selling price	2700	Mortality rate 50%, avg productivity 90 eggs/year, avg price 3.00 tk per egg	5 ducks * 90 eggs * 6 tk (72 tk per dozen); this farmers mostly sell to local retail level

Net Operating Income	2007	Monthly income is 167.25 that is only from selling duck eggs	2007/12 = 167.25
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Yield= 5 ducks * 90 eggs = 450 eggs

Unit cost= Tk. 693/450 = 1.54 tk

Unit selling price= Tk. 6

Paikers

Paikers are the collectors of duck eggs. There are two types of them – small and large. The small ones buy eggs from small duck farmers moving from door to door of several villages. Then they sell it to local arotders who also act as trader.

The large paikers collect eggs mainly from the farm gates of the large farms keeping rapport with them. In some cases they provide advance money to the farmers so that they sell their eggs only to them. Paikers also collect eggs and ducks directly from the farmers at haats and bazaars of different villages, unions and upazilas.

With the blessing of mobile phone, paikers know the selling price of egg at the arot of Dhaka. Then they pay the farmers 30-40 taka less than that for per 100 eggs. They sell it to the local arotders. Some wholesalers also play the role of arotders.

Assumptions:

Paiker buys from farm gate.

He sells to arotder of Upazila haat.

Item	Cost (Tk.)	Remarks	Calculation
Egg	303,750	270 ducks * 225 eggs = 60750 eggs @ 5.5 tk costs 334,125 tk purchased from a large farmer during 10 months (4 haats in a month)	
Crate	6075	30 eggs per crate that is 2025 crates @ 15 tk (lifetime of 5 years)	(2025 * 15 tk)/5 years
Transportation	6000	Farm gate to arot (40 times in a year)	40 times * 150 tk
Commission to arot	10023	3% commission	334,125 tk * 0.03

Cost of Goods Sold (COGS)	325,848		
Selling price	336,800	Wastage 1% while carrying (hence 60750 eggs reduces to 60143)	60143 * 5.6 tk (560 tk per 100)
Net Operating Income	10,952	This yearly income is only from buying eggs from one large duck farmer along with (the paiker buyes from other farmers also)	

Unit cost= Tk. 325,848/60,750= 5.36 tk

Unit selling price=Tk. 5.6

Arot ders

Arot ders buy eggs from large farmers and paikers both small and large. Paikers sell their eggs to the local arot ders. Arot ders also work as traders. They sell eggs to other arot ders of other districts and wholesalers of local market. From a local haat the collection of eggs are sent to other district by truck. On top of the truck, sometimes, arot ders send flock of ducks also to sell.

Wholesalers

Local wholesalers buy eggs and ducks from local arot ders. They sell it to local retailers. Wholesalers of Dhaka or Chittagong or any other districts other than the region buy bulk amount of eggs from their local large market/arot. In the arots wholesalers buy from wholesalers/ arot ders of the region through local arot ders.



Item	Cost (Tk.)	Remarks	Calculation
Egg	336,800	The same amount purchased from paiker through arot	60143 * 5.6tk
Transportation	5000	Arot to Dhaka by truck	
Commission to arot	10687	3% commission	356,233 tk *
Cost of Goods	352,487		0.03

Sold (COGS)			
Selling price	363,194	Wastage 1% while carrying (hence 60143 reduced to 59540)	59540 * 6.1 tk (610 tk per 100)
Net Operating Income	10707	This income is only from selling eggs once to Dhaka	

Unit cost= Tk. 352,487/60143= 5.86 tk

Unit selling price=Tk. 6.1

Retailers

Retailers buy eggs from the wholesalers and sell to local market. Most of the small duck farmers take their eggs and ducks to local markets for retailing their products.

Item	Cost (Tk.)	Remarks	Calculation
Egg	363194	The same amount purchased from Wholesaler	59540 * 6.1 tk
Transportation	3600	2 times a month from wholesaler to own selling place	150 tk * 2 * 12
Overhead (rent, staff)	2000	Considered only for selling this amount of egg round the year	
Cost of Goods Sold (COGS)	366,794		
Selling price	408,443	Wastage 2% while carrying	58349 * 7 tk (84 tk per dozen)
Net Operating Income	41,649	Retailers are least likely to buy 58349 eggs per year because this implies that they sell about 160 eggs per day which might not happen, only for maintaining consistency, it is used	

