Baseline Study

Alleviating Poverty on North-Eastern Bangladesh [APONE]

Final Report

Date: July 18, 2012

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LETTER OF TRANSMITTAL

Dhaka, July 18, 2012

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Subject: *Final report of the baseline study for 'Alleviating Poverty on North-Eastern Bangladesh [APONE]'*

Dear Mr. Ferdous,

Innovision Consulting Private Limited is pleased to submit the final report of the baseline study for APONE. As always, we have tried to ensure the best quality in research design, implementation and report presentation. We hope that the findings will help you and your team to decide on the activities of the project.

Kindly note that as per the research plan, 120 producers were interviewed as control group for the study. However, during the field survey, it was revealed that all the control group respondents are willing to join the producer's groups created by the project. Since it is highly likely that these respondents will be involved in the project activities in the future, we were requested by the APONE team to exclude the findings of the control group from the final report.

We thank you for your cooperation.

Sincerely,

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ACKNOWLEDGMENT

Innovision Consulting Private Limited would like to acknowledge the support provided by Mr. Shahed Ferdous, Country Director, Traidcraft Exchange, Bangladesh for the overall coordination and management of the baseline study. Mr. A.B.M Feroz Ahmed, Programme Manager, Traidcraft Exchange, Bangladesh has also provided valuable guidelines on the design of the study and offered critical insights to make the final report more focused. The gratitude also goes for Mr. Shah Abdus Salam, Executive Director, Development Wheel (DEW) for relentless support to the project team.

Mr. Md. Touhidur Rahman Sumon, Regional Field Coordinator (RFC) and Mr. Showkat Hassan, Project Coordinator, APONE - Mymensingh Regional Office had helped in organizing and managing all the logistics during the field investigation in the two districts. Without their prompt attention in addition to the participation in all field activities, it would have been difficult to conduct the field study smoothly.

We are also thankful to both of the Partner NGOs working with the APONE project namely, Grameen Manobic Unnayan Sangstha (GRAMAUS) in Mymensingh district & Rural Development Shangstha (RDS) in Sherpur district, for their constant support to the project team in field survey.

We acknowledge the contribution of all the reviewers of the draft report who took a lot of time in providing feedback that sharpened this report. We would also like to thank all the respondents who gave their valuable time to the research team to get area specific information that helped shape the report for APONE baseline study.

List of Abbreviations

APONE	Alleviating Poverty in North East Bangladesh
MDG	Millennium Development Goals
BDT	Bangladesh Taka
CSO	Civil Society Organizations
DAE	Department of Agriculture Extension
DCM	Decimal
DEW	Development Wheel
DLO	District Livestock Office
DOC	Day Old Chicks
FGD	Focus Group Discussions
GDP	Gross Domestic Product
HSC	Higher Secondary School Certificate
IPM	Integrated Pest Management
KII	Key Informant Interviews
LSP	Local Service Provider
NGO	Non Governmental Organization
SAAO	Sub Assistant Agriculture Officer
SSC	Secondary School Certificate
TX	Traidcraft Exchange

Glossary of Bangla Term

Sickle	A *sickle* is a hand-held agricultural tool with a variously curved blade typically used for harvesting grain crops or cutting succulent forage chiefly for feeding
Spade	A *Spade* is a hand-held agricultural tool with sharp blade typically used for land tillage operation, and weeding and other intercultural operations in the crop fields
Hoe	A *hoe* is a hand-held agricultural tool with a variously curved blade typically used for weeding and other intercultural operations.

EXECUTIVE SUMMARY

Project Name	Alleviating Poverty in North East Bangladesh (APONE)
Project Location	Bangladesh – Mymensingh and Sherpur districts
Project duration	36 months from 1st April 2012
Project budget	£965,348
Donors	DFID (Global Poverty Action Fund) – 75%, remainder from variety of funders
Implementing agency and partners	The project is managed by Traidcraft Exchange (TX) and co-implemented by Development Wheel (DEW) with 2 local Civil Society Organizations (CSOs) – Grameen Manobic Unnayan Sangstha in Mymensingh district and Rural Development Shangstha in Sherpur district.

Although Bangladesh is making progress towards achieving all the MDG targets, recent economic growth in the country has not led to poverty alleviation, particularly in rural areas (Overseas Development Institute, 2008). This has been exacerbated by the 2008 global economic crisis, volatile food and fuel prices and debilitating natural disasters which have had a significant negative impact on the proportion of people living in extreme poverty in the country (UNDP Bangladesh, 2009). It is estimated that the economic crisis pushed over four million people back into poverty, negating progress in achieving the MDGs (World Bank, 2010). This national picture is reflected across the northern districts of Mymensingh and Sherpur where poor households are isolated and consequently have few livelihood options compounding their progress out of poverty further. These communities fare poorly with regard to social and economic indicators. Large percentage (31%-55%) of the population lives below the poverty line and there is high level of malnutrition (50%-75% incidence of stunted growth amongst the target population). Per capita GDP in Mymensingh and Sherpur is £577 and £513 respectively, which is much lower than the national average of £684. Large population of vulnerable ethnic minorities and frequent natural disasters aggravate the vulnerability of the poor in these two districts.

Alleviating Poverty in North East Bangladesh (APONE) is an economic development programme operating in Mymensingh and Sherpur districts in North East Bangladesh. The project is co-implemented by Traidcraft Exchange (TX) and Development Wheel (DEW) with 2 local Civil Society Organizations (CSOs). APONE seeks to ensure sustainable livelihood options for poor and marginal communities, particularly women, in Northern Bangladesh through improving small-scale agriculture. The project aims to reduce costs of production, increase productivity and improve access to resources by organizing farmers and linking them to information, skills, services and markets. It is expected that APONE will benefit 30,000 poor and marginalized people of 6000 households (40% of which is headed by women) by increasing the household income by 50% from the baseline. Apart from

households, 300 service providers will indirectly benefit from increased capacity to provide appropriate and affordable services to farmers. Data on service providers from similar development programmes (SLIPP) has shown that trained service providers can deliver services to up to 50 farmers. Therefore, the 300 service providers will go on to provide benefits to a further 15,000 farmers and their family members (60,000).

This baseline study was conducted to develop an independent overview of the current status of the farmers, farm households, their economic activities and performance in the targeted region. The project can monitor and assess its progress and effectiveness during implementation and after project completion against these indicators. The respondents included 244 farmers and 12 key informants (government employees, retailers, NGO staffs and association leaders). Besides, 6 FGDs were conducted among 72 farmers for qualitative assessment. The information from the qualitative assessment was used along with the quantitative data to validate the responses.

Findings reveal that the average household size of the targeted beneficiaries is in the range of 4 to 5 with 1 or 2 members of the household being engaged in economic activities. The households have on an average 2 school going children above the age of 6. Level of education for the beneficiaries is in general low with only 16% males and 7% females having SSC certification. Most of the households' assets are in the form of livestock, followed by luxury goods such as motorcycles, TVs, bicycles etc. Agricultural assets owned in the form of agricultural tools such as Kaste (Sickle), Kodal (spade), Nirani(hoe) and most importantly Tractors and Power Tillers is very low.

In terms of land ownership, size of shared land (72 decimal) is much higher than owned land (45 decimal) or leased land (51 decimal). On average 13 decimals of land remains fallow in each season. In the regions surveyed, traditionally, land remains fallow between the two rice seasons. However, there is an increasing trend of vegetable cultivation in between two rice seasons. Majority (57%) of the male farmers are engaged primarily in crop farming with some engaged in livestock (27%) and fish (5.5%) farming. The women are mostly engaged in livestock rearing as their primary occupation. A large percentage (56%) of the respondents reported that they do not have any secondary occupation. Women from the ethnic communities are found to be more active and hardworking. Thus in areas with ethnic dominance, women are found more actively participating in economic activities, while areas with lesser ethnic presence, both ethnic men & women are found participating equally in economic activities.

Average income of the surveyed farmers is approximately BDT 56,441 per annum with average household expense of BDT 55,194 per annum. Food accounts for most of the household expenses (BDT 34,658 / year). Around 56.5% of the household income is earned from agriculture. Only 40% of the farmers have savings and 15% have insurance.

The most prevalent cropping pattern in the area is Rice-fallow-Rice followed by Rice-Vegetables-Rice. Inputs and information regarding cultivation practices are mostly received from input retailers (69%). The farmers in the region consult input retailers for information on inputs, cultivation techniques, price, soil management etc. Most farmers reported to be

satisfied with the information received from the retailers. The state of public service is generally poor in the area.

Use of chemical fertilizer is found to be very high in the surveyed region. Micro nutrients are rarely used while organic fertilizer is mostly ignored. Majority of the farmers (72%) use packet seeds along with loose seeds. The sources of seeds are usually retailers (82%) followed by seeds from own production (19%). There is more prevalence of use of high yielding varieties (43%) than traditional varieties (41%) and hybrid varieties (30%). For livestock inputs, retailers are again the preferred source. Day Old Chicks (DOC) and heifers are usually retained from own production or bought from neighbors

Vegetable production is reported to be more profitable than rice production (BDT 12345 per cycle for vegetable cultivation in 100 decimal land as opposed to BDT 3119 for rice cultivation per cycle in 100 decimal land). Cost of leasing land and cost of labor account for most of the cost for vegetable and rice production. Labor in the area is rare, especially casual labor which is usually expensive. Male labors are paid BDT 277 to BDT 295 per day as opposed to BDT 129 per day for female labors. More male labors are hired than female labors. Overall, 56% of the farmers interviewed reported having hired labor for their cultivation practices.

Around 45% of the survey respondents reported of using number of post-production techniques such as sorting, grading, drying and cleaning. However the majority of the farmers (around 55%) responded that they do not do any kind of post production. Packaging is also not a common practice amongst the respondent farmers. Marketing of produce by farmers are very rudimentary in the areas surveyed. Collective buying (inputs) or selling (produce) was not observed. Farmers mostly sell directly to the paikers or wholesalers in their village and are not linked directly with any processors or regional buyers. No farmers organization was found that could have helped the farmers on collective selling. Lack of group cohesiveness leadership has been reported to be the major barrier in forming farmer groups. According to the farmers, price for their produce is generally low, leading to low revenues compared to their production costs.

No local or regional associations were found. However 92% of the farmers surveyed showed interest in joining groups for group buying and selling, negotiating with government offices etc. Farmers are mostly members of micro credit organizations such as GRAMAUS and CARITAS. Reflecting the poor state of group formation, most farmers interviewed do not know much about government policies and activities in their areas. Only 17% farmers reported of knowing about such activities and even amongst them, only 13% reported to have benefitted from such activities. Respondent farmers suggested that the government should increase the number of SAAOs (block supervisors) and government facilities to address poor service quality of the public sector.

Farmers in the surveyed areas do not have any form of protection (such as savings or insurance) which could insulate them from external shocks and seasonal variations in production, market demand and market price. Moreover, they reside in areas which are prone to adverse effects of climate change, the most common ones being erratic rainfall,

drought and flash floods. To deal with such effects, the farmers engage in overuse of chemical inputs, which in turn exacerbates environmental degradation. Farmers are not aware of techniques that could be used to mitigate the adverse effects of climate change. The farmers also reported having no sources of information in their localities about the sources of information needed to deal with such changes.

Overall, the baseline report presents a picture of a remote area in North East Bangladesh with a large majority of poor households, majority of who live at less than $1 a day while supporting 5 members. With low productivity, poor access to services and little government help, the target area looks ideal for APONE to operate in and bring about change in the form of economic empowerment.

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[1] The cost breakdown is an average across guords, onions, chillies, and radishes

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CHapter 1: introduction

1.1 Project Background

Although Bangladesh is making progress towards achieving all the MDGs, recent economic growth in the country has not led to a major fall in poverty, particularly in rural areas (Overseas Development Institute, 2008). This has been exacerbated by the 2008 global economic crisis, volatile food and fuel prices and debilitating natural disasters which have had a significant negative impact on the proportion of people living in extreme poverty in the country (UNDP Bangladesh, 2009). For example, it is estimated that the economic crisis pushed over four million people back into poverty, negating progress in achieving the MDGs (World Bank, 2010).

This national picture is reflected across the northern districts of Mymensingh and Sherpur where poor households are isolated and consequently have few livelihood options compounding their progress out of poverty further. These communities fare poorly with regard to social and economic indicators. Large percentage (31%-55%) of the population lives below the poverty line and there is high level of malnutrition (50%-75% incidence of stunted growth amongst the target population). Per capita GDP in Mymensingh and Sherpur is £577 and £513 respectively, which is much lower than the national average of £684. Large population of vulnerable ethnic minorities and frequent natural disasters aggravate the vulnerability of the poor in these two districts. The major problems faced by the farmers in these two districts are reported to be:

- Limited skills and access to services, resources, information, technology and markets.
- Lack of interest amongst private sector actors to invest in developing the forward and backward linkages for small scale agriculture and marginalized farmers
- Poor bargaining and negotiating capacity of the small scale and marginalized farmers
- Absence of climate adaptive and environment friendly agricultural practices
- Lack of preparedness to mitigate shocks or stresses (financial, environmental, etc).
- Depletion in ground water levels resulting in high costs of irrigation.
- Declining soil fertility because of excessive use of chemical fertilizers
- Poor policy implementation and lack of awareness amongst the farmers of the benefits of the policies

These problems result low productivity and quality which consequently reduces the market price and profitability because of high cost of production (e.g. transportation, equipment rentals, storage of harvest). Farmers lack the volumes and capacity to bargain for better prices, face discrimination in accessing government services (especially women and ethnic minorities). This, along with frequent threat of crop-failure and loss of fish/livestock leads to distress sales, creates high levels of food insecurity and extreme poverty, forcing many people into low-paid seasonal agricultural employment. Women from ethnic minorities face further problems from wage discrimination (84p per day compared to the usual rate of £1.25 per day).

Some government programmes do assist farmers, but an inefficient service delivery system means the most disadvantaged of the populace are often the ones unable to access them. For example, in a sub-district of Mymensingh 60 Sub-Assistant Agriculture Officers (SAAOs) are trying to cover 20,000 farmers at a ratio of 1 SAAO for 333 farmers, which is untenable when working with farmers on an individual basis. Levels of private service provision are also extremely low as private sector actors (e.g. input manufacturers) struggle to provide services to huge numbers of farmers scattered across rural areas and often do not see viable business potential with small-scale farmers. Finally gaps in information dissemination to farmers on new technologies/practices exist as research institutions do not have a mandate for this.

Alleviating Poverty in North East Bangladesh (APONE) is an economic development programme operating in Mymensingh and Sherpur districts in North East Bangladesh and co-implemented by Traidcraft Exchange (TX) and Development Wheel (DEW) in conjunction with 2 local Civil Society Organizations (CSOs). APONE seeks to ensure sustainable livelihoods for poor and marginal communities, particularly women, in Northern Bangladesh through improvements to small-scale agriculture. By organizing farmers and linking them to information, skills, services and markets, the project aims to reduce costs of production, increase productivity and improve access to resources. It is expected that the implementation of APONE will lead to a 50% increase in income, directly benefiting 6,000 households (40% women) and their families (30,000 people). Apart from households, 300 service providers will indirectly benefit through increased capacity to provide appropriate and affordable services to farmers. Data on service providers from similar development programmes (SLIPP) has shown that trained service providers can deliver services for up to 50 farmers. Therefore, the 300 service providers will go on to provide benefits to a further 15,000 farmers and their families (60,000).

The project is based on the recognition that small and marginal farmers in Bangladesh face a number of challenges which mean that productivity, quality and prices are low, while costs are high. Addressing these issues can only be done effectively by increasing access to vital knowledge, information, services, skills, equipments and inputs from private and public service providers. It is also crucial to engage with private companies and the government creating a win-win situation for all concerned. Ensuring better agricultural governance and improved access to rights and markets will increase farmers' incomes, produce more sustainable livelihoods and contribute towards poverty reduction targets. In order to achieve this aim several approaches will be taken simultaneously:

- *Creating and building the collective power of small and marginal farmers.* Organizing small and marginal farmers into groups enable them to utilize their collective power to voice, negotiate and attain their rights and services from other stakeholders (public and private service providers, local authorities and other value-chain actors).It is estimated that at the end of the project, 75% of farmer groups would be taking collective actions; 50% of farmer groups would have negotiated better services with local authorities and other local stakeholders for improved resources and services; and at least 90% of farmers would have positive perceptions, based on benefits received, about membership in local groups.

- *Increasing recognition of farmers' needs amongst Government and private sector stakeholders.* The project raises awareness amongst public and private sector bodies

and local authorities of the problems facing small and marginal farmers. APONE aims to empower district and regional farmer associations that are represented on relevant agriculture-related committees by virtue of which they can negotiate at least 4 instances of improvements in policies, implementation and/or resources for farmers; alongside these changes in the business environment, APONE would also help 250 private service providers (input selling companies) and 50 public service providers (Government extension officers/departments) develop appropriate and affordable services for small-scale farmers. The aforementioned changes in the business environment and capacities of service providers is expected to lead to at least 75% of farmers perceiving the benefits from membership of district or regional associations.

- *Improving farmers' production practices and market access.* The project seeks to establish linkages between service providers and farmer groups to ensure farmers access to appropriate and affordable agricultural services to help them improve cultivation practices, increase productivity, reduce costs and improve quality. In terms of results through this approach, APONE seeks to improve the following aspects of target area farmers' livelihoods: 80% of farmers see a 15% decrease in production costs; 75% of farmers see a 30% increase in productivity; 75% of farmers see a 30% increase in sales by building linkages between groups and associations with output traders; 75% of farmers indicate satisfaction with the services received.

- *Reducing farmers' vulnerability to environmental and financial shocks and stresses.* Lastly APONE seeks to reduce vulnerabilities to environmental and financial shocks and stresses as it is crucial towards ensuring the sustainability of people's livelihoods. The project seeks to assist farmers to adapt their cultivation practices so they are more resilient to shocks and stresses, especially natural disasters. As a result of such support from APONE, it is expected that by the end of the project, 80% of the target area farmers would have diversified their production and/or adopted more environment friendly cultivation practices; 50% of farmers would have reported an increase in soil fertility; and at least 90% of farmers would be covered by safety measures (i.e. saving schemes, insurance, involvement in a community fund).

1.2 Objective of the Study

The purpose of this baseline study is to provide an independently assessed information base against which to monitor and assess the project's progress and effectiveness during implementation and after project completion. The framework of the study is based on the project Log Frame (attached as annex x), which includes the expected project outputs, the indicators of achievement and the potential sources of information. The baseline study will seek to provide the basis for subsequent assessments of how efficiently the activity of the project is being implemented and the eventual results of the project. The mid-term review and final project evaluation for APONE will also use the baseline report as the reference against which all progress in the key result areas are measured.

CHAPTER 2: METHODOLOGY

2.1 Sampling Plan

Through its activities APONE seeks to engage 6,000 households (small and marginal farmers owning less than 0.3 hectares of land) and their families in Mymensingh and Sherpur districts in an effort to provide direct benefits from the project. At least 40% of these will be women-headed (2400) and 30% will be from the Garos, an ethnic minority group (1800). With an average household size held at 5, it is expected that APONE will benefit 30,000 people directly. The principal areas of operation for APONE would be two districts in the North East of Bangladesh i.e. Mymensingh (Fulpur, Haluaghat and Dobhaura sub-district) and Sherpur (Jhanaigathi, Sadar and Nokla sub-district).