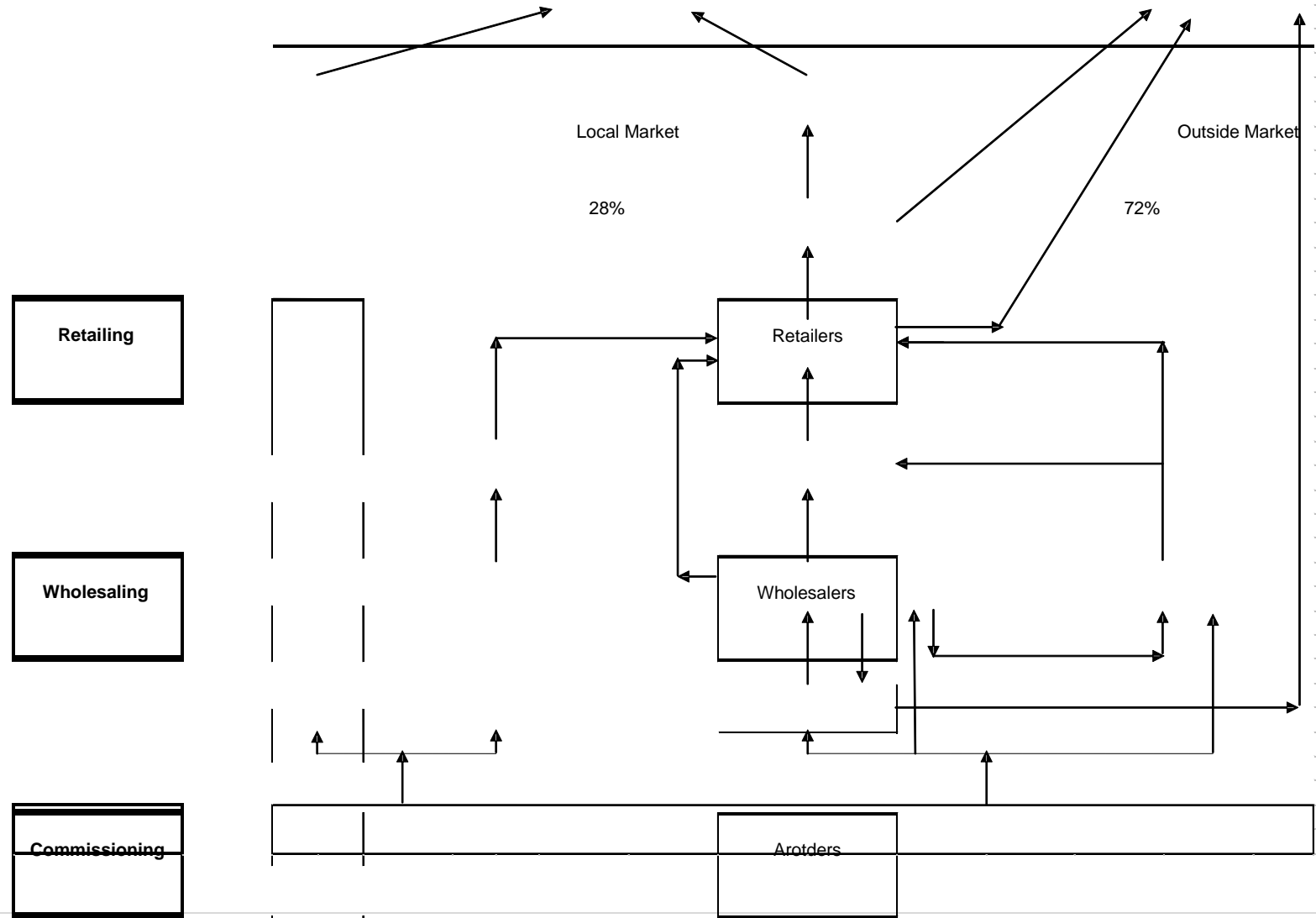
Unit cost= Tk. $366794/58349= 6.28$ tk

Unit selling price=Tk. 7

4.2.5 Value Chain Map and Channels

The value chain map shows six channels through which the value chain actors of the duck of the region are interconnected. The map incorporates the trading of duck feed and medicine, duck and eggs of duck.

Value Chain Map



4.2.6 Value Chain Channels

Channel 1: Input Seller and Small Duck Farmer

This is the most common scenario of the whole district. There are about 50,000 small duck farmers who keep about 8-10 duck round the year. They use the egg of their own parent ducks for next year's hatching. They use a hen for hatching as ducks are very unrest to sit for hatching. They themselves sell their duck eggs to the local market. Only a few of them buy some feed (paddy) from feed sellers.

Channel 2: Input Seller, Small Duck Farmer, Small Paiker, Arotder, Wholesaler and Retailer

The small duck farmers also hatch their own ducklings using duck eggs and hen. Small paikers come and collect eggs from them and then they sell to arotders. Only 10% of the total small farmers shown in channels 1 and 2 buy additional feed for their ducks.

Channel 3: Input Seller, Hatchery, Large Duck Farmer, Large Paiker, Arotder, Wholesaler and Retailer

Hatcheries sell ducklings to the large farmers. The latter rear it for egg production and later sell eggs in bulk amount to the large paikers who come to their doors for the eggs. These large farmers consider taking the eggs to the markets troublesome in terms of sufferings, egg wastage and extra cost. So they do not sell to the arots of local market rather sell to the paikers. The large paikers, sometimes, pay the duck farmers advance money to ensure their purchase. They sell the eggs to the arotders.