In light of this, the sampling plan has been customized to reflect the purposive inclusion of certain demographics of beneficiaries such as ethnic minorities, widows, divorcees and female headed households, as well as the fact that the project mainly seeks to work with small and marginal farmers. As such, the sampling plan was biased in selecting farmers within a particular range for farm land owned (below or at 73 decimals of land) and having agriculture as their sole source of income in most cases. Of the surveyed group, 57% respondents were male and 43% female. In terms of ethnicity, 8% of the male respondents were of ethnic origin and 32% of the female respondents belonged to ethnic minorities. The sample distribution for location for the study is presented below:

Table 1 Table of farmer sampling for baseline study (actual)

District	Sample Size
Mymensingh	119
Sherpur	125
All	244

Respondents also included government officials and input retailers. Of them 7 were government officials from the agriculture or livestock services while one was a local government member. Five (5) input retailers were interviewed, of whom 4 were agriculture input sellers and 1 was a livestock feed and medicine seller.

As per the plan, 120 producers were interviewed as control group during the study. However, during the field survey, it was revealed that all the control group respondents are willing to join the producer's groups created by the project. Since it is highly likely that these respondents will be involved in the project activities in the future, Traidcraft decided to exclude the findings of the control group from the final report.

2.2 Survey Tools

Desk Review: The baseline study has been conducted in a participatory manner to bring the multiple perspectives from key stakeholders in assessing the current situation of the target beneficiaries and the context within which the project is located. The study methodology included a desk review of key documents on the project itself as well as relevant available secondary sources of information.

244 farmers were interviewed to collect the baseline data

Preliminary field survey: On completion of the desk review, the study team conducted a small preliminary survey to collect further information on seasonality, prevailing political conditions, state of the local economy as well as recent political or natural upheavals and economic shocks.

Questionnaire Development: Findings from the desk review and preliminary field survey were used to design and develop the questionnaire for the survey as well as the other survey tools used for this study. The questionnaire was first pretested and then implemented on the target population for the study. Appropriate quality control steps were put in place to ensure the accurate and unbiased collection of data from respondents before the data was used for analysis.

Six FGDs were conducted involving 72 farmers to gather qualitative information that were used to analyze and validate the quantitative data

Primary Survey: The primary survey involved 244 farmers, 6 FGDs (with 72 farmers) and 12 Key Informant Interviews.

See ANNEX 3 for details of the Survey Tools.

CHAPTER 3: BASELINE DATA

3.1 DEMOGRAPHICS

The average family size observed of the respondent households is 5 (appx.). About 2 members of respondent households are engaged in economic activities and have 2 children above the age of 6 who go to school. Around 50% of households reported to have one enterprise (farming, business etc.) and rest having two enterprises.

Rate of illiteracy is high among the male respondents (22%) than the female respondents (13%). Female respondents also scored high for education up to the level of class 8 and class 8-10. However, male respondents fared well in terms of passing out SSC and HSC. While respectively 11% and 5% of the male respondents have passed SSC and HSC respectively 5% and 2% of the female respondents have passed SSC and HSC (Table 2).

Table 2: Literacy levels of survey respondents

	Literacy levels of Survey Household Members	
	Male	Female
Illiterate	22%	13%
Can sign only	23%	29%
Below class 8	22%	30%
Class 8 to 10 pass	15%	21%
SSC passed	11%	5%
HSC passed	5%	2%
Graduate	1%	0%

Most of the respondents consider rice as their staple diet with over 90% of the respondents having rice three times a day. Consumption of vegetables, fish, pulses and milk is found to be moderate while consumption of egg, meat, chicken and fruits is found to be low. Over 60% of respondents surveyed reported to having sought treatment from both village doctors and Upazila hospitals. The next most availed source of medical treatment is Pharmacies (16%). Very few (9%) respondents have had treatment from District Hospitals.

Most of the farmers (67%) live in house constructed with Tin. Around 23% of the farmers live in katcha (mud) houses. About 60% of the surveyed household is found to have Ring Slab toilet system. The rest of the households covered in the survey have a mixture of katcha (mud) and pucca (brick and mortar) toilets. 18% of the respondents reported as having katcha toilets. 93% households from the survey group reported having tube well as their source of water. Shallow tube well satisfied the demands for drinking water for the remaining households.

Levels of household assets are seen as an important indicator to economic wealth. In line with this, respondents of the survey were asked about the resources they have in their

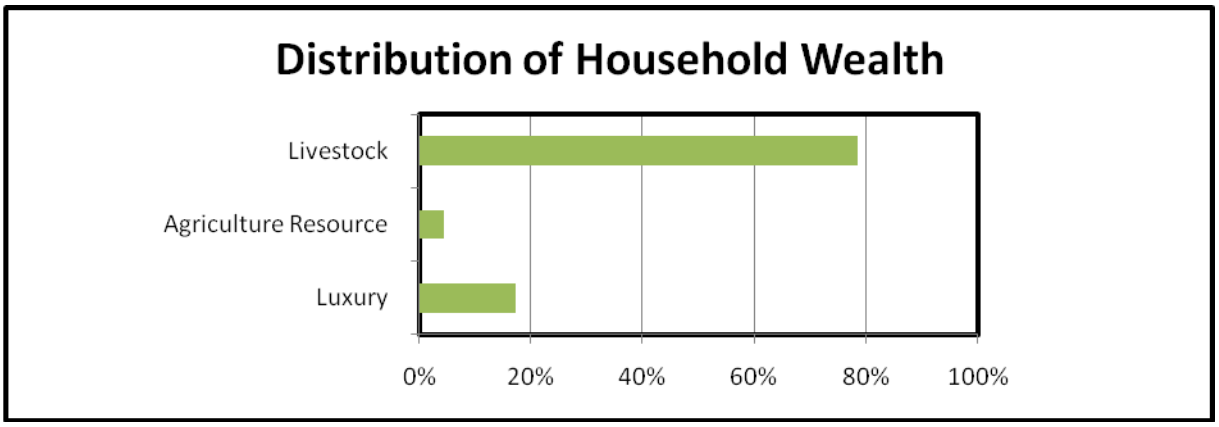
household ranging from agricultural implements and livestock to luxury goods such as motorcycles and TVs. The four most prevalent resources found in respondent households are cellular telephones (74%), basic agricultural implements (71%) such as kodal (sickle), nirani (spades) and kaste (hoe), cows (55%) and chicken (50%). 72.5% respondents reported owning both a cellular phone as well basic agricultural implements. Similarly, 53% respondents reported owning a cow as well as chicken. 36% of the respondents are found owning bicycles while only 2% are found owning motorcycle.

Most of the households' assets are in the form of livestock, followed by luxury goods such as motorcycles, TVs, bicycles etc. The amount of assets owned in the form of agricultural resources such as kaste, kodal, nirani (sickle, spades and hoe) and most importantly Tractors and Power Tillers are relatively small in the survey group. The low average value of agricultural resources suggest that the farmers do not use any sophisticated agricultural machinery such as Tractors or Power Tillers and are mostly confined to using basic implements, which are not very expensive (Table 3).

Table 3: Wealth values of different household assets

Type of Household Wealth	Amount of Money per Wealth Category
Luxury Goods (BDT)[2]	3,000
Agriculture Resource (BDT)[3]	750
Livestock (BDT)[4]	13,650
Total Resources (BDT)	17,400

Figure 1: Distribution of household assets



In the areas surveyed for the baseline report, the average land size (own land[5]) is 45 decimals. However, the farmers have access to leased land[6] and shared land. Also most farmers have some land around their homesteads which would be suitable for homestead gardens used mostly for household consumption purposes. Prevalence of shared land (72

[2] Luxury goods: TVs, Motorcycles, Bicycles.
[3] Agricultural Resources: kaste, kodal, nirani, power tiller, tractor.
[4] Livestock: cow, goat, poultry and duck.
[5] Own land: land with titles and documented ownership
[6] Leased land: land leased from larger farmers in the area or landlords

decimal) is higher than leased land[7] (Figure 2). The traditional practice is to keep land fallow in between two rice seasons. However, due to the advent of vegetable cultivation and the view that vegetable cultivation is more profitable, farmers have shown a tendency to squeeze in a vegetable season between the two rice seasons. The spread of this practice could lead to the gradual decline of fallow land to a minimum.

Table 4: Levels and categories of land belonging to the survey group respondents

Land Type (decimal)	Land Size (dcm)
Own land	45
Leased land	51
Shared land	72
Homestead	16
Fallow	13

Figure 2: Categories of land types by usage amongst farmers

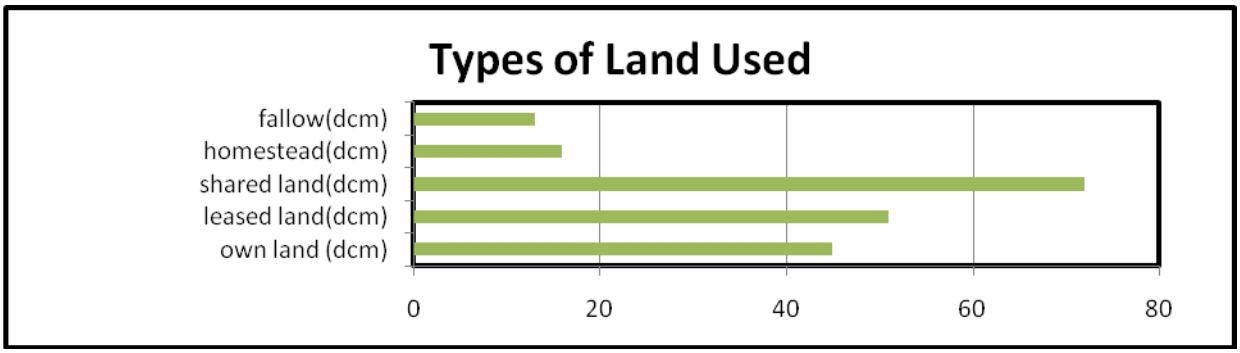


Table 5: Percentage distribution of respondent farmers across the various land types

	Mymensingh	Sherpur
Own	48%,	57%
Own/ leased	3%	3%
Leased	5%	6%
Own/ shared	15%	6%
Shared	22%	12%
Homestead	39%	55%
Fallow	7%	0%

Majority of male respondents (57%) in the survey groups are engaged in crop farming (57%) as their primary occupation followed by maintaining livestock (27%). There are a few respondents who replied being engaged in fish farming (5.5%) and labor (1%). The picture is reversed for the female respondents (Table 6). Majority of the female respondents are engaged in tending livestock while a few also participates in crop farming. In ethnic communities however, men and women are equally active in agriculture. In terms of secondary occupations, a large proportion (57%) of the surveyed population reported to have no secondary occupations. Among the rest, largest number of people is involved in

[7] Shared land: land shared between neighboring farmers or between family members

business (17%) and labor (12%). Besides, men are more involved in secondary occupation than women (Table 7).

Table 6: Distribution of respondents for primary occupation

Types of Occupation	Farmer Distribution	
	Male	Female
Crop Farmer	86%	35%
Fish Farmer	8%	4%
Livestock Farmer	6%	59%
Business	0%	0%
Labor	0%	1%
Job/service	0%	1%
Others	0%	0%

Table 7: Distribution of respondents for secondary occupation

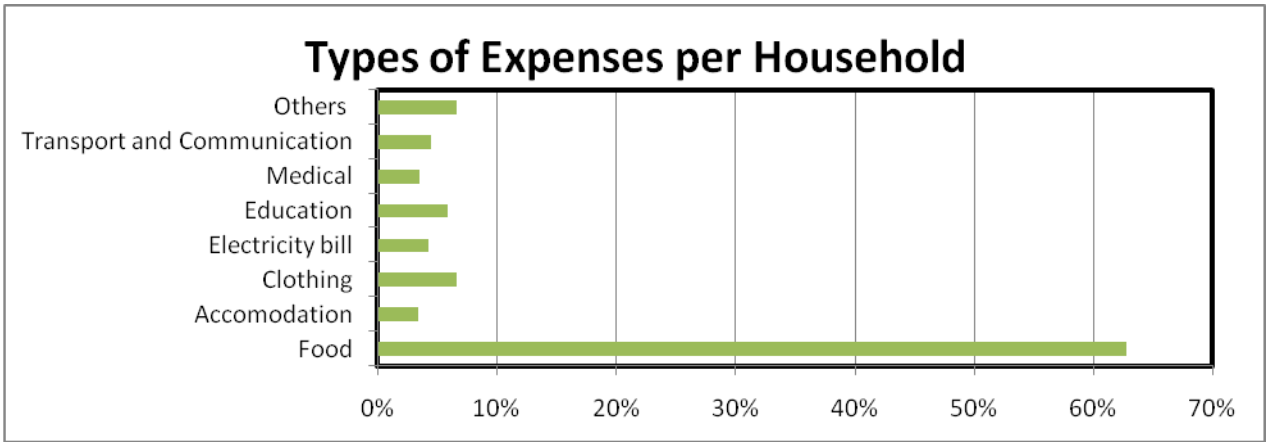
	Farmer Distribution	
	Male	Female
Crop Farmer	7%	8%
Fish Farmer	4%	2%
Livestock Farmer	7%	5%
Business	18%	7%
Labor	10%	9%
Job/service	6%	4%
Fishermen	1%	0%
No secondary occupation	46%	65%

One of the key objectives of the baseline study is to establish a validated and extensive baseline for measurements of future income impacts due to project activities. As such, heavy emphasis was put on this topic to capture the true characteristics of a household's expenses and income behavior. It has been observed that the most important source of expenses is food (34,658) for the household followed by education (4,016) and clothing (3,894) (Table 8, Figure 3).

Table 8: Detailed breakdown of household expenses

Types of Expenses	Amount per Expense Category (per annum)
Food (BDT)	34,658
Accommodation (BDT)	2,154
Clothing (BDT)	3,894
Electricity bill (household)(BDT)	2,071
Education (BDT)	4,016
Medical (BDT)	1,691
Transport and Communication (BDT)	2,456
Others (please specify)(BDT)	4,256
Total Expenses(BDT)	55,194

Figure 3: Types of expenses per household



The average income of a respondent household is BDT 56,441 per year (Table 9). Deducting the yearly expense from average yearly income we see that respondents are left with BDT 1247. But we also see that a substantial percentage of respondents have taken loan. This suggests that there are some expenses which may not have been reported by the respondents and skipped their attention unintentionally. This may included expenses on social interaction; short distance travel, religious occasions, cigarette-gul etc.

Table 9: Detailed percentage distribution of farmers across various annual income brackets

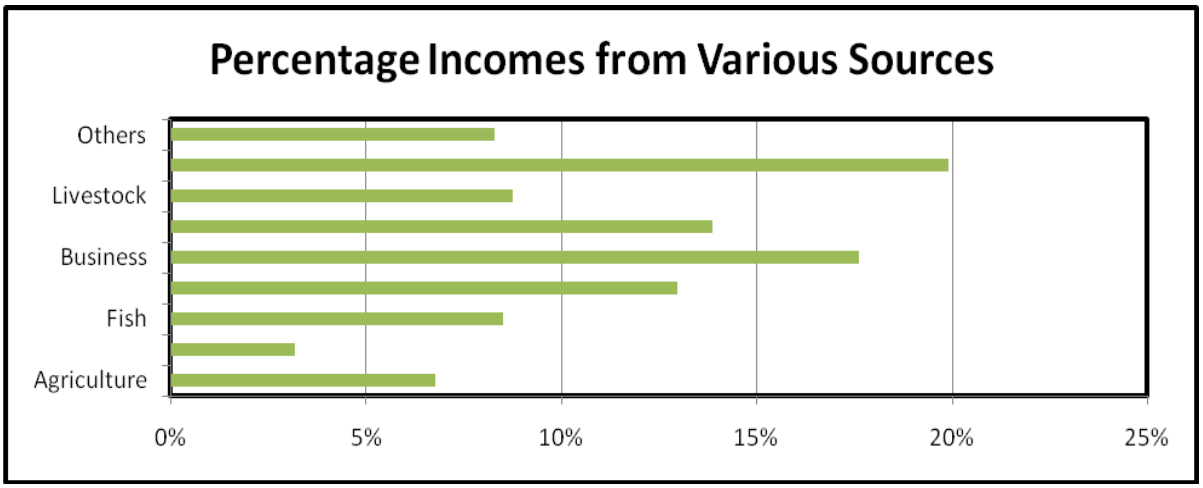
Annual Household Incomes (BDT/per annum)	Percentage distribution of households
<25000	21%
25000-50000	25%
50000-75000	27%
75000-100000	18%
>100000	9%

The findings suggest that ***96% respondents in the survey group live just below or at $1 a day*** while having to support an average household size of 5 persons. Most income is derived from occupation like agriculture (Table 10). That accounted for nearly 56.5% of income for a household. Labor, business and services provided small amounts of income to households (less than 15% cumulative). During FGDs conducted in the area, it was found that the farmers suffered from lack of knowledge and farm management skills, disconnection from markets and entrenched traditional methods which reduced the household income. The farmers don't get much support from the public –service provider such as SAAOs and DLOs. The SAAOs visit the farmers infrequently while the DLOs are being even less visible.

Table 10: Contribution (%) of the various sources of income for farmers in the area

Sources	Contribution%
Agriculture	56.5
Labor	10.6
Business	15.1
Services	8.9
Rickshaw	1.8
Others	7.1
Total	100

Figure 4: Distribution of income from various sources



Majority of the respondents do not have any forms of savings or insurance (Table 11). Around 60% of respondents replied having no savings and a higher percentage, 85% replied having no insurance. The average savings of the respondent farmers is BDT 3,346. In terms of average insurance size, farmers reported to having BDT 2,171 as insurance (such as life insurance). The lack of savings or insurance could be attributed to the low levels of disposable income.

Table 11: Percentage of respondents having savings or insurance

	Savings		Insurance	
	Yes	No	Yes	No
Farmer Responses	39%	61%	8%	92%

Because of lack of savings most of the respondent farmers (almost 100%) do not have a safety net to protect them from natural or artificial shocks and trends. In terms of debt, most farmers surveyed are part of micro-credit organizations. However, during FGDs it was observed that a lot of farmers are involved with informal loans from wealthy locals, such as *Dadon*, which exacerbated the debt of the farmers.

3.2 PRODUCTION TRENDS

3.2.1 CROPPING PATTERN: Crop production and livestock rearing are the major economic activities of the farmers. The crops included rice and vegetables while livestock included cows, goats, poultry and duck. Rice is the major crop and is grown twice a year. Although traditionally, land is kept fallow between those two rice seasons, due to the advent of more profitable vegetable cultivation there has been a shift in the effort to accommodate a vegetable season between the rice seasons. Although new and the incidence is low, in some areas, where it is not feasible to incorporate vegetable in between two rice seasons, farmers are skipping one rice season to cultivate vegetable.

Women washing Cucumber after picking from field

The prevalent cropping patterns in the areas surveyed are:

- Rice(Boro)- Fallow- Rice (T.Amon)
- Rice (Boro) – Vegetable- (T. Amon)
- Rice (Boro) – Mustard- (T. Amon)

3.2.2 INPUTS

Levels of awareness and the practice of soil testing is generally low amongst farmers (Table 12). In terms of service provision, DAE is cited as the leading service provider for soil testing as well as information on soil management. An average of 69% out of 27% farmers, who are aware of soil fertility issues, responded using DAE as the primary source of soil fertility information. 24% of farmers, who are aware, reported going to SRDI for information. ***Information from SRDI's database showed that the presence of organic matter is less than 1% in that region. This information was further validated from key informant interview of SRDI officials and they stated that average organic matter content of the soil is around 1% in the project area but optimum value is 5%***. The lack of private sector service providers on the issue of soil fertility management is quite noticeable. Only 14% of the respondents, who are aware of soil fertility issues, go to private service providers for information.

Table 12: Levels of awareness and practice of soil testing amongst farmers

	Awareness		Soil Testing	
	Aware	Not Aware	Tested	Did not test
Farmer Responses	27%	73%	***0%***	***100%***

Unlike soil testing, seed and fertilizer are the two topics of discussion that is most prevalent in terms of inputs among farmers. The other inputs considered in the survey are pesticides and finance.