Both hatcheries and large duck farmers buy feed from the feed sellers. The hatcheries have to feed the ducklings until they are being sold. And the large duck farmers have to feed the ducks as long as they lay eggs. Only the farmers buy medicines and vaccines from the medicine sellers.

Channel 4: Input Seller, Hatchery, Large Duck Farmer, Arotder, Wholesaler and Retailer

This channel is almost the same as the previous one. The only difference is that the large duck farmers sell their duck eggs to the arotders as they can avail the cost of

transportation, have access to market information through cell phone. This type of large duck farmers are better off than the ones in the previous channel.

Channel 5: Large Duck Farmer (1), Large Duck Farmer (2), Large Paiker, Arotder, Wholesaler and Retailer

The first large farmers in the channel sell their 3-4 month old ducks to other farms as they cannot afford to feed them anymore due to shortage of natural food during flood and also nesting problem for water logging. The second large farmers prefer to buy this 3-4 month old flock as need not feed them for the ages they (ducks) have passed. These ducks are almost ready for laying eggs. When the ducks lay eggs, the farmers sell them to large paikers who then sell to arotders.

Channel 6: Large Duck Farmer, Large Duck Farmer, Arotder, Wholesaler and Retailer

This channel is almost the same as the previous one except the large farmers sell their eggs to the arotders. The reason for doing so is discussed in channel 4.

4.2.7 Constraints and Opportunities

Constraints are the problems that are impeding the sub-sector to grow further and opportunities are the issues that yet to achieve or address. So both constraints and opportunities call for identification and analysis for designing intervention plan.

Constraints

1. Farmers' lack of knowledge on disease identification leads to high mortality rate that result in their low income.

Mortality rate of ducks both for small and large scale due to disease outbreak (duck plague and cholera out break) is higher. They cannot identify diseases and are not even aware of the diseases of duck. They do not know the symptoms of the diseases. The most common diseases of duck are "Duck Plague" and "Cholera". As they do not know what to do to keep the ducks safe from these diseases, their ducks are more vulnerable to diseases.

Probable Intervention

- Improve farmers' knowledge base through duck disease management
- Link farmers with trained paravets.

2. Unavailability of vaccines at local markets leads to death of ducks that ultimately reduces duck farmers' income.

No private sector exists in Bangladesh with the vaccines of duck. Only the government supplies vaccines that are very meager. The Upazila Livestock Hospitals get the supply of the vaccines from the government. They provide some of it to the ones who go to them and sell the rest to drug stores who later sell to the farmers at a high rate (at least 60 taka per 100 ml ampoule).

Each vaccine of 100 ml ampoule can be used to 95 to 100 ducks. As MSEs have only a few numbers, they do not even think about vaccinating their ducks.

Probable Intervention

- Mobilize CARE groups to use inputs collectively
- Link trained paravets with CARE groups for cost-effective and efficient service

3. Farmers' lack of knowledge on management technique makes ducks more susceptible to disease attack and yielding less egg that reduces egg productivity and increases mortality rate of duck, which consequently reduces farmers' income.

Ducks of poor farmers' scavenge their food as snail, oyster, and small fish from natural water bodies and from the surroundings of homestead, where food waste like stale and rotten food are dumped. MSEs care less about the feed of duck. Thus their ducks become more vulnerable to diseases thus increasing the mortality rate.

Besides, the home of ducks should be kept as dry as possible spreading rice husk and timber powder. Farmers being unaware of this keep the ducks in an unhealthy environment. So the production of eggs decreases.

Probable Intervention

- Training to duck farmers on duck management including feed and disease control

4. Hatcheries' lack of knowledge on new technology leads to decrease hatchability rate and increased waste while hatching, which results in higher production cost and low productivity of the hatcheries.

Hatcheries use age-old rice-husk technique for hatching eggs. This results in 15% wastage of eggs while hatching. They sometimes cannot properly control temperature (which is supposed to be different at different stages of hatching) of the hatching room, though some of them claim that they are expert on measuring the exact temperature feeling only by their hands.

Average hatchability rate, at present, among the hatcheries is 60%, which would be about more than 80% in normal if they are exposed to new improved technologies.

Probable Intervention

- Training to duck hatchery owners on improved hatching techniques

Lack of knowledge of the paravets about diseases diagnosis and vaccine doses results in high mortality rate of ducklings that ultimately reduces income of the duck farmers.

There are paravets in all upazilas of Netrokona who lack in knowledge. Some of them are retired staff of Upazila Livestock Hospital. They now practice at upazila level with the experiences they have had. There are some others having passed mere S.S.C. who have had a training course of 3-6 months on livestock rearing. They know very less than they should have to serve the livestock rearing farmers.

Probable Intervention

- Training to paravets to improve their knowledge-base on disease management

Opportunities

1. Introduction of highly productive and new varieties will increase the income of the small duck farmers.

MSEs now keep indigenous species that lay about 80-100 eggs per year. If they are introduced with new varieties that are currently being cultivated by the large farmers, they will get 150-250 eggs per year depending upon the feeding to the ducks because normally high yielding varieties produce more eggs and additional feed increases their productivity.

Probable Intervention

- Introduction of high productive duck varieties to the poor duck farmers
- Training to duck farmers on high productive duck rearing

Establishment of market linkage with large buyers lead to market access of the duck farmers and thus increase their income.

Duck farmer now sell their eggs of duck to the paikers and arotiders of their locality. They receive the price whatever they are offered. Currently, poor farmers have limited number of eggs. Once many farmers will start producing eggs, price at local level will fall down. Hence linking with large traders at district level can ensure their sale. If they are linked with large buyers they will receive increased income.

Probable Intervention

- Form duck rearing groups
- Develop collectors within groups
- Link collectors with large buyers in big markets

Promote fish-duck culture as an integrated farming.

Small farmers having ponds can be introduced to fish-duck culture that will increase their income substantially. This culture is cultivating fish in the pond over which duck nest will be set up on a 'mancha'. Duck stool will fall into water, which will be taken by fish thus reducing the cost of fish cultivation. On the other hand, ducks will have a swimming and

bathing place for them. For this a common labor will do, which is also a reduction in cost of this fish-duck culture. FSUP-H target households can be linked with fish farmers so that the ducks can get access to water bodies and thereby get a win-win situation.

A blue square graphic with the word "Chapter" in yellow at the top and a large yellow number "5" in the center.

5. CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The target population of the project lies at the bottom tier of poverty level. Still, both the value chains selected and analyzed have strong inclusion of the target group which shows the potential to generate economic benefits for them subject to addressing the constraints they are facing and tapping the opportunities within them. Lack of knowledge on the benefits of group farming approach, lack of working capital, lack of knowledge on production techniques, poor access to market are the major constraints impeding their growth within the value chains.

5.2 Recommendation

Value chain specific interventions have been proposed in Chapter four while analyzing each of the value chains. However, considering the target groups' poverty situation (bottom end) value chain development interventions should adopt the following approach:

- ***Group approach by mobilizing existing groups***

The project groups are the major strength to accomplish successful cases. There are VDCs involving more than 100 members which could generate a bulk production and can attract large buyers. Small scale duck farming involves less amount of cost and hence each member can rear around 10 ducks even in their small household areas. Thus, a group of 100 members can make a bulk production which could be marketed in nearby wholesale markets. In case of fish capture, they can also gather in groups and lease or sub-lease water bodies by generating and managing funds. In Group approach, they can not only generate

economies of scale but also provide comfort to the lease and also buyers. However, the groups should be developed further in terms of management issues and negotiation skills.

- ***Link groups with input suppliers and buyers to maximize profit***

In many occasions, large buyers are inaccessible by the small producers due to the individual amount they produce. On the other hand, farmers are forced to use low quality inputs since they cannot afford when individual. By adopting the group approach, the project must link the target groups with input suppliers, such as paravets, ULO and large buyers to ensure a sustainable business mechanism.

- ***Promote duck farming Parawise so that everyone is sympathized to each other.***

Duck rearing is troublesome since they scavenge and roam around in farm fields. Hence, if the members of a community rear duck in general and can designate any specific area for all ducks to scavenge, it can resolve the conflict.

- ***Removing the misconception that duck farming affects fish farming negatively can enhance both types of economic activities.***

There is a misconception that ducks eat small fishes and hence fish farmers do not intend to allow ducks in their water bodies. In fact, allowing ducks in a controlled manner can benefit both the groups and this should be promoted.

APPENDICES

Appendix 1: Terms of Reference

Terms of Reference

Engendered and Pro-poor Value Chain Analysis For

Food Security for Ultra Poor (FSUP), Strengthening Poorest and Vulnerable Households Capability to Improve Food Security in Northwest Bangladesh (SHIFT) and

Social and Economic Transformation of Ultra Poor (SETU) Project

Background

CARE launched the **Food Security for Ultra Poor (FSUP)** project in January 2008. The specific objective of the FSUP program is to sustainably improve food access and utilization and reduce vulnerability for women and their dependents in ultra-poor households in the districts of Sunamganj, Netrakona and Kishoreganj in northeast Bangladesh. The program aims that at least 40% of targeted 55,000 women from the ultra-poor (bottom 10% of the poorest) households have graduated out of extreme poverty by 2013. This will be achieved through enhancing women's leadership capabilities in participation and decision making in household, economic, social and political processes. Through a community led approach, engaging men and women, boys and girls the program will build relationships of solidarity with the targeted communities to address gender-based inequalities in social, political and economic opportunities in the northeast of Bangladesh. The program will reduce chronic vulnerability to food insecurity primarily by improving access to food through creating economic opportunities for women from the poorest households, and better utilization of food through improved intra-household awareness and practices. Most importantly, the action will help enable the most vulnerable people, especially women, to develop livelihoods strategies and relationships to move themselves out of poverty and food insecurity.