There are significant variations in the levels of usage of various fertilizers in between the two survey areas. This could be symptomatic of the low levels of knowledge about soil fertility and soil management in the locality.

Around 80% respondents in the survey group reported of using Urea, TSP and Potash with a lower percentage of respondents, 32% reporting usage of DAP (Table 13). Zinc and Gypsum are mostly used micronutrients followed by cow dung as the organic matter. However, over 50% of the respondents from both areas reported that they do not use micronutrients. Similar trend is observed in the usage of organic fertilizer. Overall, the usage of chemical fertilizer is higher compared to the usage of organic fertilizer or chemical micro-nutrients.

Table 13: Detailed breakdown of fertilizer usage amongst surveyed farmers

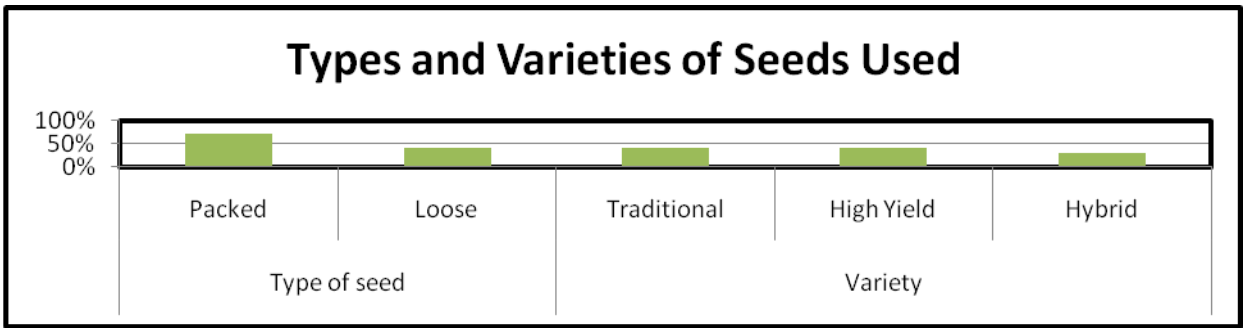
Fertilizer	Mymensingh	Sherpur	All
Chemical Fertilizer			
Urea	70%	97%	86%
TSP	68%	94%	83%
Potash	62%	91%	79%
DAP	23%	38%	32%
Don't use	**2%**	**3%**	**2.5%**
Micro nutrient			
Zinc (Dosta)	33%	47%	41%
Gypsum	15%	25%	21%
Boron	13%	8%	10%
Magnesium	2%	2%	2%
Don't use	**59%**	**50%**	**53%**
Organic fertilizer			
Cow dung	51%	84%	72%
Compost	12%	14%	14%
Don't use	**49%**	**8%**	**25%**

Significant (72%) percentage of the farmers used packet seeds (Table 14, Figure 5). In terms of variety, high yield and traditional varieties are slightly favored over hybrid varieties of seed. There is however a large percentage of farmers who also reported using loose seeds. As such, there exists a large gap between the ideal situation of quality seed usage and the reality.

Table 14: Distribution of respondents in terms of seed type and variety

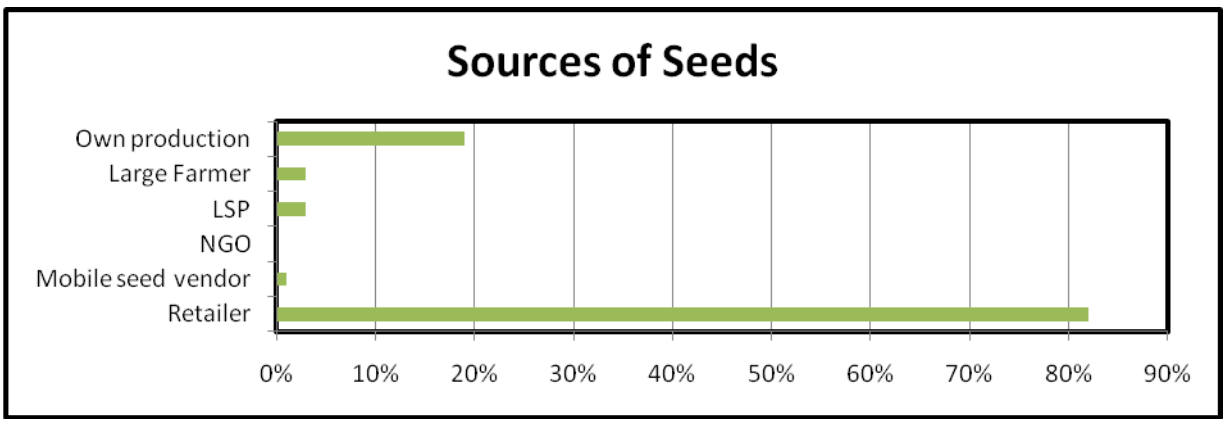
	Type of seed		Variety		
	Packed	Loose	Traditional	High Yield	Hybrid
Farmers	72%	41%	41%	43%	30%

Figure 5: Distribution of respondent farmers in terms of seed type and variety



Retailers are the primary source (82%) for seeds. Nineteen percent (19%) of the farmers reported that they use retained seeds. Less than 5% of farmers visit large farmers in their area or Local Service Providers (LSPs) for seeds (Figure 6).

Figure 6: Distribution of respondent farmers in terms of sources of seeds



Retailers are also the most visited source for insecticides and pesticides in both areas of Mymensingh and Sherpur. Ninety Eight percent (98%) of the respondents reported to have got their pesticides and insecticides from retailers. ***204 business service providers (retailers and others) trained through SLIPP project in Mymensingh and providing cost effective embedded services to the farmers.***

Respondents were found to be not much aware of IPM. Nineteen Percent (19%) of the respondents reported positively about IPM awareness and only 8% of the respondents answered using IPM in their cultivation practices. In general, the survey farmers seemed to have received more information about IPM from NGOs compared to from other sources of information. DAE plays a smaller role in providing such information (Table 15).

Table 15: Distribution of respondents for sources of information on cultivation practices and about inputs

	Inputs information	Cultivation practices
DAE	2%	2%
Retailer	69%	69%
NGO	6%	6%
Lead farmer	25%	25%
Trader	2%	2%

Retailers are the most often cited source of information for both inputs as well as cultivation practices followed by lead farmers. DAE scored poorly in terms of being an accessible source of information on inputs and cultivation practices.

Inputs related to poultry and livestock are mostly feed, medication, heifer and day old chicks. Labor, both self and hired is also reported as another major input for them. Natural feed is the most preferred type of feed for poultry and livestock with around 80% of the survey group reporting positively about them (Table 16). Use of medicine is significant in the area with around 60% of the farmers using them. Medicine shops and para-vets scores highest in terms of choice of farmers for service providers. Seventy two percent (72%) of the survey group farmers reported visiting the medicine shops for livestock and poultry inputs while around 15% reported visiting the paravets. Only about 12% of the respondent farmers reported of visiting the District Livestock Office (DLO) for livestock inputs.

Table 16: Farmers' preference of feed, medicine usage and service providers for livestock and poultry

Feed	Farmers
Natural feed[8]	95%
Loose feed[9]	48%
Ready feed[10]	11%
Medicine usage	
Yes	61%
No	39%
Service provider	
DLO	12%
Medicine shop	72%
Paravet	15%
NGO	6%

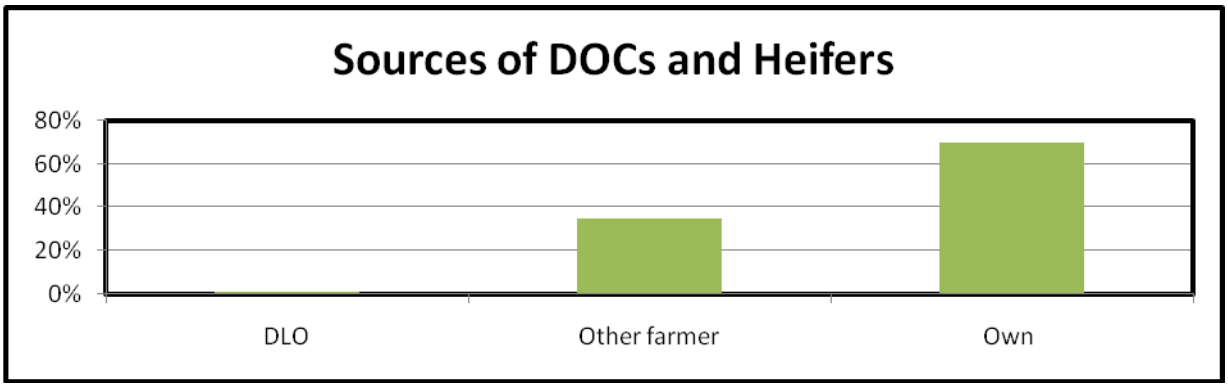
For heifer or Day Old Chicks, farmers mostly prefer their own production followed by their neighbors' (Figure 7).

[8] Natural Feed: Feed available in free-range rearing grounds

[9] Loose Feed: Home-made mixtures of feed ingredients

[10] Ready Feed: Packaged feed manufactured by feed selling company

Figure 17: Leading sources of heifer and day old chicks for farmers in the survey area



Even though demand for information on inputs (92%) and soil management (76%) is high access to such information is very low. Only 43% of the respondents who sought information on inputs and only 11% of those who sought for information on soil management had access to such information. Level of satisfaction on the information is also very low as respectively 45% and 13% of the farmers who received information reported that they were satisfied with it. In general supply of services is much lower than the demand and the satisfaction on services is tends to be low (Table 17).

Table 17: Demand, supply and levels of satisfaction regarding services

	Demand	Supply	Satisfaction
Information on inputs[11]	92%	43%	45%
Information on soil management	76%	11%	13%
Knowledge on improved cultivation practices[12]	91%	27%	24%
Access to finance	92%	39%	43%
Access to infrastructure[13]	83%	8%	14%
Access to equipment and machinery[14]	85%	71%	55%
Access to subsidy[15]	85%	23%	19%
Access to market information	86%	18%	28%

The observations on service provision paint a picture of the presence of an active private sector in terms of services, information and products. The importance of retailers as principal service providers are also confirmed through FGDs and KIIs. Farmers prefer retailers over other service providers because of their accessibility and availability. However this accessibility and availability also comes with a price. Farmers, during FGDs, reported cases of adulteration of inputs such as seeds, fertilizer and pesticides. Farmers also mentioned that as they go to retailers for information about inputs and cultivation practices, sometimes they get wrong or inadequate advice. Interestingly, despite these issues, farmers are found

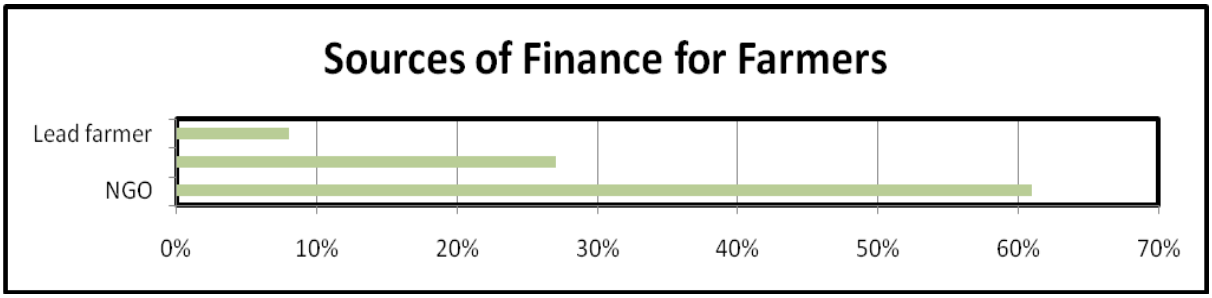
[11]Seed, fertilizer, pesticide etc
[12]Crops, fish, Livestock
[13]Roads, market, storage, electricity etc
[14]Power tiller, shallow machine, spray machine etc.
[15]Fertilizer, diesel, electricity

to be generally satisfied with the level of services that they get which might be because of the fact there are not many sources from which they can avail such information and services.

A typical private sector agricultural input retailer in the areas surveyed sell seeds, pesticides and fertilizer. Some also sell small farming equipment such as sprayers. They tend to cover the entire Thana (Upazilla) where they have their shops and cover a mixed range of big and small customers. Retailers with more marginal farmer customers have a larger client base. Their client base typically comprises of 1500 to 2000 farmers with around 50% to 60% as fixed customers. Livestock feed and medicine retailers have lower client bases spanning approximately 400 to 500 customers with 10% of them as fixed. The retailers usually provide services which comprise of product, information on product as well as credit on products purchased. In the latter however, the retailers are not so eager about. In the areas surveyed, as farmers are usually marginal, the retailers often have problems recovering the credit made available to the farmers.

NGOs are the primary sources (61%) of finance for farmers surveyed followed closely by banks (27%). In some cases, around 10% of the farmers approach large farmers for loans. As mentioned earlier, farmers also take informal loans from local wealthy residents or big traders. However, these loans come with higher interest rates, risky collaterals and distress sales which result lower price for the farmers in comparison to the market price. Additionally, since the price is usually fixed beforehand, the farmers are deprived of benefitting from higher market price (due to supply and demand situations) during the harvesting season.

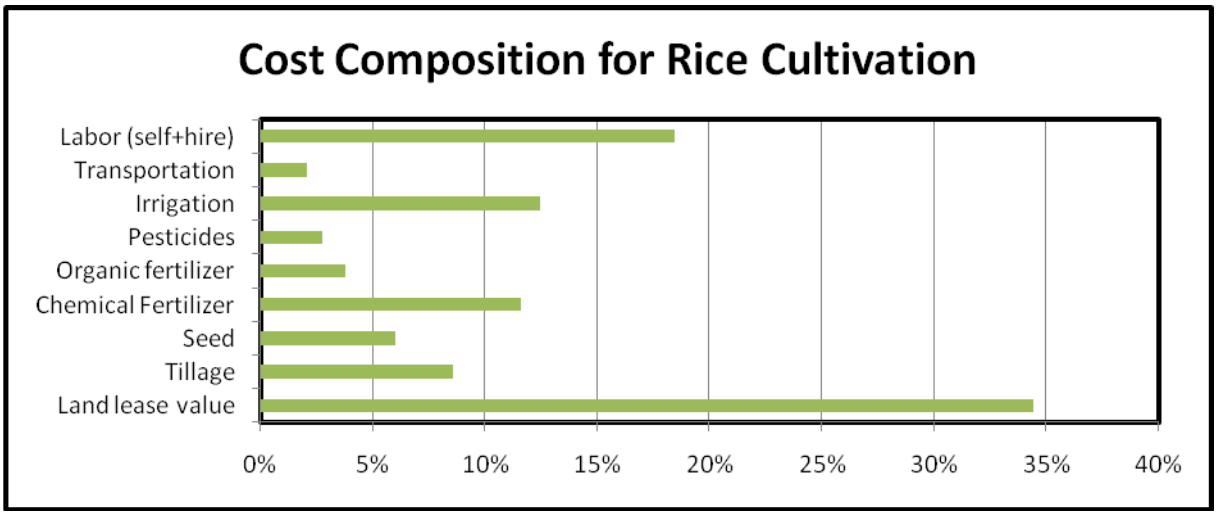
Figure 7: Distribution of respondent farmers in terms of sources of finance



3.2.3 CROP PRODUCTION

Since rice and vegetables are the two most common crops in the surveyed region, we focused on these two crops for the cost-benefit analysis. Nearly 40% of the total cost of production is for leasing land while 20% is for labor. Approximately 12% of the total cost of production is for fertilizer and irrigation. However, it should be noted that only 5% of the responded farmers lease land for rice cultivation because of low profitability from rice cultivation. Approximately 56% of the respondent farmers reported that they hire labor for rice cultivation. During the FGDs and KIIs it was observed that the areas surveyed are suffering from water shortage which has been driving up the prices of irrigation. As a result, it can be expected that if climactic conditions prevail as they have been, the cost of irrigation could go up even higher. These costs are closely followed by tillage and seed accounting for respectively 8% and 6% of the total cost (Figure 9).

Figure 8: Composition of costs of cultivating rice by respondent farmers



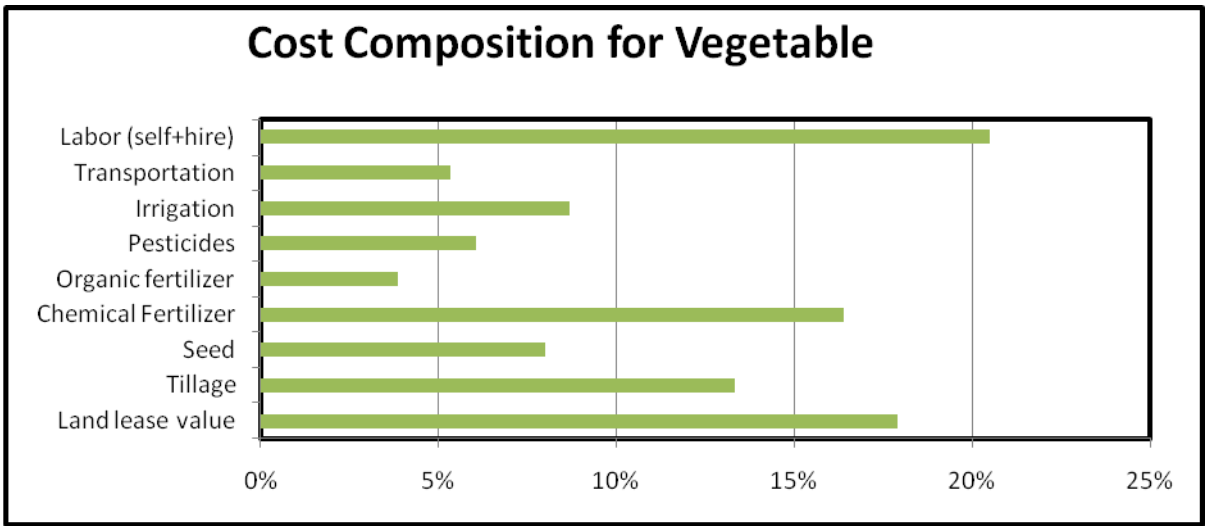
The respondents on an average earn BDT 3119 per year as economic profit (Table 18) from cultivating 1 acre of land. Overall, the surveyed farmers from Sherpur fared marginally better in terms of profits from the group in Mymensingh. It should be noted that as per the requirements of sampling plan for this baseline study, no farmer with land size over 73 decimals (1 acre= 100 decimals) was chosen. The average land size observed is 45 decimals. This low value of profit is testament to earlier observations of low levels of access to inputs and services in the survey areas..

Table 18: Detailed cost benefit breakdown of respondent farmers involved in Rice (Boro & Aman) cultivation in Mymensingh and Sherpur

Cost Categories/ Year	Mymensingh	Sherpur	All
Land size (decimal)	100	100	100
Costs (BDT)			
Land lease value (per crop, per year)	7500	7500	7500
Tillage	2,638	2,345	2,492
Seed	1,405	2,076	1,741
Chemical Fertilizer	2,896	3,839	3,368
Organic fertilizer	851	1,355	1,103
Pesticides	753	832	793
Irrigation	4,021	3,204	3,613
Transportation	438	771	605
Labor (self+hire)	5,680	5,038	5,359
Total cost	***26182***	***26960***	***26667***
Total production (KG)	***1,885***	***2,000***	***1,943***
Average sales price (BDT/KG)	14	14	14
Revenue from main product (BDT)	***26,390***	***28,000***	***27,195***
Revenue from by product (Straw etc)	***2,631***	***2,359***	***2,495***
Total revenue (main product + by product)	***290211***	***30359***	***29690***
Economic profit	2839	3389	3119

Unlike rice, the cost composition of selected vegetables (gourds, chillies, radish and cucumber) show a more uniform spread amongst the various cost heads (Figure 10). Labor and land leasing cost are still top of the list, closely followed by chemical fertilizer. Sixty percent (60%) of the total cost of production is for labor, leasing land and chemical fertilizer.