With an overall objective "to contribute to the reduction of poverty and hunger for the poorest and most vulnerable households in Northwest of Bangladesh" Strengthening Poorest and Vulnerable Households Capability to Improve Food Security Project (SHIFT) has operationally been started in January 2010. The specific objective of this project is to improve local facilities and to empower and engage 15,328 targeted households (45% women) in agricultural productivity, income and employment towards improving their basic food needs in the districts of Lalmonirhat and Rangpur. This project primarily focuses on two determinants of food security - availability of and access to food. The project is built on successful existing partnerships with local partner NGOs, the private sector and public institutions. CARE is responsible for leadership, technical advise, supervision and overall management and reporting of the project, while the local partners NGOs (SKS Foundation and ESDO) are responsible for the implement.

By promoting partnership and coordination among the local government bodies, private sectors, NGOs and public-private service-providing institutions, the project interventions are supporting

to improve availability and accessibility of agricultural inputs and services, and strengthen productive capacities and participation of the poor in the agricultural value chain to promote sustainable food and income security. The project is using community-based solidarity groups (VDC, PUC and EKATA) to enhance the linkages of the targeted beneficiaries to value chains and market actors. The project also wants to strategically invest in the most promising interventions to effectively connect the extreme poor to service providers (such as agricultural equipments rent and repair, paravets, vaccination, livestock management, food processing, grocery shops, handicraft, etc).

Considering the above context as well necessity, the SHIFT project plans to conduct a study to have a clear and latest scenario of the agricultural value chain situation including constraints, potential emerging scopes (if there is any opportunities for collaboration/ partnership between the community groups/institutions and the private sector including Lal Teer , Qaulity Seed Company, ACI, etc) and specific recommendations in relation to sustained income opportunities for the rural poor and marginalised men and women Rangpur and Lalmonirhat districts.

Since March 2008, CARE has been implementing the **Social and Economic Empowerment of the Poor (SETU)** project in the Northwest of Bangladesh to empower poor and marginalized communities to collectively address the underlying causes of economic, social and political exclusion towards lifting 80,000 people out of extreme poverty. SETU has undertaken the processes of participatory poverty analysis and planning, community mobilization and capacity-building to economically, socially and politically empower the targeted communities. The economic empowerment strategy for the SETU project is three pronged, and is structured: i) to build the capacity of extreme poor and poor women and men to access economic opportunities and engage with markets; ii) to build relationships with private sector stakeholders and service providers to expand economic activity and employment opportunities that enable the participation of the extreme poor and poor, and that are socially responsible; and iii) to facilitate bottom-up approaches to the creation of sustainable community social enterprises that build on local skills and talent, and available natural resources, with significant value addition.

Scope of the Work

The local consultant will be conducting extensive field level study as detailed by this document. During the study period, the person will be periodically in touch with the lead consultant, in planning value chain research design and methodologies. The local consultant will prepare a final report, which will be later evaluated by the lead consultant.

Pro poor and pro women agricultural value chain selection: The first step of the Women in Agriculture planning process would be identifying agricultural value chains in which women have the opportunity to participate, learn and take decisions and thereby improve their well being. Extensive consultation with donors, government, private sector actors, farmers and other stakeholders will be done for this process. CARE Bangladesh will focus on the northwest region, particularly Gaibandha, Lalmonirhat, Kurigram, Nilphamari and Rangpur districts for the value chain analysis.

Engender value chain analyses: Once the value chain has been selected, gendered value chain analysis will be conducted which will help identify where and when women have a role in production or marketing of value added products and to what extent. The

analysis will also reveal constraints and opportunities and their causes by gender to engaging at various levels of the value chain, including needs and strategic interest of women. If women are not currently fully involved at particular points in the value chain as for example, marketing, it can help determine the kind of support that can be offered to make them more competitive and enable them to obtain better returns. It is also critical from a gender perspective to map ongoing changes as interventions are introduced to ensure that interventions are being appropriately targeted, women are not displaced as value is added and women are able to capture benefits.

Conduct value chain and market assessments and select sub-sector: Conduct value chain and market assessments across the FSUP project area (Sunamganj, Kishoreganj and Netrokona of north-east Bangladesh) to assess the true economic value resting within selected communities that can be harnessed to promote economic development that will include benefits for the poorest women.

Pro-poor sub-sector value chain and market assessments: Conduct value chain and market assessments and sub-sectors analysis across working areas of SETU & SHIFT that have the potential to promote the engagement of extreme poor (bottom 10% of extreme poor in rural communities) in economic activities that would create sustainable income opportunities throughout the year, identify key market opportunities and the critical constraints to be overcome for the extreme poor to reach that market.

A detailed economic and social mapping, mapping of performance and added value at each level, trend analysis, competitiveness analysis and rapid market appraisal has to be made. Once a detailed mapping is in place, a gender analysis will be followed to identify barriers that the extremely poor women face to enter into agriculture value chain. The constraints whether they be at the market level, during their personal interactions or the as a result of the various power relations, need to be sketched out. Hence a thorough consideration of issues such as cost along the value chain, point of most value addition, importance of different actors and government structures, institutional frameworks, political framework and bottlenecks need to be considered. This will effectively lead to formulating a roadmap delineating the various ways of developing the above identified sectors, outlining the many constraints and advantages that can be tapped into social & institutional impediments to the development of incorporating the full participation of women in agriculture.

These assessments will be conducted jointly by specialist consultants and field level partner and CARE staff using a diversity of tools, assumptions and models that seek to explore issues related to natural resources and environment, technical skills, key industries operating, product mapping and production cycles, existing and potential services that can be offered, market demographics and accessibility, price trends, growth opportunities and potential at local, national, regional, global levels, commercial services, constraints to poor women's participation in markets.

CARE has had significant experience in working with value chains and conducting subsequent value chain assessments, and is currently implementing the Strengthening Dairy Value Chain in Bangladesh with funding from the Bill and Melinda Gates Foundation. A comprehensive value chain analysis has already been conducted to understand the opportunities, constraints, and scope for partnerships, mutual benefit, incorporation of the poor/extreme poor, and growth in the dairy value chain. Having this project operate in the region, offers the opportunity for the SETU & SHIFT project to

leverage benefit from the intensive work being done on the dairy value chain, to invest specifically in ways that will connect extremely poor people in the project area to this value chain, either directly in the production cycle or as service providers (paravets, milk collectors, cream separator enterprises). The other value chain that will be explored for the SETU & SHIFT project is the vegetable value chain.

Objectives of the study:

7. Identify potential agricultural value chains in the northwest and north east of Bangladesh in which women and the poor and extreme poor have the opportunity to participate as producer, wage earner and entrepreneurs
8. Identify the specific role of women and the poor and extreme poor in selected value chain. Where, when and what extent they can take part
9. Analyze the production trends - Identify the strategic needs and constraints for participation of women and the poor and extreme poor in the selected value chain to appropriately design targeted interventions
10. Explore on market linkage and institutional arrangement for linking women and small-holder producers and extreme poor people to production cycle (agri-labour, producers, service providers, traders and entrepreneurs)
11. Identify the potential socio economic and environmental impact on selected agricultural value chain.
12. Identify key market opportunities and the critical constraints to be overcome for the women and extreme poor to reach that market

Process and Methodology:

The value chain study will follow both the quantitative and qualitative methods for data/information collection. However, the process will be fully participatory through ensuring maximum involvement of CARE and existing projects partner staff, local government representatives, market actors other stakeholders and the community. The consultant needs to visit the project locations and conduct several sessions with the stakeholders. Following are the steps the consultant needs to follow.

- Review the FSUP-H, SETU project and the Women in Agriculture Planning Proposal including SDVC value chain analysis and other key relevant documents such as CARE programming framework and impact statements
- Consult with key individuals of CARE (Economic Empowerment Team, Women Empowerment, Program Quality, and SETU, SHIFT, FSUP and other relevant projects/program staff)
- Prepare methodology, tools and questionnaires in consultation with CARE and partners
- Form teams for the value chain study involving staff from CARE and partner including SETU natural leaders and deviant members from VDCs of FSUP-H project for northwest and northeast regions.
- Orient the team on tools and methodology
- Pilot questionnaires and other tools and finalize the tools after pre testing at field level
- Data collection from various primary and secondary sources
- Data analysis using statistical techniques and
- Debriefing of the finding at Rangpur and Kishoregonj Regional offices and Dhaka Central office
- Incorporate comments/feedback from the workshops and finalize the research findings

Deliverables by the Consultant:

Following are listed the deliverables that are expected from the above mentioned activities.

- I. Detailed methodology and guidelines for the value chain analysis and market assessment for SETU, SHIFT and FSUP-H
- II. A detailed report with fact findings of key sub sectors and value chains, with indications of where and how to incorporate women, extreme poor and poor as wage earners, producers, service providers, traders and entrepreneurs, etc in the agriculture value chain for northwest region.
- III. Value Chain and Market Assessment and Sub-sector Analysis Report outlining potential areas for engaging women from ultra-poor households in economic development and market related activities for the northeast region.

Time line with dates

The consultant will be given a 22 days work contract and the whole process of the value chain study has to be completed by 30th November 2010 starting from 18th October (counted as 5 days per week, and excludes government holidays)..

Work location

Five districts of North-West and three districts of North-East Bangladesh.