Figure 9: Cost composition associated with cultivation of vegetables by respondent farmers



The cost benefit analysis reveal that the economic profit derived from vegetable cultivation is far greater than that of rice cultivation (Table 21). On an average, surveyed farmers achieve BDT 12,345 in profit. The average yield reported by surveyed farmers, per acre, is 4,104 KGs. As with the rice cultivation cost benefit analysis, the value of leased land is at BDT 7500. However, as leasing is not a common practice, the profits reported in the table would be augmented by an additional BDT 7500.

Table 19: Cost benefit breakdown of vegetable cultivation by respondent farmers[16]

(per crop cycle)

	Mymensingh	Sherpur	All
Land size (decimal)	100	100	100
Costs (BDT)			
Land lease value	7500	7500	7500
Tillage	9,227	5,667	7,447
Seed	4,420	4,494	4,457
Chemical Fertilizer	7,553	10,744	9,149
Organic fertilizer	2,203	2,091	2,147
Pesticides	2,131	4,613	3,372
Irrigation	4,642	5,038	4,840
Transportation	2,866	3,065	2,966
Labor (self +hire)	10,994	11,873	11,434
Total cost	***51536***	***55085***	***53311***
Total production (KG)	***4,127***	***4,080***	***4,104***
Average sales price (BDT/KG)	16	16	16
Revenue from sales (BDT)	***66,032***	***65,280***	***65,656***
Economic profit	14496	10195	12345

[16] The cost breakdown is an average across guords, onions, chillies, and radishes

3.2.4 LIVESTOCK AND POULTRY REARING

Farmers in the survey area rear cattle for milk, meat and dung production. The cow dung produced is used as organic manure in the fields of the farmers. The livestock rearing data shows great variability in terms of cost and revenue and economic profit (BDT 24,576 per year in Mymensingh as oppose to BDT 26,408 per year in Sherpur) as well as yield (406 liters per annum in Mymensingh and 470 liters per annum in Sherpur (Table 22). Contribution of goal and poultry in household income is found to be low (Table 21 and Table 22)

Table 20: Detailed cost benefit analysis of rearing cows per year by respondent farmers (per annum, per cattle)

	Mymensingh	Sherpur	All
Costs (BDT yearly)			
Shed preparation& management (BDT)	1,790	1,631	1710.50
Collection of infants	10,736	11,475	11106
Feed	4,255	4,960	4607.50
Medicines (AI, de-worming)	1,180	1,121	1150.50
Vaccine	443	442	442.50
Labor	4351	4998	4674.50
Others	500	500	500
Transportation	570	767	668.50
Total Cost	***23835***	***25894***	***24865***
Milk production (Liter)	***406***	***470***	***438***
Meat production (Kg)	***105***	***143***	***124***
Average sales price(milk)	48	41	44.50
Average sales price(meat)	250	235	242.50
Revenue from by-product	1,100	1,000	1050
Revenue	***46,838***	***53,875***	***50357***
Economic Profit	23003	27981	25492

Table 21: Cost benefit analysis of goat rearing by respondent farmers (per annum, per goat)

	Mymensingh	Sherpur	All
Shed preparation& management	550	500	525
Collection of infants / DOC	1,750	1,900	1825
Labor cost	1214	1080	1147
Medicines (AI, De-worming)	140	50	95
Vaccine	270	125	197.50
Transportation	193	50	121.50
Total Cost	***4117***	***3705***	***3911***
Meat production (Kg)	***14***	***13***	***13.50***
Average sales price(meat)	345	350	347.50
Revenue	***4830***	***4550***	***4690***
Economic Profit	713	845	779

Table 22: Cost benefit analysis for poultry rearing by respondent farmers (per annum per 10 birds)

	Mymensingh	Sherpur	All
No. of chicken/ duck	10	10	10
Shed preparation& management (BDT)	222	167	194.50
Collection of infants / DOC	281	513	397
Feed	547	662	604.50
Medicines	230	328	234
Vaccine	173	216	194.50
Labor	618	632	625
Others	0	350	175
Transportation	500	288	394
Total Cost	***2,571***	***3,156***	***2864***
Egg production	***500***	***512***	***506***
Meat production (Kg)	***11***	***10***	***10.50***
Average sales price(meat)	260	260	260
Average sales price(egg)	8	8	8
Revenue	***6,860***	***6,728***	***6794***
Economic Profit (per annum)	4,289	3,572	3930.50

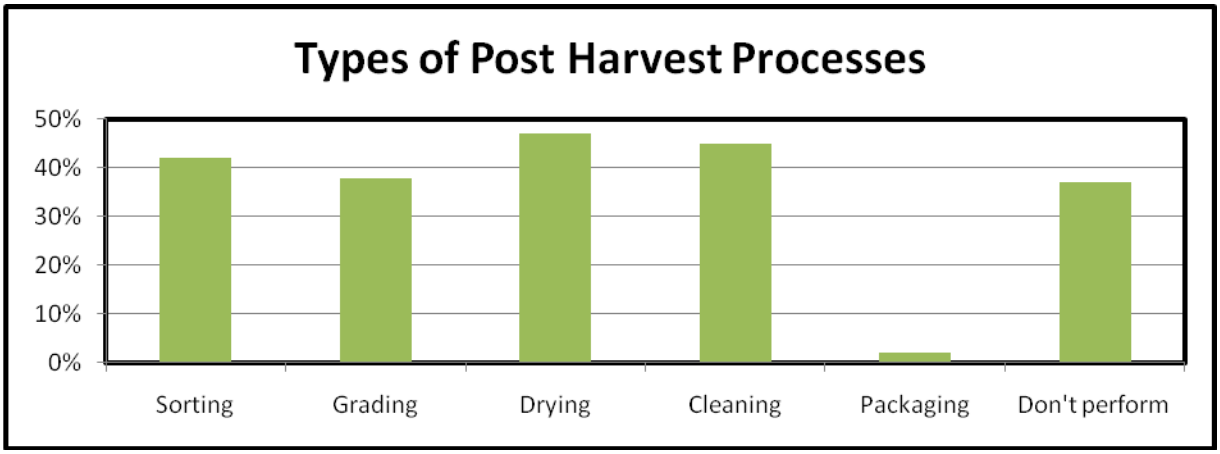
3.2.5 LABOR

Significant wage variation has been observed between male and female labors in both districts. The labor wage (while hiring) for males was found to be BDT 277 per day compared to BDT 126 per day for females. Besides, while hiring, male labors are more preferred than female labors. However, in ethnic communities, male and female labors were found equally active in the labor market.

3.3 Post Production processes and marketing

In the areas surveyed, a number of post-harvest processes are used and the practice is equally prevalent in survey groups. However, packaging is a process that is least followed denoting the lack of connection with markets (possibly higher priced markets) which demands packaging. A number of farmers also responded as not going through any post-harvest activities. Drying, cleaning, sorting and grading are the most prominent post harvest activities (figure 11).

Figure 10: Distribution of farmers in terms of types of post-harvest activities engaged in



Marketing is found to be at a rudimentary stage. Group selling is not that prevalent. Sixty seven (67%) of the farmers sell directly to paikers and wholesalers while 25% of the farmers reported that they sell to their neighbors. There are no farmers who sell to private companies and arotdars (commissioning agents). The farmers are not much aware of the concept of aggregating at farm gate level, to bargain for higher prices. In some of the FGD sessions, the reason for this was attributed to the lack of unity amongst farmers in the community or because of a lack of a good leader amongst farmers who can organize others. Besides, the farmers interviewed are not engaged in collective buying of inputs. The reasons provided are similar to what is mentioned as a constraint to collective selling. One reason however is the fact that retailers limit the number of people who can buy products. As a result, a farmer would go to a retailer during peak season and faces the problem of a price hike.

The state of poor marketing reinforces the notion of low prices for produce in general. Only 50% of the surveyed farmers reported to being satisfied with the prices they are getting. Generally, the market price was found to be generally low. Besides, distress selling due to adverse weather conditions and debts with harsh buy back conditions push down the price for many farmers (figure 12).

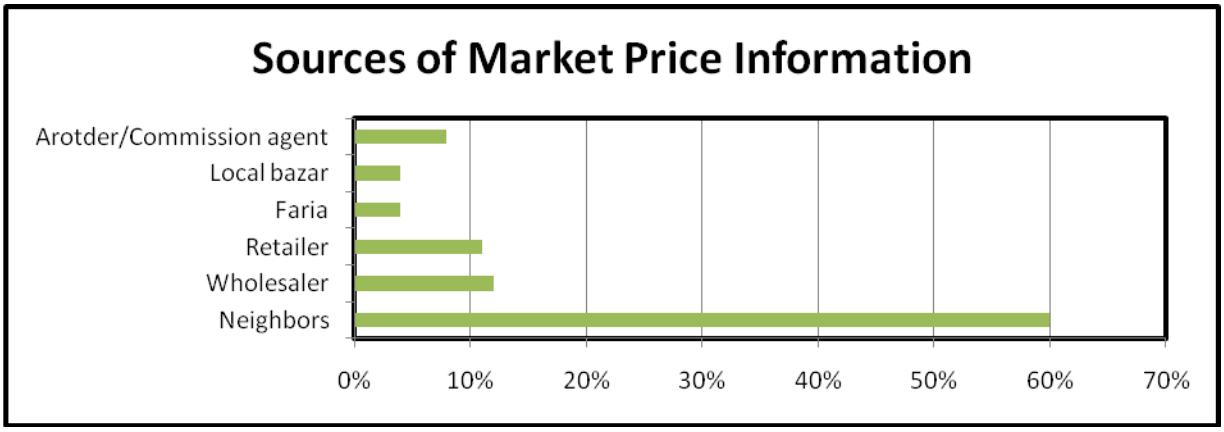
Figure 11: Distribution of respondent responses in terms of reasons behind low prices

Overall, the respondent farmers are not much aware about higher priced markets. Sixteen percent (16%) of the respondents reported that they are aware of such markets. When

probed about their plans to cater to the higher priced markets, farmers cited they do not produce enough to cater to such market which indicates at the need for collective sales.

Sixty three (63%) of the respondent farmers reported that they do not receive information on market price. Of those who receive information, majority receive from their neighboring farmers (60% of the 63% who receive information). Other sources of information include commissioning agents, farias, retailers and wholesalers (Figure 13).

Figure 12: Distribution of respondent responses in terms of sources of price information



3.4 Stakeholder relationships

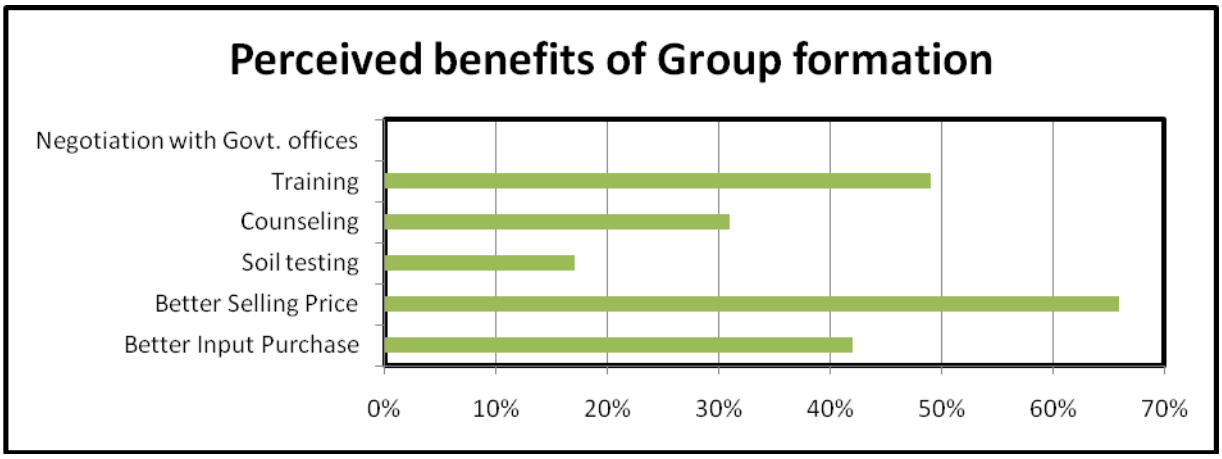
There are no farmer groups or associations in the area, so, no farmers exist directly linked or have membership to any farmers' association. However, interest to join such groups is significant in the group of farmers surveyed for the study. Ninety two percent (92%) of the respondent farmers are found interested in joining such groups. This high level of interest could be associated with a number of benefits that farmers expect to get from associations or groups (Table 23).

Table 23: Farmer responses in terms of presence of associations in their areas and their desire to join

	Presence of groups in their areas	Interest to join groups in their areas
Yes	0%	92%
No	100%	8%

The most often cited reason for wanting to join is to avail the benefits of collective bargaining in an effort to get higher prices for their produce. The other significant reasons include desire to receive training through such associations and possibly use collective buying to bargain for better prices of higher quality inputs such as seeds and fertilizer (Figure 14).

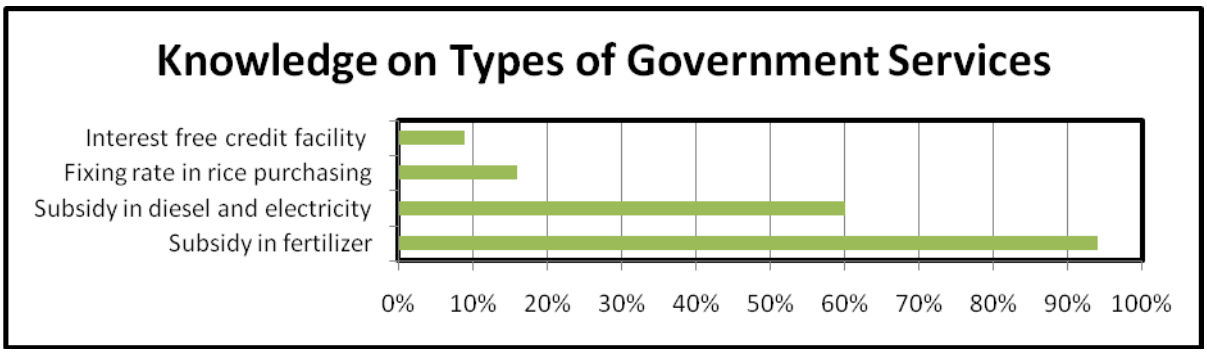
Figure 13: Distribution of farmer responses in terms of perceived benefits of joining associations



Significant numbers (80%) of the respondent farmers reported to be members of micro credit organizations or cooperatives. Such groups do not provide the same benefit as farmer groups (associations, groups etc.) to the member farmers. GRAMAUS has the largest number of such groups in the two districts studied. Ninety four percent (94%) of the farmers reported to being members of GRAMAUS. The farmers from both groups reported that there are no regional or district associations in the area. For the farmers who are part of organizations such as GRAMAUS and Caritas, 78% of the farmers reported to be satisfied with the services.

Awareness about government programmes and policies are in general low in the areas surveyed. Only 17% of surveyed farmers responded as knowing about government agricultural policies and activities in their areas. The most well-known aspect of government agricultural policy is fertilizer and diesel subsidy (Figure 15).

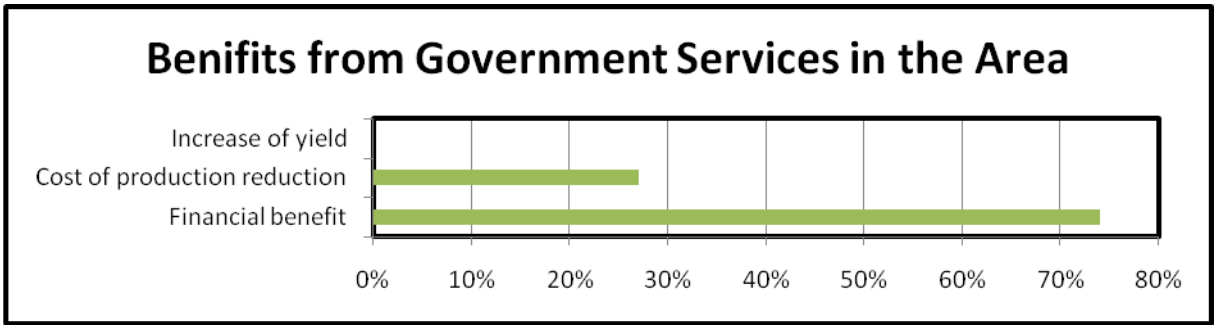
Figure 14: Respondents knowledge about government policies and activities in their areas



Even amongst farmers who are aware of government policies or activities in the area, very few think that they benefit from such policies. Only 13% of surveyed farmers are found having benefits from such policies and activities. Compounding the fact very few farmers in the survey know about and ultimately got benefitted from government policies and activities. Also the response from government service providers such as SAAOs is also very low. Sixty eight (68%) of the respondents reported that SAAOs do not come to their areas. Around

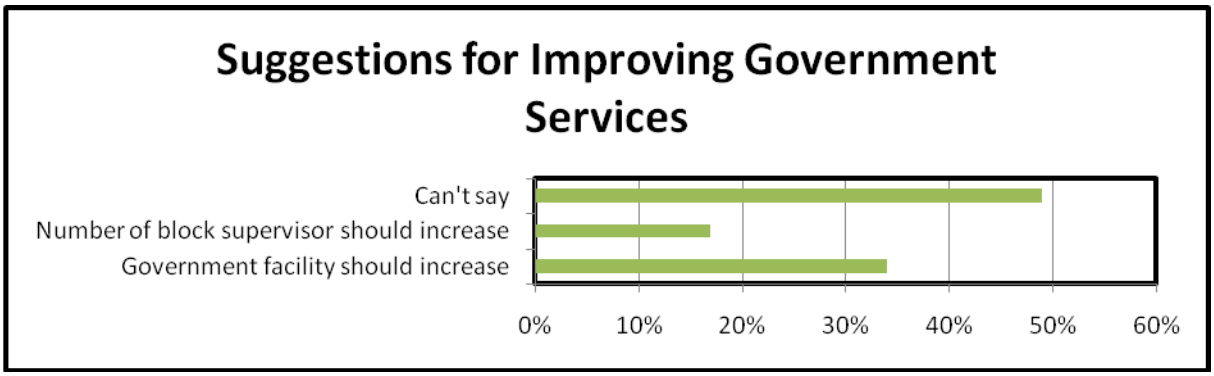
30% of surveyed farmers reported seeing their SAAOs in their areas. Financial benefit (free seed & fertilizer given under different programs) is cited to be the best outcome of government agricultural activities and policies (Figure 16).

Figure 15: Perceived benefits from accessing government policies and activities by respondent farmer



When asked for suggestions to improve service provision by governments, a significant number of farmers reported that they do not know how the services can be improved. However, some of the respondents suggested to increase the number of SAAOs (Figure 17).***There are no improvements in the policies, practices or resources negotiated by the farmers or their groups/association***.