Reporting Language:

English

Key Contacts:

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Remuneration & Payment Mode:

CARE Bangladesh will pay the consultant at the rate of BDTper day (As per Annex 1_, for a period of 22 working days, with per diem & lodging as per CARE Bangladesh policy. This work will be paid upon completion & submission of the above materials.

Key Competency of the Consultant

The consultants should have:

- A higher degree in Social Science or Development Studies /Business studies

- Good experience and understanding of the economic empowerment approach and processes
- Proven experience on business development, gender and livelihood analysis
- Good understanding of rural and remote areas including market, state and non-state actors
- Proven experience in conducting value chain study
- Experience in use and facilitation of participatory tools and approaches
- Excellent interpersonal communication, analytical and report writing skill in English

Appendix 2: Study Tools

2.1: Value Chain Selection Question Guides: FSUP-H

For Key Informants

Interviewee:
Date:

Affiliation:
Contact Info:

1. General view of Ag and non Ag productive activities in the region:
2. What are some value chains that you feel have good potential (current or future), in terms of (1) Market Demand and Growth potential and (2) potential for large numbers of beneficiaries. Who are the lead players in these value chains?

VC1:

VC2:

VC3:

VC4:

VC5:

VC6:

3. Historical perspective (past economic conditions):
4. Competition with other regions within the country or imports.
5. What are the general constraints facing producers, processors, marketers and others in the various value chains in the region?
6. How is the government policy affecting the growth of the VCs?
7. Is there any recent issue in the post-conflict situation that has changed or is supposing to change the local economy 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:

For Producers

- 1) What crops do you currently grow?
- 2) Why do you grow those crops?
- 3) Do you grow for your own (family) consumption or to sell? If both, how much is sold (percentage)? {If only subsistence skip to question #7}
- 4) If you sell, how is this done: directly by you or family member, to a trader, or other means?
- 5) If you sell products, which of these products has the greatest demand in the market? And why, explain.
- 6) How much do you charge for the products you sell? How did you decide on that price?
- 7) What are the constraints you face in farming the products? Explain
- 8) Are you receiving any assistance from any organization or other persons? If so, explain.
- 9) What do you think you need to better run your farm?
- 10) Are you or your family engaged in other commercial activities, such as raising chickens, goats, cows, etc for selling?

For Market Venders:

- 1) What are the main products you normally sell?
- 2) Where do you get these products?
- 3) Why do you buy your products from -----?
- 4) How much you charge for the products?
- 5) How much do you sell per day?
- 6) Is there a large demand for these products? (Could you sell much more if more were available?)

1. product	1	2	3	4	5
2. Origin					
3. Why do you buy there					
4. Price					
5. How much do you sell per day					
6. Demand					

7. Are there products that are difficult to find? If so, which products?
8. Do you collect from farmers or do you buy from and intermediary or?
9. Where do farmers get the seed? Are there people who collect from farmers? Are there people who process products? Do farmers sell to other markets – where are these markets? Are there others involved in the process?
10. What general constraints do you face in operating your business?
11. What assistance would help you to better run your business?

VALUE CHAIN ASSESSMENT QUESTIONNAIRE GUIDE: CARE Bangladesh: FSUP-H

Market Access

- What do you see as your main needs/opportunities in accessing markets?
- To whom do you sell your product or service (large firms, small firms, wholesalers, exporters, retailers, direct to consumers, etc.)? What percentage goes to each?
- How do you promote and market your products/services?
- How strong is the market for your products/services right now? Next year?
- What are your products and/or services in order of contribution to gross revenue?
- Are some markets (customer groups) better than others in terms of sales and revenue growth? Which ones?
- Do you ever collaborate with other firms on promotion and/or marketing?
- Do you get production financing from your buyers? What are the terms?

Technology and Product Development

- What are your major needs/ opportunities in production?
- What have you done recently to improve your products?
- Please describe your important pieces of production machinery (type, age, make, features)
- What kind of equipment or machinery could improve your business?
- Do some of your workers need additional training? In what skills?

Organization and Management

- In the area of organization and management, what are your major needs/opportunities?
- What functions do you outsource or subcontract?
- Who does most of the work in the areas of: general management/supervision, product design, purchasing, production, shipping, accounting, marketing, repairs, etc. (owner, employees, or external)?
- Which aspects of your business do you intend to change in the next 2 years (machinery, equipment, computers, new products, marketing strategy, quality control, management system, worker skills, etc.)?

Business Membership Organizations

- Is your industry or trade sector represented by national or local business associations? If so, please name them.
- Are you a member? If not, why?
- What are the primary functions and benefits of these associations?
- What additional services should they provide?

Materials and Input Supply

- What are your major needs/opportunities in the areas of input cost, quality, and availability?

- Who are your most important suppliers and what do you buy from each?
- Are there problems in obtaining some important inputs? Explain.
- Do you get credit from input suppliers? What are the terms?