Figure 16: Suggestions for improving public services

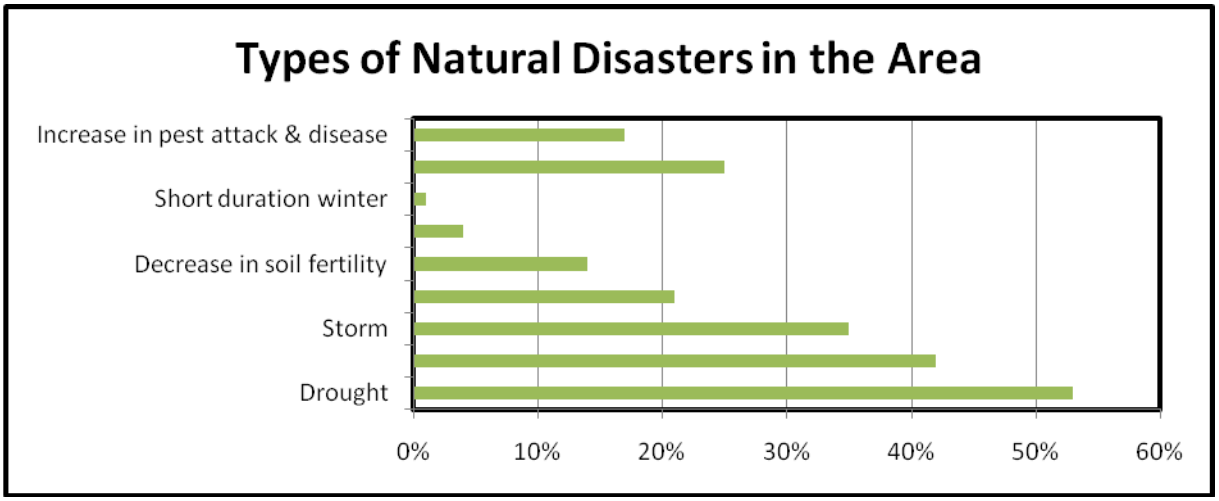


In the areas surveyed, no farmers reported of facing any problem due to their ethnic identities. There are no reports of discrimination noted during the survey due to belonging to a particular ethnic group.

3.5 Vulnerability Information

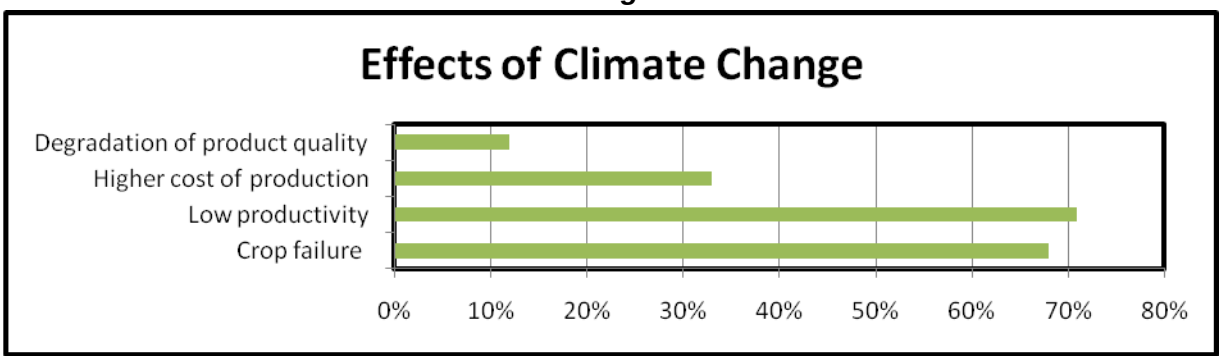
The households interviewed in the survey areas are affected by low productivity, low price in addition to poor access to services. Compounding these constraints to their livelihoods, the areas they live in are also plagued by a gamut of natural disasters and climate change such as increased fogginess and short duration winter, depleted ground water table, pest attacks and disease outbreaks, erratic rainfall, storms and flash floods. The incidences of drought, flash floods and storms are most prevalent with erratic rainfall, fogginess, increase in pest attacks and erratic rainfall (Figure 18).

Figure 17: Distribution of occurrences of natural disasters in the areas surveyed



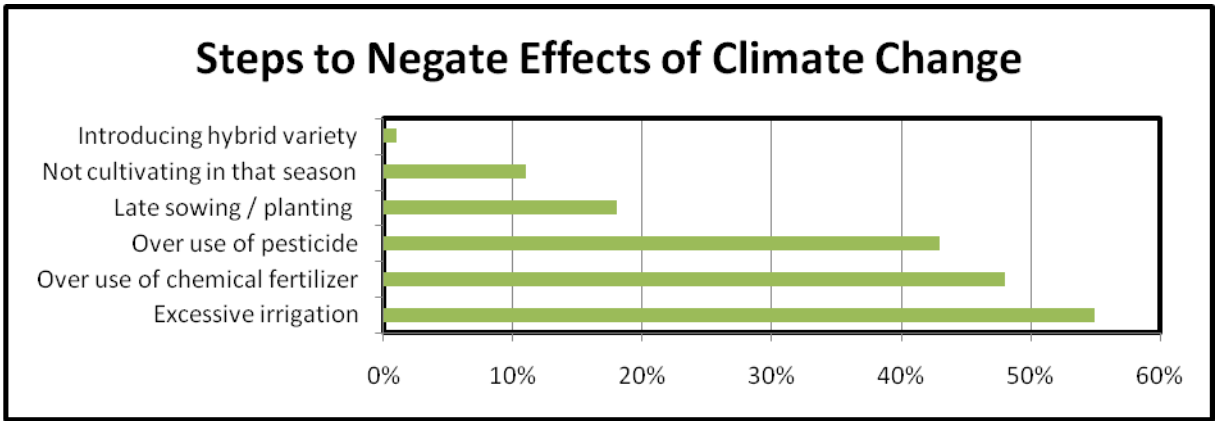
For the respondents, the threat of crop failure and low productivity is the most pressing effect of climate change events. Almost 70% of the respondent farmers reported crop failures and low productivity as the leading effects of climate change. Few farmers cited higher cost of production (33%) and degradation of product quality (12%) as effects of climate change.

Figure 18: Distribution of farmer responses in terms of leading effects of climate change



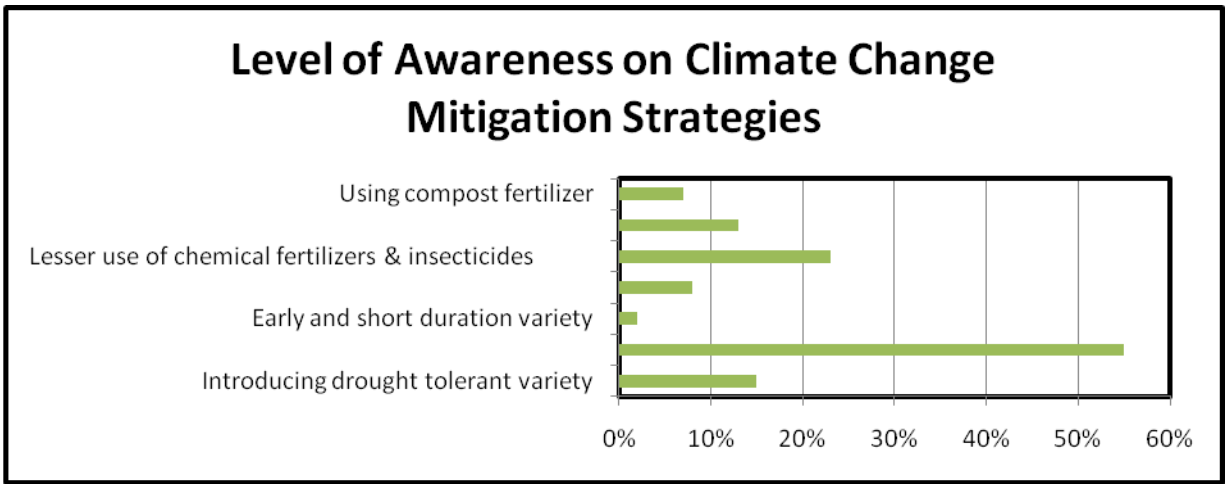
The farmers act in different ways to mitigate the effects. But often, this leads to over usage of chemical fertilizers and pesticides as well as excessive irrigation. Responses to adverse effects of climate change include over use of chemical fertilizers as well as over use of pesticides, possibly to negate the effects of crop failure and low productivity due to climate change (Figure 20). It is noteworthy that these responses lead to further adverse effects on the environment around the respondents. In some cases the adverse effects are more diffused than others. For example, if produces from farms where pesticides are overused were sold in the market, the customers are liable to buy products that are harmful for their health.

Figure 19: Distribution of farmer responses in terms of steps taken to negate climate change effects



Most farmers (80%) who were interviewed overwhelmingly reported that they want to change their crops due to effects of climate change and the inability of their present crops to cope with it. However, contrary to their desire to change their crops, few farmers know of any other farmers in the area who have changed crops to mitigate the effects of climate change (Figure 21)

Figure 20: Level of awareness of respondents regarding various ways to mitigate climate change risks



Since the level of awareness on the means to cope with climate change is not very high almost 100 % of the farmers do not adopt any environment friendly practice including crop diversification to cope with risks associated with climate change. Besides, 99% of the respondents reported that they do not have any saving fund to cope with the adverse effects of climate change. About 39% of the respondent farmers reported to having general savings which in turn could be used for negating climate change effects.

CHAPTER 4: CONCLUSIONS

The areas surveyed for the baseline study are found to be inhabited by poor households who are mostly working on agriculture or animal husbandry. The men are mostly involved with agriculture while the women are responsible for taking care of the livestock and poultry. The areas are exposed to a number of constraints including lack of access to quality services, lack of support of government agencies, low productivity and unpredictable natural calamities. The households interviewed are economically vulnerable in the sense that they have little to no disposable income, debts to micro-credit organizations or local wealthy residents and they have no form of savings or insurance. Their assets are mostly concentrated on livestock, and they are fully dependent on it and agriculture to earn their livelihood. This form of existence without any safety nets makes them especially vulnerable to shocks, trends and seasonality.

Mymensingh and Sherpur show high concentrations of rice cultivation interspersed with a vegetable growing season. Vegetable cultivation however is picking up fast because of its high relative profitability and low labor intensiveness. Labor shortage and high price of labor has increased cost of production. Extensive discrimination, in the form of lower wage rates and lower instances of hiring women, is noted in the gendered labor market. Women are consistently hired less and paid less than the men. The picture in the ethnic communities is different in the sense that their tradition dictates equal participation of men and women in agriculture. The respondents are mostly unaware of government policies and activities in the area and have little or no knowledge of environmentally friendly practices in agriculture. They are also inadequate in their capacities to deal with the adverse effects of climate change. All these observations come together in a picture of low economic growth for the area and low productivity plagued enterprises run by poor men and women.

ANNEX 1: TOR

Terms of Reference

Baseline Study of "Alleviating Poverty in North East Bangladesh (APONE)" Project

1. Project Background and Context

Project Name	Alleviating Poverty in North East Bangladesh
Project Location	Bangladesh – Mymensingh and Sherpur districts
Project duration	36 months from 1st April 2012
Project budget	£960,647 (BDT 106,631,817)
Donors	DFID (Global Poverty Action Fund) – 75%, remainder from variety of funders
Implementing agency and partners	The project is managed by Traidcraft Exchange (TX) and co-implemented by Development Wheel (DEW) with 2 local Civil Society Organizations (CSOs)

This project seeks to ensure sustainable livelihoods for poor and marginal communities, particularly women, in North-East Bangladesh through improvements to small-scale agriculture.

The project is based on the recognition that small and marginal farmers in the project area face a number of problems and challenges in their production system which means that productivity, quality and prices are low, while costs are high. Farmers lack the volumes and capacity to bargain for better prices, they face discrimination in accessing government services (especially women and ethnic minorities) and there is a frequent threat of crop-failure and loss of livestock, accentuated by climate change, leading to distress sales. Addressing these issues can only be done effectively by increasing access to vital knowledge, information, services, skills, equipment and inputs from private and public service providers. It is also crucial to engage with private companies and the government creating a win-win situation for all concerned. Ensuring better agricultural governance and improved access to rights and markets will increase farmers' incomes, produce more sustainable livelihoods and contribute towards poverty reduction targets. In order to achieve this aim several approaches has been taken simultaneously:

- Creating and building the collective power of small and marginal farmers: Organizing small and marginal farmers into groups enable them to utilize their collective power to voice, negotiate and attain their rights and services from other stakeholders (public and private service providers, local authorities and other value-chain actors).
- Increasing recognition of farmers needs amongst Government and private sector stakeholders: The project raises awareness amongst public and private sector bodies and local authorities of the problems facing small and marginal farmers.
- Improving farmers' production practices and market access: The project establishes Linkage between service providers and farmer groups to ensure farmers access appropriate and affordable agricultural services to help them improve cultivation practices, increase productivity, reduce costs and improve quality.
- Reducing farmers' vulnerability to environmental and financial shocks and stresses: This is crucial to ensure the sustainability of people's livelihoods. The project assists farmers to adapt their cultivation practices so they are more resilient to shocks and stresses, especially natural disasters and climate fluctuations.

*The project logframe is attached as **Annex 2** and will be considered as an integral part of the TOR*.

2. Purpose and Objectives of the Baseline Study

The purpose of this baseline study is to provide an independently assessed information base against which to monitor and assess the project's progress and effectiveness during implementation and after project completion.

Being effectively the first step in the project monitoring and evaluation system, the baseline study is an early element of the project monitoring framework. The framework is based on the project logframe (attached as annex 1), which includes the expected project outputs, the indicators of achievement and the potential sources of information. The baseline study gathers the information to be used in subsequent assessments of how efficiently the activity is being implemented and the eventual results of the project. The mid-term review and final project evaluation will judge progress largely by comparing recent data with the information of the baseline study.

Key project indicators and data to be gathered:

*Please see the **Annex 1***

3. Audience for the baseline study

This independent baseline study is commissioned by Traidcraft and will be shared with project staff and participants, management and staff of Traidcraft and its partners, project associates, project funders, other relevant actors.

4. Geographical Coverage

The project has been implemented in two north-east districts of Bangladesh i.e. Mymensingh (Fulpur, Haluaghat and Dobhaura Sub-district) and Sherpur (Jhanaigathi, Sadar and Nokla sub-district).

5. The Baseline Study Process and Methodology

The baseline study should be conducted in a participatory manner to bring the multiple perspectives from key stakeholders in assessing the current situation of the target beneficiaries and the context within which the project is located.

A Project Monitoring &Evaluation Group will be established to both inform and support the project monitoring and evaluation processes. This will comprise key project staff from Traidcraft and its partners in country, as well as key staff from Traidcraft's UK office.

It is envisaged that the baseline study methodology will include:

- A desk review/research of project information including the key documents listed in these terms of reference.
- A planning meeting with the project management team to gain a deeper understanding of the project and to review the project log frame to ensure clarity and shared understanding of what needs to be measured and the most appropriate and effective means of gathering the data (including identification of any known key informants).
- An initial 2-3 day scoping visit to the project location to :
  i. gain an understanding of the conditions in which the baseline study will be undertaken – for example, the season of the year, the prevailing political conditions, the state of the economy, any cultural divisions, and recent or expected extraordinary events such as natural disasters, political upheavals or economic shocks.
  ii. conduct a mapping exercise to inform the selection of interviewees for the farmer survey, focus group discussions, in-depth case studies, and key informant interviews
  iii. identify what information already exists that can feed into the baseline study.
- Following this initial scoping visit, a further meeting with the project management team to present and discuss the detailed plan and methodology for gathering and analyzing the baseline data required, including the process for selecting interviewees.
- Design and preparation of the farmer survey including: preparation of a clear, logical and simple questionnaire, which will include all required information and can be encoded without difficulty; pre-testing in the project location and finalization of the questionnaire; organizing logistics in the field.
- Design and preparation of farmer focus group discussions and key informant interviews as agreed with the Project management Team.
- Conduct questionnaire-based farmer survey(through individual interviews with 240 APONE farmers -40 farmers from each sub-district; 120 control farmers-20 farmers from each sub-district), 12 focus group discussions (2 from each sub district) and 30 key informant interviews(5 from each sub-district).
- Develop in-depth case studies - the field work should include in-depth interviews with 10-12 (number to be agreed with project management team) participating farmers to provide the basis for individual case studies that can be tracked throughout the life of the project so that we can better understand how their situations change as a result of the project. The case studies should include photographs of the farmers and their households.
- Data analysis (includingdata masking and database development). The consultant would normally present a preliminary overview of their findings to the project management team in-country and receive comments from them before preparing the draft evaluation report. Subsequently, the consultant submits the draft report to the project management team for written comment before finalizing the report, to minimize the chance of inaccuracies and to maximize ownership of the findings.

The methodology should ensure that:

- both quantitative and qualitative methods should be incorporated into the baseline studyand that more visual forms of information are included, for example, photographs, maps, diagrams
- the extent to which the daily life of the farmers being studied is disrupted is minimized – from the perspective of both men and women
- questions included in the survey includes information that will enable more effective analysis (for example, gender of farmer, age, ethnicity, level of education, size and gender make-up of household, size of land holding, types of crops grown, assets owned) – the specific information required should be agreed with the project management team during the planning meetings.

6. Documents that we will provide

- The approved project proposal document

- The approved project Logical Framework
- List of target beneficiaries
- List of other project stakeholders

7. Expected Deliverables

The main deliverables will be a final report of the baseline. The content of the report will be in the following:
- Contents page
- Abbreviations and acronyms page
- Executive Summary
- A short introduction to the project
- Methodology (including a clear explanation of the data collection methods used so that these can be effectively replicated during subsequent monitoring and evaluation processes)
- Baseline findings
- Small case studies/anecdotes and quotes from project beneficiaries and other stakeholders on relevant topics under baseline report
- Conclusions
- Annexes including: TOR,list of interviewees, survey questionnaire,focus group and key informant interview guides, raw data sheet, ,the final version of the Logical Framework with the baseline figures inserted, in-depth case studies on 10-12 participating farmers.

A concise power point presentation of the final baseline report should also be prepared (to be submitted in a CD/ DVD form).

All documents, papers and data produced during the assessment are to be treated as the property of TX and DEW and restricted for public use. The contracted agency/consultant will submit all original documents, materials and datato the contracting organization.

8. Timetable for Baseline Study

The baseline study should be completed during May to June 2012. There is a tight timeframe for the research of this project and the consultant would need to work around the following dates:

Activity	***Deadlines***
Sending TOR to Consultants/ Agencies no later than	*09 May 2012*
Receipt of Proposals (EOI)	*16 May 2012*
Selection of Consultant & Communication of Results	*20 May 2012*
Completion of contracting formalities	*22 May 2012*
Work commences	*23 May 2012*
Submission of draft Report	*15 June2012*
Comments on the draft report (From TXHQ and TXBD) and sending to consultant	*22 June 2012*
Submission of final report	*28 June 2012*

9. Application Process

Interested organizationsor individuals are requested to submit their Expression of Interest (EoI) either in hard copy or electronically to the following address on or before 16th May 2012:

Project Coordinator
APONE Project
Development Wheel (DEW)
13-A/4-A (3rd floor), Block-B, Babar Road
Mohammadpur, Dhaka-1216, Bangladesh
Tel: +88 02- 9137196
Mob: 8801715- 120140

Please email to: feroza@traidcraft.org

The EoI should include:
- Contact details
- Up to date and detailed CV of the consultant(s)with brief descriptions of similar assignments
- A clear overview of how this piece of work will be approached, the methodology proposed and the outputs generated, with a clear timeline for each of the specified activity and a budget apportioned for the assignment

- Two references

The EOI, excluding the consultant CVs, should not be more than 10 pages long, should have single spacing, and use Arial typeface with a minimum font size of 10.

For any queries on the TOR please call Mr. A.B.M Feroz Ahmed (Program Manager, Traidcraft Exchange, Bangladesh Country Office) on 01731-512712.

10. Selection Criteria

On receipt of the EOI designated project management team will study the proposals including an interview, and take a decision about the consultant/s/ agency for the study. Selection of the consultant/s/ agency will be based on:

Selection Criteria	Scores
Quality of the proposed plan – well thought out, logical, strong methodology and approach, well-timed, level of details, would meet objectives	10
Experience of conducting baseline studies of livelihoods projects	10
Knowledge / Experience on agriculture sector especially small-scale agriculture, farmer group and association management, public and private service provisions, vulnerability to natural disaster and climate change, etc	10
Availability during the period of the project	10
Costs – value for money	10
TOTAL	50

At the beginning of the evaluation process, project staff will meet and hold a briefing session with the consultant/consulting firm to agree on the overall study methodology and highlight any key issues to be addressed.

11. Mode of Payment

Total fees for the evaluation will be paid in three installments:

1. 30 percent of the total fee will be paid on signing the contract
2. 40 percent of the total fee will be paid after submission of the draft report
3. The remaining amount (30 percent) will be paid upon acceptance of the final report.

For each installment, the payments would be made in crossed cheque by the name of the organization / individual.

General terms and conditions

- TX and DEW reserve the right to accept or reject any proposal without giving any verbal and/or written rationale;
- All reports and documents prepared during the assignment will be treated as TX and DEW
- The reports/documents or any part, therefore, cannot be sold, used and reproduced in any manner without prior written approval of TX and DEW;
- TX and DEW reserve reserves the right to monitor the quality and progress of the work during the assignment.

ANNEX 2: LIST OF RESPONDENTS

S/N	Name	Phone	Upazilla	District
1	sanaulla	1762721409	Dhobaura	Mymensingh
2	Limita	19117229059	Dhobaura	Mymensingh
3	Anoara		Dhobaura	Mymensingh
4	Monita	1917785014	Dhobaura	Mymensingh
5	Harun	1931416133	Dhobaura	Mymensingh
6	Samsul	1927197047	Dhobaura	Mymensingh
7	Suchitra		Dhobaura	Mymensingh
8	Shilpi	1710691161	Dhobaura	Mymensingh
9	Eaklas	1724060291	Dhobaura	Mymensingh
10	sakter	1926200877	Dhobaura	Mymensingh
11	Imdadul	1922474951	Dhobaura	Mymensingh
12	Hasina	1925300839	Dhobaura	Mymensingh
13	Kashem	1931482799	Dhobaura	Mymensingh
14	Joynal	1922629972	Dhobaura	Mymensingh
15	Manik		Dhobaura	Mymensingh
16	Dipak	1736075325	Dhobaura	Mymensingh
17	Sahsomon	1948069647	Dhobaura	Mymensingh
18	Nurul Is	1712462948	Dhobaura	Mymensingh
19	Shabuddi	1936088499	Dhobaura	Mymensingh
20	Kuddus	1924562090	Dhobaura	Mymensingh
21	josna	1759909219	Dhobaura	Mymensingh
22	kadem	1840923561	Dhobaura	Mymensingh
23	Dipa		Dhobaura	Mymensingh
24	Prodip	1946228104	Dhobaura	Mymensingh
25	Ramola	1964374913	Dhobaura	Mymensingh
26	Ali	1734399573	Dhobaura	Mymensingh
27	Kollani	1923495027	Dhobaura	Mymensingh
28	Nazma	1927929171	Dhobaura	Mymensingh
29	Monglo	1940806106	Dhobaura	Mymensingh
30	Sahed	1921724758	Dhobaura	Mymensingh
31	Toyoub	1921724748	Dhobaura	Mymensingh
32	Jahangir	1917842087	Dhobaura	Mymensingh
33	Rabeya		Dhobaura	Mymensingh
34	Sanid	1726693870	Dhobaura	Mymensingh
35	Ranjita	1942749564	Dhobaura	Mymensingh
36	Kiron	1942749564	Dhobaura	Mymensingh
37	Joynal	1931412270	Dhobaura	Mymensingh
38	Minu	1964374913	Dhobaura	Mymensingh
39	Rekha	1921213189	Dhobaura	Mymensingh
40	Abdul	1926956683	Haluaghat	Mymensingh
41	Parveen	1937937995	Haluaghat	Mymensingh
42	Jahanara	1837036367	Haluaghat	Mymensingh
43	Laili	1965022068	Haluaghat	Mymensingh
44	Alkas	193328815	Haluaghat	Mymensingh
45	Siraj	1740858962	Haluaghat	Mymensingh
46	Ajufa	1937664284	Haluaghat	Mymensingh
47	Fatema	1965022068	Haluaghat	Mymensingh
48	Shamsul	1934058980	Haluaghat	Mymensingh
49	Shubila	1937477909	Haluaghat	Mymensingh
50	Sulekha	1719677168	Haluaghat	Mymensingh
51	Morshida	1930131676	Haluaghat	Mymensingh
52	Sefale		Haluaghat	Mymensingh
53	Delower	1730196320	Haluaghat	Mymensingh
54	Eva rani	1916715188	Haluaghat	Mymensingh
55	Jalal	1727621696	Haluaghat	Mymensingh
56	Sumon	1911726270	Haluaghat	Mymensingh
57	Mrinalin	1724489041	Haluaghat	Mymensingh
58	Anjana	19270121439	Haluaghat	Mymensingh
59	samsudin	1932704494	Haluaghat	Mymensingh
60	Abul	171255308	Haluaghat	Mymensingh
61	Madhobi	1929839962	Haluaghat	Mymensingh
62	Monika	1926715188	Haluaghat	Mymensingh
63	Rahima	1931183263	Haluaghat	Mymensingh
64	Khodeja	1925580498	Haluaghat	Mymensingh

65	Chaya		Haluaghat	Mymensingh
66	Nirupoma	1914599124	Haluaghat	Mymensingh
67	Jalal	1918570507	Haluaghat	Mymensingh
68	Nazrul	1945545949	Haluaghat	Mymensingh
69	Minara	192653681	Haluaghat	Mymensingh
70	Voktona	1914005677	Haluaghat	Mymensingh
71	kirola	1926387001	Haluaghat	Mymensingh
72	Ali	1931645333	Haluaghat	Mymensingh
73	Shofiq	1925007863	Haluaghat	Mymensingh
74	Supta	1963671757	Haluaghat	Mymensingh
75	Kamrun	1723710536	Haluaghat	Mymensingh
76	Hajera		Haluaghat	Mymensingh
77	Pholbanu	1931603084	Haluaghat	Mymensingh
78	Kulsom	1912356374	Haluaghat	Mymensingh
79	Johora		Haluaghat	Mymensingh
80	chan	1748486120	Phulpur	Mymensingh
81	shujon	1734949116	Phulpur	Mymensingh
82	rina	1940472051	Phulpur	Mymensingh
83	rozina	1931604129	Phulpur	Mymensingh
84	Hanif	1732142047	Phulpur	Mymensingh
85	sharazul	17360550761	Phulpur	Mymensingh
86	mozzamel	1843936213	Phulpur	Mymensingh
87	shorfodd	1739588305	Phulpur	Mymensingh
88	monjurol	1924697313	Phulpur	Mymensingh
89	shoreful	1924697313	Phulpur	Mymensingh
90	arun	1918488588	Phulpur	Mymensingh
91	hazera	1821010104	Phulpur	Mymensingh
92	akbor	2927871858	Phulpur	Mymensingh
93	kashem	1731931894	Phulpur	Mymensingh
94	joimot	18288444	Phulpur	Mymensingh
95	momotaz	183459657	Phulpur	Mymensingh
96	Totami	1763366906	Phulpur	Mymensingh
97	Ali	1749111840	Phulpur	Mymensingh
98	Maleka		Phulpur	Mymensingh
99	Rashida	1947411320	Phulpur	Mymensingh
100	Shahera	1932113175	Phulpur	Mymensingh
101	Rezaul	1923113175	Phulpur	Mymensingh
102	Rashida	1763381798	Phulpur	Mymensingh
103	Dulal	1754128167	Phulpur	Mymensingh
104	Senoara	1190870612	Phulpur	Mymensingh
105	Shahin	1724657095	Phulpur	Mymensingh
106	hamid	1739588305	Phulpur	Mymensingh
107	Furban	1731931894	Phulpur	Mymensingh
108	abul	1936318062	Phulpur	Mymensingh
109	Saruf	1744870167	Phulpur	Mymensingh
110	Mossaraf	1749256055	Phulpur	Mymensingh
111	Shahanaz	1747736219	Phulpur	Mymensingh
112	Aynul	1939706266	Phulpur	Mymensingh
113	Fatema	1729325676	Phulpur	Mymensingh
114	Amena	1748485855	Phulpur	Mymensingh
115	Hakim	1762247442	Phulpur	Mymensingh
116	Salam	1762932247	Phulpur	Mymensingh
117	Fozlur	1918488588	Phulpur	Mymensingh
118	firoza	1918733777	Phulpur	Mymensingh
119	Bimol	1918488588	Phulpur	Mymensingh
120	Md.Kuddu	1836330375	Jhinaigati	Sherpur
121	Modina	1931493044	Jhinaigati	Sherpur
122	Chamiul	1728926416	Jhinaigati	Sherpur
123	Mahmuda	1767283017	Jhinaigati	Sherpur
124	Abdul Ro	1946204677	Jhinaigati	Sherpur
125	Phorid	1913907320	Jhinaigati	Sherpur
126	Abdul	1921229714	Jhinaigati	Sherpur
127	Sulekha	1935989129	Jhinaigati	Sherpur
128	Aktar	1914866310	Jhinaigati	Sherpur
129	Laili	1736027670	Jhinaigati	Sherpur
130	Helena	1843611180	Jhinaigati	Sherpur
131	Sumittra	1916761955	Jhinaigati	Sherpur
132	Johurul	1929828075	Jhinaigati	Sherpur
133	Shrimoti	1759474689	Jhinaigati	Sherpur
134	Nazrul	1931476832	Jhinaigati	Sherpur
135	Anamul	1911902539	Jhinaigati	Sherpur

136	Saiful	1946883485	Jhinaigati	Sherpur
137	Bachiron	1920388294	Jhinaigati	Sherpur
138	Seeta	1923760128	Jhinaigati	Sherpur
139	Hurmuj	1712983588	Jhinaigati	Sherpur
140	Ameena	1921901225	Jhinaigati	Sherpur
141	Motin	1724607493	Jhinaigati	Sherpur
142	Saiful	1914866310	Jhinaigati	Sherpur
143	Rukmi	1816477083	Jhinaigati	Sherpur
144	Suchi Ra	1824351645	Jhinaigati	Sherpur
145	Md.Ali	1944484302	Jhinaigati	Sherpur
146	Masum	1944206849	Jhinaigati	Sherpur
147	Lipi	1925313992	Jhinaigati	Sherpur
148	Adbul Ra	1943389027	Jhinaigati	Sherpur
149	AnnaRani	1930838099	Jhinaigati	Sherpur
150	ShuvoRan	1912275642	Jhinaigati	Sherpur
151	TriptiRa	1911874981	Jhinaigati	Sherpur
152	AlAmin	1948631495	Jhinaigati	Sherpur
153	Forhad	1938565449	Jhinaigati	Sherpur
154	Amjad	1816480644	Jhinaigati	Sherpur
155	Jasmin	1911634739	Jhinaigati	Sherpur
156	Trifola	1725516618	Jhinaigati	Sherpur
157	Joynal	1931476832	Jhinaigati	Sherpur
158	Shofikul	1735198040	Jhinaigati	Sherpur
159	samunar		Nokla	Sherpur
160	Abdul	1721531184	Nokla	Sherpur
161	Bodiuzza		Nokla	Sherpur
162	Nurul		Nokla	Sherpur
163	Sobhan		Nokla	Sherpur
164	Samad		Nokla	Sherpur
165	Sahid	17393313390	Nokla	Sherpur
166	Azad Ali	1945579480	Nokla	Sherpur
167	Nurul	1721410868	Nokla	Sherpur
168	sakir	1739331390	Nokla	Sherpur
169	kohinur		Nokla	Sherpur
170	Aklima		Nokla	Sherpur
171	Latful		Nokla	Sherpur
172	Morjina		Nokla	Sherpur
173	Anowara		Nokla	Sherpur
174	Kamrun		Nokla	Sherpur
175	Hajera	172141991	Nokla	Sherpur
176	Jesmin	717564421	Nokla	Sherpur
177	Lutfar	1824623330	Nokla	Sherpur
178	Babul	1740965729	Nokla	Sherpur
179	Hanif	1721410868	Nokla	Sherpur
180	Md.Rouf	1933933916	Nokla	Sherpur
181	Tula Mia	1918496301	Nokla	Sherpur
182	Julhas	1931170947	Nokla	Sherpur
183	Ayat Ali	1739331390	Nokla	Sherpur
184	Anwar	1733168042	Nokla	Sherpur
185	Nazrul	1754483022	Nokla	Sherpur
186	Mister	1935730662	Nokla	Sherpur
187	Mosed	1750241079	Nokla	Sherpur
188	sahera	1736440297	Nokla	Sherpur
189	lal	1918286124	Nokla	Sherpur
190	Nazrul	1739331390	Nokla	Sherpur
191	Samima	1753255818	Nokla	Sherpur
192	Jahida	1713567267	Nokla	Sherpur
193	sahida	1933933916	Nokla	Sherpur
194	Asmot	1721905979	Nokla	Sherpur
195	akker	1945579480	Nokla	Sherpur
196	mohiron	1765252534	Nokla	Sherpur
197	hafiza	1761526534	Nokla	Sherpur
198	Mjibor	1721410868	Nokla	Sherpur
199	abdullah		Nokla	Sherpur
200	Rijon	1833437090	Nokla	Sherpur
201	Ali	1935670860	Sadar	Sherpur
202	Ajgor		Sadar	Sherpur
203	Abdul	1925302539	Sadar	Sherpur
204	Keramot	1943638329	Sadar	Sherpur
205	Shorupa	1927691474	Sadar	Sherpur
206	Rawshon	1917579013	Sadar	Sherpur

207	Shajeda	1738614358	Sadar	Sherpur
208	Fozlul	1742630933	Sadar	Sherpur
209	Ambia	1736116353	Sadar	Sherpur
210	Rasheda	1943660246	Sadar	Sherpur
211	Jabu She	1936495740	Sadar	Sherpur
212	Jhorna	1915428940	Sadar	Sherpur
213	Amia	1933876264	Sadar	Sherpur
214	Santee	1725042780	Sadar	Sherpur
215	Entez	1723478262	Sadar	Sherpur
216	Sakia	1726718021	Sadar	Sherpur
217	Jobbar	1921485876	Sadar	Sherpur
218	Delower	1915582396	Sadar	Sherpur
219	rohisa	1962480775	Sadar	Sherpur
220	Hasna	1912367901	Sadar	Sherpur
221	Kajoli	1814497466	Sadar	Sherpur
222	tara	1759850635	Sadar	Sherpur
223	salma	1931173201	Sadar	Sherpur
224	Akkus	1931173201	Sadar	Sherpur
225	suhel	1737993036	Sadar	Sherpur
226	abeda	1928480445	Sadar	Sherpur
227	Julekah	19136400865	Sadar	Sherpur
228	Rejaul	18124287568	Sadar	Sherpur
229	Sirin	1935079499	Sadar	Sherpur
230	Anowar	1717304211	Sadar	Sherpur
231	Dubed	1927691474	Sadar	Sherpur
232	Jolil	1917099885	Sadar	Sherpur
233	Ramna	1932216930	Sadar	Sherpur
234	Sadek	1719960582	Sadar	Sherpur
235	Ariful	1827571048	Sadar	Sherpur
236	Anowara	1936495740	Sadar	Sherpur
237	Osman	1937350612	Sadar	Sherpur
238	Ajhar	1933956348	Sadar	Sherpur
239	Jolekha	1933956348	Sadar	Sherpur
240	Jashim	1754688033	Sadar	Sherpur
241	Nurul	1935671892	Sadar	Sherpur
242	Nijam	1725550928	Sadar	Sherpur
243	Rosid	1745810632	Sadar	Sherpur
244	Rasel	1945579480	chandra	Sherpur

ANNEX 3: QUESTIONNAIRES AND CHECKLISTS

3.1 QUESTIONNAIRE FOR FARMERS

1. General Information

1.1. Name of the respondent: …… Mobile: ……

1.2 Father's / Husband's Name:

1.3 Sex: Male-1, Female-2 1.4 Age (yr.): _____ 1.5 Ethnic: Yes-1 No-2

1.6 Education:

1. Illiterate	2. Can sign only	3. below class 8	4. Class 8 to 10 pass	5.SSC passed	6.HSC passed	7.Graduate	8.Above graduate

1.7 District …… 1.8 Upazila…… 1.9 Union ……

1.10 Village ……..

1.11 Details of family members: Family size:

1.12 Number of earning member in the family _____

1.13 Child education

Number of children aged above 6	
Number of school going children	

1.14 Primary Occupation

1. Crop Farmer 2.Fish Farmer 3. Livestock Farmer 4.Business 5.Labor 6. Job/service 7 Fishermen 8. Other

1.15 Secondary Occupation

1. Crop Farmer 2.Fish Farmer 3. Livestock Farmer 4.Business 5.Labor 6. Job/service 7 Fishermen 8. Other

2. Living standards of the Farmer as on May-June 2012

Sl.no	Indicators	Status as on May-June 2012		
2. 1	Housing pattern (Tick mark the item as applicable)	1. Thatched 2. Katcha (Mud) 3. Tin Made 4. Semi-pacca (Tin shed) 5. Pucca (Building)		
2.2	Household resources (Tick mark the item as applicable)	Item	Qty	Value
		1. TV		
		2. Mobile		
		3. Cycle		
		4. Motor cycle		
		5. Radio		
		6. Nirani/Kodal/Kaste		
		7. Shallow Machine		
		8. Power Tiller		
		9. Plough		
		10. Spray machine		
		11. Thrasher machine		
		12. Van/Rikshaw		
		13. Cow		
		14. Goat		
		15. Poultry		
		16. Duck		

		17.Tractor		
		18. Land		
		19. Savings		
		20. Ornaments		
		21. Others… (specify)		
2.3	Source of drinking water	1. Tube well 2. Shallow Tube well 3. Deep Tube well 4. Pond 5. River / Canal 6. Others		
2.4	Sanitation	1. Kaccha 2. Ring Slab 3. Pacca 4. Open Field 5. Others		
2.5	Medical Treatment source	1. Village doctor 2. Kobiraj, 3. Pharmacy 4. Upazila hospital 5. District hospital 6. Private clinic 7. Private MBBS doctor		
2.6	Food Basket			
	2.6.1 How many times do you consume Rice daily	1.Once 2. Twice 3. Thrice 4. More		
	2.6.2 Major items consumed monthly	Name	Monthly (Number of days)	
		Meat		
		Chicken		
		Fish		
		Egg		
		Pulses		
		Vegetables		
		Milk		
		Fruits		

3.1 Major Household Expenditure

	Sources	**Total Expenses**
Major expenses in the family/yearly (BDT) (Give approximate amount)	3.1.1 Food	
	3.1.2 Accommodation	
	3.1.3 Clothing	
	3.1.4 Electricity bill (household)	
	3.1.5 Education	
	3.1.6 Medical	
	3.1.7 Transport and Communication	
	3.1.8 Others (please specify)	
	3.1.9 Total Expenses	

3.2 Household Income (after deduction of cost)

Household income/yearly (BDT) (Give approximate amount)	**Sources**	**Total Income**
	3.2.1 Agriculture (food crops: rice, wheat, maize, pulses, mustard, vegetables)	
	3.2.2 Cash Crops (Jute, Tobacco, Sugarcane, Turmeric, Ginger, Chili, Garlic, Onion)	
	3.2.3 Fish	
	3.2.4 Labor	
	3.2.5 Business	
	3.2.6 Service	
	3.2.7 Livestock	
	3.2.8 Rickshaw/Van	
	3.2.9 Other	
	3.2.10 Total Income	

3.3 Loan Status

Sources	Amount	Year	Interest rate	Loan Taken (Purpose)
3.3.1 Mahajon				
3.3.2 Other farmers				
3.3.3 Paiker				
3.3.4 Faria				
3.3.5 NGO				
3.3.6 Bank				
3.3.7 Relative				
3.3.8 Other				