Finance

- Where do you go when you need money for your business?
- Do you get credit from input suppliers? What are the terms?
- Do you get production financing from your buyers? What are the terms?
- Do you have need for additional financing at the moment? If so, what would it be used for?
- What sources (formal or informal) have you approached for loans, and what have been the key problems, if any?

Standards and Certifications

- What standards or certification requirements do your products or services need to conform to?
- Who sets these standards and requirements?
- Who helps you to conform to these standards and requirements?
- Do you have any problems in this regard?

Policies and Regulations

- What government policies or regulations benefit your business (registrations, inspections, subsidies, incentives, etc.)?
- What government policies or regulations are obstacles to growing your businesses?

Infrastructure

- What are the most important infrastructure constraints affecting your business' growth and profitability?
- What is your industry doing about these problems?

General

- cost of production
- productivity and profitability
- value addition at different tier
- comparative/competitive advantage/disadvantage

Appendix 3: List of Respondents

List of Respondents			
SL No.	Name	Type of Actor	Address
1	Abu Taher	Fish Nigari cum wholesaler	Boro Bazar, Kishorganj Sadar, Kishorganj
2	Md. Mokhles	Fish retailer	Boro Bazar, Kishorganj Sadar, Kishorganj
3	Shafikul Islam	Dry Fish retailer	Boro Bazar, Kishorganj Sadar, Kishorganj
4	Abu Sayed	Dry Fish Arottdar	Boro Bazar, Kishorganj Sadar, Kishorganj, mobile: 01911909390
5	Mahatab Uddin	Dry Fish Arottdar	Boro Bazar, Kishorganj Sadar, Kishorganj
6	Harun-ur Rashid	Dry fish maker	Tarail, Gajaria, Kishorganj, Mobile: 01724092234
7	Belal Hossain	Duck input seller	Boro Bazar, Kishorganj Sadar, Kishorganj
8	Shahidul Islam	Duck egg wholesaler	Boro Bazar, Kishorganj Sadar, Kishorganj
9	Md. Idris	Duck egg wholesaler	Niamatpur, Karimganj, Kishorganj
10	Md Shanju	Duck egg wholesaler	Niamatpur, Karimganj, Kishorganj
11	Md Habi	Duck egg wholesaler	Niamatpur, Karimganj, Kishorganj
12	Bakaul Bapari	Dry Fish wholesaler	Vill-Gobindasri, PS-Modon, Union-Modon, Netrokona
13	Sukur Ali bapari	Dry fish wholesaler	Vill-Gobindasri, PS-Modon, Union-Modon, Netrokona
14	Trimsri Bapari	Dry fish wholesaler	Vill-Gobindasri, PS-Modon, Union-Modon, Netrokona
15	Nasrin Akter	VDC member	Noorpara, Boawali, Khaliaghuri, Netrokona
16	Papia	VDC member, Duck farmer	Noorpara, Boawali, Khaliaghuri, Netrokona
17	Moni	VDC member, Duck farmer	Noorpara, Boawali, Khaliaghuri, Netrokona
18	Abul Kashem	Duck egg wholesaler	Chotto bazaar, Netrokona Sadar, Netrokona
19	Kabil Mia	Duck egg wholesaler	Chotto bazaar, Netrokona Sadar, Netrokona
20	Abdul Hannan	Duck egg wholesaler	Chotto bazaar, Netrokona Sadar, Netrokona
21	Hanif Uddin	Fish Arottdar	Modhom bazaar, Sunamganj Sadar, Sunamganj

22	Bholon	Dry fish trader	Modhom bazaar, Sunamganj Sadar, Sunamganj
23	Alauddin	Duck egg trader	Modhom bazaar, Sunamganj Sadar, Sunamganj
24	Romakanto Das	Duck hatchery	Amdabad, Pataia Union, South Sunamganj, Sunamganj
25	Kishendro Chandra Das	Fish Arotdar	Noakhali bazaar, South Sunamganj, Sunamganj
26	Nobi Hossain	Duck egg wholesaler	136 Railway market, Tejgaon, Dhaka
26	Mohammad Ali	Duck egg wholesaler	13 Station road, Tejgaon, Dhaka
27	Mohiuddin	Duck egg wholesaler	13 Station road, Tejgaon, Dhaka
28	Ismail Hossain	Duck egg wholesaler	14 Nimtoli Majar Jam-e- Mosque, Dhaka
29	Md. Asif	Egg wholesaler, Commission agent	16 Station road, Tejgaon, Dhaka
30	Mojibur Rahman Munna	Egg retailer	Rana store, Karwan Bazaar, Dhaka
31	Parimal Chondra Das	DFO, Kishorganj	DFD, Sunajgamj
32	Shafiul Islam	Salesman	Shwapna Supermaket, Panthopath
33	Mir Abdul Hafiz	Asst Purchase Manager	Meena Bazaar, Dhammondi
34	Moshiur Rahman	Asst Purchase Manager	Meena Bazaar, Dhanmondi