3.4 Saving and Insurance Status

3.4.1 Do you have any saving? 1. Yes 2.No

3.4.2 If yes then what is the saving amount last year?.....

3.4.3 Do you have any insurance scheme? 1. Yes 2.No

3.4.4 If yes then what is the amount you have deposited last year? …… ……..

4. Agricultural Practices (Crop Production)

4.1 Land profile

Cultivable land	Decimal	Remarks (for lease land collect yearly lease cost, condition for share cropping)
4.1.1 Own		NA
4.1.2 Lease		
4.1.3 Share cropping		
Uncultivable land		
4.1.4 Homestead		NA
4.1.5 Fallow		NA

4.2 Major crops and cropping pattern

Name of crops cultivated	1. Rice 2. Jute 3.Wheat 4.Maize 5.Pulses 6.Mustard 7.Jute 8.Tobacco 9. Sugarcane 10.Turmeric 11.Ginger 12.Chili 13.Garlic 14.Onion 15.Tomato 16. Bringal 17. Other		
Cropping Pattern (please mention the crops name	Season 1 (Rabi) (Mid October – Mid March) (Agrahayan – Choitro)	Season 2 (Kharif I) (Mid-March – Mid Iuly) (Boishakh – Shrabon)	Season 3 (Kharif II) (Mid July – Mid Oct) (Vadro –kartik)
Major Crops (mostly depends)			

4.3 Costs, productivity and sales

Costs	**Crop 1**	**Crop 2**	**Crop 3**
4.3.1 Name of the crop			
4.3.2 Land size (decimal)			
4.3.3 Lease value (BDT)			
4.3.4 Tillage cost			
4.3.5 Seed			
4.3.6 Chemical Fertilizer			
4.3.7 Organic fertilizer			
4.3.8 Pesticides			
4.3.9 Irrigation			
4.3.10 Transportation			
4.3.11 Labor cost			
4.3.12 Others			
4.3.13 Total cost			
4.3.14 Total production (KG)			
4.3.15 Total Sale volume			
4.3.16 Average sales price			
4.3.17 Total Revenue main			

product (BDT) **(4.3.14 ×4.3.16)**			
4.3.18 Revenue from by product (Straw etc)			
4.3.19 Net profit (4.3.17 + 4.3.18 – 4.3.1)			

4.4 Soil testing information

4.4.1 Are you aware about soil testing?	1. Aware 2. Not aware
4.4.2 If aware, have you tested your land?	1. Tested soil 2. Does not test soil
4.4.3 From where tested?	1. SRDI 2. DAE 3. Private service provider

4.5 What type of fertilizers do you use?

4.5.1 Chemical Fertilizer	(please give tick)
Urea	
TSP	
Potas	
DAP	
4.5.2 Micro nutrient	
Zink (Dosta)	
Zysum	
Boron	
Mg	
4.5.3 Organic fertilizer	
Cowdung	
Compost	
Green manure (Dhoncha)	

4.6 Where do you collect seed?

1. Retailer 2. Mobile seed vendor 3.NGO 4.LSP 5.Large Farmer 6.Own production 7. Others

4.7 What type of seed do you use? 1. Packed seed 2. Loose seed

4.8 What variety seed do you use? 1. Traditional 2.High yield 3. Hybrid

4.9 Where do you collect pesticides and insecticides? 1. Retailer 2. Spray man 3. Others

4.10 Do you know about IPM (Integrated Pest Management)? 1. Yes 2. No

4.11 If Yes, what is the source of your knowledge? 1. DAE 2.NGO 3.Retailer 4.Lead farmers 5. Others

4.12 Do you apply IPM in your cultivation practice?1. Yes 2 No

4.13 What post harvest activities do you perform? 1. Sorting 2.Grading 3.Drying 4.Cleaning 5.Packaging 6. Others

5. Practices for Fish:

5.1 Total Size of the ponds (owned) :_____(dcm) 5.2 Size of lease pond: :_____(dcm)

5.3 Number of total ponds: _____

5.4 Name of fish cultured: 1. Rui 2.Katla 3.Mrigel 4.Tilapia 5.Pangus 6. Koi 7.Sarputi 8.Silver carp 9.Others.

5.5 Costs, productivity and sales for fishery

Costs	**Amount (BDT)**
5.5.1 Lease	
5.5.2 Pond preparation (Lime)	

5.5.3 Fingerling	
5.5.4 Fish feed	
5.5.5 Medicines / Vitamins	
5.5.6 Irrigation & drainage	
5.5.7 Transportation	
5.5.8 Labor	
5.5.9 Others	
5.5.9 Total Cost	
5.5.10 Total Production (KG)	
5.5.11 Total sells volume (KG)	
5.5.12 Average sales price (per KG)	
5.5.13 Total Revenue (BDT)	
5.5.14 Net profit (total cost-total revenue)	

5.6 From where did you learn to prepare pond?

Source	
Government (DoF/BAU/BFRI)	1
Retailer	2
Company	3
NGO	4
Lead Farmer	5
None	6
Others	

5.7 From where do you collect fingerling?

1.Government Hatchery 2.Nursery 3.Private Hatchery 4.Patilwala 5.Lead Farmer 6.NGO 7. Others

5.8 What is the mortality rate? _____%

5.9 How do you get to know about new species of fish?

Source	
Government (DoF/BAU/BFRI)	1
Retailer	2
Company	3
NGO	4
Lead Farmer	5
None	6
Others	

5.10 What type of feed do you use? 1.Natural feed 2. Loos feed 3. Ready feed

5.11 From where do you buy ready feed? 1.Retailer 2. Feed crusher 3. Others

5.12 Do you use medicine and vitamin? 1. Yes 2. No

6.1 <u>Costs, productivity and sales for livestock</u>

Costs (yearly)	**Amount (BDT)**		
6.1.1 Type	**Cow**	**Goat**	**Poultry**
6.1.2 Number of species			
6.1.3 Shed preparation & management			
6.1.4 Collection of infants / DOC			
6.1.5 Feed			

6.1.6 Medicines (AI, deworming)				
6.1.7 Vaccine				
6.1.8 Labor				
6.1.9 Electricity				
6.1.10 Others				
6.1.11 Transportation				
6.1.12 Total Cost				
6.1.13 Egg production				
6.1.14 Milk production (Ltr)				
6.1.15 Meat production (Kg)				
6.1.16 Average sales price	Milk	Meat		
6.1.17 Revenue from by-product				
6.1.18 Total Revenue				
6.1.19 Net profit (6.1.17 + 6.1.18-6.1.12)				

6.2 From where did you learn to make shed for your livestock?

1. DLO 2. Input seller 3. NGO 4. Large Farmer 5. Own 6. Others

6.3 From where do you collect infants / DOC?

1. Government 2. DLO 3. Nursery 4. Hatchery 5. Large Farmer 6. Own 7. NGO 8. Others

6.4 What is the mortality rate (Poultry)? _____

6.5 What type of feed do you use? 1.Natural feed 2. Loose feed 3. Ready feed

6.6 From where do you buy ready feed? 1.Retailer 2. Feed crusher 3. Others

6.7 Do you use vaccine,medicine,and vitamin? 1. Yes 2. No

6.8 If yes, from where do you acquire this service? 1. DLO 2. Retailer 3. Paravet 4. NGO 5. Others

7. <u>Labor Details in your field management (Last of year)</u>:

	No of days		**Wage (per day)**	
	Male	Female	Male	Female
7.1 Hired				
7.2 Self				
7.3 Labor selling				
7.5 Source of labour	a. Local		b. Migrant	

8. <u>Service Provision</u>

Services	Do you need the following services?	Do you get the following services?	If yes from whom? 1. DAE 2 SRDI 3 DoF 4 BFRI 5 DLS 6 BAU 7 BARI 8 BADC 9 BINA 10 Local government (UP) 11. Local administration 12. Retailer 13. Company 14. NGO 15. Lead Farmer 16. Bank 17.traders 18 Others	Are you satisfied with the services you received?
Information on inputs (seed, fertilizer, pesticide etc)	Yes-1 No-1	Yes-1 No-1		Yes-1 No-1
Information on soil management (soil testing, compost fertilizer)	Yes-1 No-1	Yes-1 No-1		Yes-1 No-1
Knowledge on improved cultivation practices (Crop, fish, Livestock)	Yes-1 No-1	Yes-1 No-1		Yes-1 No-1
Access to finance (credit, loan etc)	Yes-1 No-1	Yes-1 No-1		Yes-1 No-1
Access to infrastructure (road, market, storage,	Yes-1 No-1	Yes-1 No-1		Yes-1 No-1

electricity etc)				
Access to equipment and machinery (power tiller, shallow machine, spray machine etc)	Yes-1 No-1	Yes-1 No-1		Yes-1 No-1
Access to subsidy (fertilizer, disel, electricity)	Yes-1 No-1	Yes-1 No-1		Yes-1 No-1
Access to market information	Yes-1 No-1	Yes-1 No-1		Yes-1 No-1

9. Market status

9.1 Where how and to whom do you sell your products?

	Individual	Group	Both	Set Buyer
Neighbors				
Paiker / Wholesaler				
Dalal / Faria				
NGO				
Private company				
Arotder/Commission agent				

9.2 Are you satisfied with the price you get? 1. Yes 2. No

9.3 If No, why the price is unsatisfactory do you think?

9.4 Are you aware of the demands of various markets (district market, national market like kaowran bazar, processing company)? 1. Yes 2. No

9.5 If YES, do you have any plan to reach the markets with more demand/faire price? How?

9.6 Do you get information on the price fluctuations in the market? 1. Yes 2. No

9.7 If yes , what are sources?

10. Climate adaptive and environment friendly cultivation practice

10.1 Have you experienced any of these climate change events in this region in the last 5 years?

1.Drought 2. Flash Flood 3. Storm 4. Erratic rainfall 6 Decrease in soil fertility 7. Hot wave / cold wave 8. Short duration winter 9. Fogginess 10. Increase in pest attack & disease

10.2 How does these events affect in your agriculture?

1. Crop failure 2. Low productivity 3.Higher cost of production 4. Degradation of product quality

5. Others

10.3 How do you address these problems?

1. Excessive irrigation 2.Over use of chemical fertilizer 3.Over use of pesticide

4. Late sowing / planting 5. Not cultivating in that season 6. Introducing hybrid variety

10.4 Do you want to change your crop if the climate does not suit your present crop? 1. Yes 2. No

10.5 Are you aware of any farmers in locality who have changed their crops to mitigate effect of climate change?

10.6 Do you know about the following climate adaptive / environmental friendly practices?

1	Introducing drought tolerant variety	9	Relay and mixed cropping
2	Introducing submersible variety	10	Rain water harvesting
3	Early and short duration variety	11	Using compost fertilizer
4	Floating cultivation	12	Zero tillage
5		13	
6	Lesser use of chemical fertilizers & insecticides	14	Priming agriculture
7	Integrated Pest Management (IPM)	15	Better management of post-harvest residues
8	Mulching		

10.7 Please mention the practices that you are already practicing.

Please use the code of q10.6 as response (multiple response possible)

10.8 Do you run any savings fund to cope with the climate change hazards? 1. Yes 2. No

11 Society / Groups / Association/Institutional involvement status

11.1 Is there any farmers groups in your locality? 1. Yes 2. No

(If No, go to 11.6)

11.2 If Yes, are you member of that group? 1. Yes 2. No (If No, go to 11.8)

11.3 If Yes, what are the functions of these group?

1.Group Purchase 2. Group selling 3.Soil testing 4. Counseling

5. Production training 6.Group savings 7. Negotiating with Govt. offices

8. Negotiation with private companies / service providers 9. Others

11.4 Are you benefitted as a member of this group? 1. Yes 2. No

11.5 If No, why aren't you a member of the group?

1. Not interested 2. Not aware of the benefits 3. The group is not active enough

4. Don't find it beneficial 5. Others

11.6 Are you interested to join in such farmers group? 1. Yes 2. No

11.7 What benefits do expect from the group?

1.Better Input Purchase 2. Better Selling Price 3. Soil testing

4. Counseling e. Training 5. Negotiation with Govt. offices

6. Negotiation with private companies / service providers 7.Others

11.7 Are you member of any association (micro credit, Cooparative etc.)? 1. Yes 2. No

11.8 If YES, mention their names and types

Names	Types

11.9 What facilities do you get from the association?

11.10 Are you satisfied with the services you get from the society / group? 1. Yes 2. No

11.11 Are there any existing district or regional associations of farmers? 1. Yes 2. No

11.12 If YES, Do you perceive any benefit from the district or regional associations? 1. Yes 2. No

11.13 If Yes, what are the benefits that you perceive?

11.14 What are you expectations from the district or regional associations?

11.15 Are the expectations different from what the group can provide?

12 Policies and Govt. Rules

12.1 Are you aware of any government agricultural policies or activities that target farmers? 1. Yes 2. No

12.2 If Yes, what are the policies you know about?

Subsidy in fertilizer	1
Subsidy in diesel and electricity	2
Fixing rate in rice purchasing	3

Interest free credit facility	4
Others..	

12.3 Do you get the benefits from these policies? 1. Yes 2. No

12.4 If yes, what are the benefits?

12.5 If no, what is the reason behind this?

12.6 How often do you come across the SAAO or other agricultural extension officers in your area?

12.7 What would you suggest be done to improve your interaction with the government offices so that you can access and benefit most from such government activities and policies?

13 Problems faced as ethnic:

13.1 Do you face any problem for belonging ethnic group? 1. Yes 2. No

13.2 If YES, describe the problems.

13.3 What are the possible solutions that come into your mind?

13.4 Who do you think can help you in this regard?

1. Government 2. NGO 3. Group / association leader/ Member 4.Head of household 5.Others

3.2CHECKLIST FOR GOVT. OFFICIALS

1. ***What are the five major crops of the region?***
   ……
   - *i.* ……..
   - *ii.* ……..
   - *iii.* ……..
   - *iv.* ……..
2. ***Which are the five most potential crops (in terms of increasing area coverage) in the region?***
   - *i.* ……
   - *ii.* ……..
   - *iii.* ……..
   - *iv.* ……..
   - *v.* ……..
3. ***Which are the five most potential crops (in terms of increasing productivity) in the region?***
   - *i.* ……
   - *ii.* ……..
   - *iii.* ……..
   - *iv.* ……..
   - *v.* ……..
4. ***What cropping patterns currently exist in the region?***
   ……..
5. ***Are there any new cropping pattern emerging in the region? If yes, what are those?***
   ……..
6. ***What are the major challenges related to agriculture/livestock/ fisheries in the region?***
   - *i.* ……
   - *ii.* ……
   - *iii.* ……
   - *iv.* ……
   - *v.* ……..
7. ***What services do you provide to the farmers?***
   - *i.* ……
   - *ii.* ……
   - *iii.* ……
   - *iv.* ……
   - *v.* ……..
8. ***What are the major challenges for you to provide services to the farmers?***

vi. ……
vii. ……
viii. ……
ix. ……
x. ……..

9. ***Are the farmers in the region affected by natural calamities? If yes how?***
10. ***How are the farmers coping with the natural calamities?***
11. ***What support does the government provide to make the farmers capable in handing the natural calamities?***
12. ***According to you what national agricultural, fisheries and livestock policies have had favorable impact on agricultural, fisheries and livestock production in the region?***
13. ***According to you what other national agricultural, fisheries and livestock policies are needed?***
14. ***Are there any government policy/ project in the region targeting women and members of the ethnic population? If yes, what are the key policies/ activities targeting the women and members of the ethnic population?***
15. ***Are there any district/ regional association of the farmers in the region? If yes, how are they functioning?***
16. ***Give a brief of the project and ask how the project can collaborate with the government and the private sector to achieve its objectives of improving the farmers income and livelihood.***

3.3CHECKLIST FOR GROUP LEADER

1. ***What is the name of this farmer's groups?***
2. ***When was it formed and by whom? Why was it formed?***
3. ***How many current members?***
4. ***Is the group growing in size? If yes, why? If no, why not?***
5. ***Does the group have members from women and ethnic community? If yes, how many? If no, why?***
6. ***What are its major services and activities?***
7. ***Does the group have an executive committee? If yes, how is the executive committee selected? If no, who runs the group?***
8. ***Does the group have regular meetings? If yes, how often and what issues are discussed? If no, why?***
9. ***What is the key value of working through groups? Give us examples of how the membership of the group has enabled individual members to gain benefits.***
10. ***What are the difficulties and challenges you face within the group?***
11. ***What collective actions the group has taken so far? Tell us the success/failure issues in brief.***
12. ***Are there services you need that you are not able to access? What are they? Would you need help to source this service?***
13. ***Is there any exchange of information among different groups? What types of information are exchanged? How does this help both groups?***
14. ***Does the group have any collaboration with the government and the private sector? If yes, please narrate.***
15. ***What are the major sources of earning for the group? How does the group sustain itself financially? (dues collected, donations made, sponsorships sought etc.)***
16. ***Does the group have any savings? What is the value of the savings? What are the uses of these savings? Does that saving help the members in distress?***
17. ***Are there any existing district or regional associations? Is this group a member of the association? What benefits the farmers perceive from there? Any particular services/benefits they provide which can't be achieved by the groups?***
18. ***Crop diversification and environment friendly cultivation***

3.4CHECKLIST FOR INPUT RETAILER

1. ***What type of services do you provide? Which are the areas you work in? Who are the main clients?***
2. ***What is your current customer base?***
3. ***How do the farmers comments on your services? What are the issues they have disputes? What is the scenario with the small farmers?***
4. ***Do you provide any kind of embedded service also?***
5. ***What are your barriers in providing better services / extending your business?***
6. ***Which private companies are there in backward linkages? How do you think this linkage can be developed?***
7. ***Do you know about the APONE project? How do you think it can be helpful to the famers & input suppliers? Do you think you can participate in the project? How?***
8. ***Has the company been impacted by climate change, how? How have they responded – have their services changed, been modified / adapted?***
9. ***Due to climate change do yousee changes in crop mixes, cultivation practices (examples of change).***

3.5CHECKLIST FOR FGD

Module 1: Status of income / earning

- What are the major income sources?
- What are the secondary income sources?
- What percentage of women involved in income generating activities? What are they?

Module 2: Agricultural practices/production detail

- What are the main crops / cash crops in the region?
- How many seasons in a year agricultural activities are continued?
- Average yield and production of major crops
- What types of fertilizer used?
- Any improved / environmental friendly cultivation techniques used?
- What type of seeds do they use?
- What is the production trend for the last 10 years for those major crops?

Module 3: Information on collective movement

- Does the group practice collective selling / buying?
- What benefits they found from their collective movement?
- Do they face any problems while taking collective actions?
- How do they face the problems?
- How do they negotiate with local stakeholders for improved resources and services?
- What other benefits they target to achieve by collective movement?
- Do they feel their situation has improves since they are talking collection action?

Module 4: Information on existing groups / associations

- How many existing groups or associations are there in the area?
- How many are members of them?
- What benefits / services they perceive from them?
- Are the benefits / services satisfactory?
- What other benefits / services they seek from them?

Module 5: Status of services received

- What are the sources of input? (seeds, fertilizer, insecticides, fingerlings, cattle)
- Are they satisfied with the price and quality?
- Are the inputs available whenever needed?
- What major problems they face in acquiring them?
- What steps do they take to tackle these problems?
- Who are their main input sources? Private companies or Govt.? Why
- What services they get for their income generating activities?
- Who do they approach to for ask / buy services mostly?

Module 6: Market details

- What is the usual selling behavior of the farmers? (Group, single or both)
- Which one they find more profitable? Why?
- How many intermediaries are there for their product to reach from them to market?
- Are they satisfied with the price they get? If not, what actions they take for better price?
- Are they aware of the price fluctuations in the market? How much the seasonal variation affects them

Module 7: Awareness on Govt. policies

- Are they aware about the different Govt. policies for the farmers?
- How they are / can be benefitted from these policies?
- Do you think the policies are being implemented properly? If why, what are the barriers in the implementation process?
- How do you think this situation can be improved?

Module 8: Disaster risks and mitigation measures

- How often do you face natural disasters in the area? How do they impact you?
- What measures do you take to mitigate the loss?
- Did you try crop changing before? Do you know if any other farmers in your locality has changed crop before?

ANNEX 4: RAW DATA SHEET

q1.3sex

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Male	55.90%	67.80%	58.10%	73.70%	57.00%	70.70%
Female	44.10%	32.20%	41.90%	26.30%	43.00%	29.30%

q1.5ethnic

	Mymensing				Sherpur				All			
	Beneficiary		Non beneficiary		Beneficiary		Non beneficiary		Beneficiary		Non beneficiary	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	%	%	%	%	%	%	%	%	%	%	%	%
Ethnic	12	38	15	53	6	19	0	14	9	28	7	36
Non ethnic	88	62	85	47	94	81	100	86	91	72	93	64

q1.6 Education

	Mymensing				Sherpur				All			
	Beneficiary		Non beneficiary		Beneficiary		Non beneficiary		Beneficiary		Non beneficiary	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	%	%	%	%	%	%	%	%	%	%	%	%
Illiterate	23	8	10	16	22	19	36	27	22	13	23	21
Can sign only	27	42	62	26	19	15	24	40	23	29	43	32
Below class 8	20	19	10	26	25	40	31	20	22	30	21	24
Class 8 to 10 pass	23	19	8	21	8	23	2	13	15	21	5	18
SSC passed	5	8	10	5	17	2	5	0	11	5	7	3
HSC passed	3	4	0	0	7	0	0	0	5	2	0	0

Graduate	0	0	0	5	1	0	2	0	1	0	1	3

Table 1
q1.7district

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	Average	Average	Average	Average	Average	Average
Family size	5	5	4	5	4.5	5
Number of earning member	2	2	1	1	1.5	1.5
Number of children aged above 6	2	2	2	2	2	2
Number of school going children	2	2	2	2	2	2

1.14 Primary Occupation

	Mymensing				Sherpur				All			
	Beneficiary		Non beneficiary		Beneficiary		Non beneficiary		Beneficiary		Non beneficiary	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	%	%	%	%	%	%	%	%	%	%	%	%
Crop Farmer	83	31	80	15	91	42	73	50	86	35	77	29
Fish Farmer	12	6	4	5	2	0	3	0	8	4	4	3
Livestock Farmer	5	60	4	80	7	58	19	29	6	59	11	59
Business	0	0	2	0	0	0	0	0	0	0	1	0
Labor	0	1	2	0	0	0	5	14	0	1	4	6
Job/service	0	1	4	0	0	0	0	7	0	1	2	3
Others	0	0	2	0	0	0	0	0	0	0	1	0

1.15 Secondary Occupation

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary

	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	%	%	%	%	%	%	%	%	%	%	%	%
Crop Farmer	6	10	7	0	7	5	19	29	7	8	12	12
Fish Farmer	5	0	7	5	4	5	8	0	4	2	7	3
Livestock Farmer	6	6	7	0	9	3	8	14	7	5	7	6
Business	20	7	15	0	16	5	14	0	18	7	14	0
Labor	10	12	7	10	11	5	14	0	10	9	10	6
Job/service	5	4	4	5	7	3	0	0	6	4	2	3
Fishermen	1	0	0	0	2	0	0	0	1	0	0	0
No secondary occupation	47	60	54	80	46	74	38	57	46	65	47	71

2.1 Housing pattern

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Thatched	6	7	2	11	4	8
Katcha (Mud)	32	36	14	11	23	24
Tin Made	55	49	79	72	67	60
Semi-pacca (Tin shed)	6	8	5	6	6	7
Pucca (Building)	1	0	0	0	0	0

2.2 Percentage of respondents have following household resource

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
Item	%	%	%	%	%	%
1. TV	29	17	23	18	27	17
2. Mobile	76	79	71	61	74	71
3. Cycle	39	29	33	22	36	26

4. Motor cycle	1	3	2	0	2	2
5. Radio	3	3	2	4	3	3
6. Nirani/Kodal/Kaste	72	86	69	76	71	82
7. Shallow Machine	11	9	7	10	9	9
8. Power Tiller	2	2	1	2	2	2
9. Plough	16	21	20	8	18	15
10. Spray machine	8	5	17	22	12	12
11. Thrasher machine	3	0	0	2	2	1
12. Van/Rikshaw	7	11	3	16	5	13
13. Cow	53	59	59	51	55	56
14. Goat	7	20	7	0	7	11
15. Poultry	54	52	44	27	50	41
16. Duck	28	26	24	16	27	21
17.Tractor	3	6	2	4	2	5

2.2 Average value of household resources

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	Average	Average	Average	Average	Average	Average
Luxury (TV, radio, mobile, cycle, motor cycle)	3000	2500	3000	2500	3000	2500
Agriculture Resource (Nirani/Kodal/Kaste, spray, thrasher, shallow machine, power tiller)	700	1000	800	800	750	900
Livestock (Cow, goat, poultry, duck)	13300	17100	14000	28000	13650	22550
Total household resources	17000	20600	17800	31300	17400	25950

q2.3 Source of drinking water

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%

Tube well	92	88	99	92	95	90
Shallow Tube well	7	9	0	6	4	8
Deep Tube well	1	3	0	2	1	3
Pond	0	0	1	0	0	0

q2.4 Sanitation

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Kaccha	22	24	9	15	18	21
Ring Slab	65	66	68	55	66	60
Pacca	12	10	23	22	16	15
Open Field	1	0	0	8	0	4

q2.5Medical Treatment source

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Village doctor	75	74	40	37	61	57
Kobiraj	4	5	4	6	4	5
Pharmacy	20	26	9	16	16	22
Upazila hospital	54	72	74	47	62	61
District hospital	9	7	10	16	9	11

Food Basket

2.6.1 How many times do you consume Rice daily

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary

	%	%	%	%	%	%
Once a day	0	0	0	4	0	2
Twice a day	4	2	19	10	10	6
Thrice a day	96	98	81	86	90	92

Respondents food habits

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	Average	Average	Average	Average	Average	Average
Meat	2	2	2	2	2	2
Chicken	3	3	3	3	3	3
Fish	17	20	17	13	17	17
Egg	6	9	8	7	7	8
Pulses	12	15	14	20	13	17
Vegetables	25	24	24	23	25	24
Milk	9	12	11	13	10	12
Fruits	5	7	7	9	6	7

4.4.1 Are you aware about soil testing?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Aware	24	24	29	21	27	22
Not aware	76	76	71	79	73	78

4.4.2 If aware, have you tested your land?

	Mymensing		Sherpur		All	
	Benefic	Non	Benefic	Non	Benefic	Non

	iary	beneficiary	iary	beneficiary	iary	beneficiary
	%	%	%	%	%	%
Test soil	4	11	10	21	8	17
Does not test soil	96	89	90	79	92	83

4.4.3 From where tested?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
SRDI	50	0	20	25	29	25
DAE	50	0	60	75	57	75
Private service provider	0	0	20	0	14	0

4.5 What type of fertilizers do you use?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Chemical Fertilizer						
Urea	70	97	97	39	86	68
TSP	68	95	94	42	83	68
Potas	62	89	91	37	79	63
DAP	23	34	38	13	32	24
Don't use	**30**	**3**	**3**	**55**	**14**	**29**
Micro nutrient						
Zink (Dosta)	33	36	47	9	41	22
Gypsam	15	31	25	5	21	16
Boron	13	12	8	7	10	9
Magnesium	2	3	2	0	2	1

Don't use	**59**	**39**	**50**	**79**	**53**	**61**
Organic fertilizer						
Cowdung	51	75	84	44	72	59
Compost	12	16	14	5	14	10
Don't use	**49**	**24**	**8**	**51**	**25**	**39**

4.6 Where do you collect seed?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Retailer	69	92	87	86	82	88
Mobile seed vendor	1	0	0	0	1	0
NGO	0	0	0	2	0	1
LSP	5	3	1	0	3	1
Large Farmer	1	0	3	4	3	2
Own production	28	13	12	6	19	9

4.7 What type of seed do you use?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Packed seed	70	90	73	66	72	77
Loose seed	46	19	38	66	41	45

What variety seed do you use?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiar	Beneficiary	Non beneficiar	Beneficiary	Non beneficiar

		y		y		y
	%	%	%	%	%	%
Traditional	43	11	39	64	41	40
High yield	34	48	49	27	43	35
Hybrid	25	45	34	17	30	29

Where do you collect pesticides and insecticides?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Retailer	95	100	99	95	98	97
Spray man	5	0	1	2	2	1
Others	0	0	1	2	1	1

Do you know about IPM (Integrated Pest Management)?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Yes	7	3	27	40	19	24
No	93	97	73	60	81	76

If Yes, what is the source of your knowledge?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
DAE	0	0	46	47	23	24
NGO	80	0	29	31	55	16
Retailer	20	100	4	26	12	63

Lead farmer	0	0	25	37	13	19

Do you apply IPM in your cultivation practice?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Yes	3	0	12	12	8	6
No	97	100	88	88	92	94

What post harvest activities do you perform?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Sorting	49	46	38	38	42	41
Grading	36	27	39	36	38	32
Drying	53	46	44	33	47	39
Cleaning	49	43	42	24	45	33
Packaging	1	3	3	9	2	6
Don't perform	27	43	42	58	37	51

6.2 From where did you learn to make shed for your livestock?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
DLO	0	4	0	0	0	2
Input seller	4	0	0	0	2	0
NGO	2	0	4	11	3	5
Large Farmer	11	4	6	5	8	5
Self knowledge	93	95	93	84	93	89

6.3 From where do you collect infants / DOC?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
DLO	0	5	2	10	1	7
Other farmer	32	43	39	34	35	38
Own	77	72	67	57	70	64

6.4 What is the mortality rate (Poultry)?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	Average	Average	Average	Average	Average	Average
Mortality rate (%)	18	22	22	5	20	16

6.5 What type of feed do you use?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Natural feed	98	86	90	72	95	79
Loose feed	53	50	41	45	48	47
Ready feed	9	23	12	11	11	17

6.7 Do you use vaccine,medicine,and vitamin?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Yes	58	57	63	71	61	63

No	42	43	37	29	39	37

6.8 If yes, from where do you acquire this service?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
DLO	13	0	0	23	12	13
Medicine shop	73	64	74	88	72	74
Paravet	21	36	12	0	15	22
NGO	10	0	4	0	6	0

8. Service Provision

Do you need the following services?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
Demand for services	%	%	%	%	%	%
Information on inputs (seed, fertilizer, pesticide etc)	94	85	91	96	92	91
Information on soil management (soil testing, compost fertilizer)	75	73	78	94	76	83
Knowledge on improved cultivation practices (Crop, fish, Livestock)	87	95	94	96	91	95
Access to finance (credit, loan etc)	94	96	91	89	92	93
Access to infrastructure (road, market, storage, electricity etc)	85	75	81	91	83	83
Access to equipment and machinery (power tiller, shallow machine, spray machine etc)	84	82	85	91	85	86
Access to subsidy (fertilizer, disel, electricity)	86	84	85	89	85	86
Access to market information	82	82	90	87	86	84

Do you get the following services?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
Services received	%	%	%	%	%	%
Information on inputs (seed, fertilizer, pesticide etc)	35	33	52	45	43	38
Information on soil management (soil testing, compost fertilizer)	11	14	11	26	11	19
Knowledge on improved cultivation practices (Crop, fish, Livestock)	23	21	31	19	27	21
Access to finance (credit, loan etc)	47	43	31	6	39	27
Access to infrastructure (road, market, storage, electricity etc)	8	7	8	0	8	4
Access to equipment and machinery (power tiller, shallow machine, spray machine etc)	72	60	69	84	71	70
Access to subsidy (fertilizer, disel, electricity)	18	12	28	13	23	12
Access to market information	16	10	20	16	18	12

Information on inputs (seed, fertilizer, pesticide etc)

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
Services sources	%	%	%	%	%	%
DAE	4	0	0	0	2	0
Retailer	62	64	74	64	69	65
NGO	8	0	3	14	6	8
Lead farmer	29	42	22	21	25	33
Trader	0	7	3	7	2	8

Information on soil management (soil testing, compost fertilizer)

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiar	Beneficiary	Non beneficiar	Beneficiary	Non beneficiar

		y		y		y
Services sources	%	%	%	%	%	%
DAE	57	67	80	75	69	71
SRDI	28	33	20	25	24	29
NGO	14	0	0	0	7	0

Knowledge on improved cultivation practices (Crop, fish, Livestock)

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
Services sources	%	%	%	%	%	%
DAE	16	20	19	32	2	0
Retailer	21	30	17	17	69	65
NGO	8	10	3	14	6	8
Lead farmer	46	30	48	27	25	33
Trader	10	17	15	17	2	8

Access to finance (credit, loan etc)

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
Services sources	%	%	%	%	%	%
NGO	68	84	54	33	61	59
Bank	24	11	29	67	27	39
Lead farmer	8	5	8	12	8	9

Are you satisfied with the services you received?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
Satisfaction on service received	%	%	%	%	%	%
Information on inputs (seed, fertilizer, pesticide etc)	44	46	46	86	45	64

Information on soil management (soil testing, compost fertilizer)	13	11	12	27	13	18
Knowledge on improved cultivation practices (Crop, fish, Livestock)	20	25	27	32	24	28
Access to finance (credit, loan etc)	52	46	33	23	43	36
Access to infrastructure (road, market, storage, electricity etc)	11	11	17	18	14	14
Access to equipment and machinery (power tiller, shallow machine, spray machine etc)	48	54	62	45	55	50
Access to subsidy (fertilizer, disel, electricity)	19	21	19	36	19	28
Access to market information	24	11	33	45	28	26

9.1 Where how and to whom do you sell your products?

	Mymensing (beneficiary)			Sherpur (beneficiary)			All (beneficiary)		
	Sell		Don't sell	Sell		Don't sell	Sell		Don't sell
	Individual	Group		Individual	Group		Individual	Group	
	%	%	%	%	%	%	%	%	%
Neighbors	22	0	78	27.2	0	72.8	25	0	75
Paiker / Wholesaler	65	3	32	69.6	1.6	28.8	67	2	31
Dalal / Faria	4	0	96	0	0	100	2	0	98
NGO	0	0	100	0	0	100	0	0	100
Private company	0	0	100	0	0	100	0	0	100
Arotder/Commission agent	0	0	100	0	0	100	0	0	100

9.2 Are you satisfied with the price you get?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Yes	46	53	48	46	47	50

No	54	47	52	54	53	50

9.3 If No, why the price is unsatisfactory do you think?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
1	31	58	36	50	34	54
2	10	21	10	22	10	22
3	29	11	22	6	25	8
4	14	0	12	6	13	3
5	2	0	2	0	2	0
6	10	5	6	6	8	5
7	2	0	10	0	6	0
8	0	5	4	6	2	5
9	2	0	0	6	1	3

9.4 Are you aware of the demands of various markets (district market, national market like kaowran bazar, processing company)?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Aware	19	10	13	40	16	24
Not aware	81	90	87	60	84	76

9.5 If YES, do you have any plan to reach the markets with more demand/faire price? How?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
1	56	29	25	55	41	44
2	22	71	75	45	47	56

3	22	0	0	0	12	0

9.6 Do you get information on the price fluctuations in the market?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Yes	41	29	33	53	37	41
No	59	71	67	47	63	59

9.7 If yes , what are sources?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
1	68	44	50	48	60	46
2	11	39	15	29	12	33
3	8	6	15	5	11	5
4	3	6	6	5	4	5
5	5	6	3	5	4	5
6	5	0	6	0	6	0
7	0	0	3	10	1	5
8	0	0	3	0	1	0

10. Climate adaptive and environment friendly cultivation practice

10.1 Have you experienced any of these climate change events in this region in the last 5 years?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Drought	48	50	59	44	53	47
Flash Flood	54	42	30	44	42	43

Storm	29	36	41	27	35	32
Erratic rainfall	14	22	27	25	21	23
Decrease in soil fertility	12	24	16	38	14	31
Hot wave / cold wave	6	8	3	2	4	5
Short duration winter	1	2	0	0	1	1
Fogginess	14	16	36	19	25	17
Increase in pest attack & disease	18	16	16	19	17	17

10.2 How does these events affect in your agriculture?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Crop failure	73	57	63	66	68	61
Low productivity	71	83	71	68	71	76
Higher cost of production	34	28	32	41	33	34
Degradation of product quality	7	7	18	9	12	8
5	0	2	2	2	1	2
6	1	0	0	0	1	0
7	0	0	1	0	1	0

10.3 How do you address these problems?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Excessive irrigation	51	52	59	30	55	41
Over use of chemical fertilizer	46	52	49	67	48	59
Over use of pesticide	39	42	46	43	43	43
Late sowing / planting	24	6	11	17	18	11

Not cultivating in that season	7	16	16	17	11	16
Introducing hybrid variety	0	0	1	3	1	2

10.4 Do you want to change your crop if the climate does not suit your present crop?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Yes	81	79	78	71	80	75
No	19	21	22	29	20	25

10.5 Are you aware of any farmers in locality who have changed their crops to mitigate effect of climate change?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Yes	6	0	3	22	4	10
No	94	100	97	78	96	90

10.6 Do you know about the following climate adaptive / environmental friendly practices?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Introducing drought tolerant variety	12	20	17	44	15	29
Introducing submersible variety	58	40	53	44	55	42
Early and short duration variety	0	0	3	0	2	0
Floating cultivation	12	13	6	0	8	8
Lesser use of chemical fertilizers & insecticides	29	20	19	11	23	17
Integrated Pest Management (IPM)	0	7	22	0	13	4
Using compost fertilizer	4	20	9	0	7	12

Please mention the practices that you are already practicing.

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Introducing drought tolerant variety	4	13	6	22	5	17
Introducing submersible variety	8	27	8	44	8	33
Floating cultivation	12	13	6	0	8	8
Lesser use of chemical fertilizers & insecticides	21	20	11	11	15	17
Integrated Pest Management (IPM)	0	7	8	0	5	4
Using compost fertilizer	4	20	3	0	3	12
Don't practice	58	13	61	22	60	17

10.8 Do you run any savings fund to cope with the climate change hazards?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Yes	3	0	0	4	1	2
No	97	100	100	96	99	98

11 Society / Groups / Association/Institutional involvement status

11.1 Is there any farmers groups in your locality?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Yes	0	0	0	0	0	0
No	100	100	100	100	100	100

11.6 Are you interested to join in such farmers group?

	Mymensing		Sherpur		All	

	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Yes	89	51	95	62	92	57
No	11	49	5	38	8	44

11.7 What benefits do expect from the group?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Better Input Purchase	43	38	41	22	42	29
Better Selling Price	72	77	62	86	66	82
Soil testing	9	19	22	17	17	18
Counseling	15	31	43	6	31	16
Training	36	42	59	17	49	27
Negotiation with Govt. offices	0	0	0	3	0	2

11.7 Are you member of any association (micro credit, Cooparative etc.)?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Yes	76	70	85	72	80	71
No	24	30	15	28	20	29

11.8 Name of the association

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
GRAMAUS	90	100	100	93	94	95
Grameen bank	0	0	0	7	0	5

CARITAS	10	0	0	0	6	0

GRAMAUS and Grameen Bank are providing loan, on the other hand CARITAS is NGO doing community development.

11.10 Are you satisfied with the services you get from the society / group?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Satisfied	79	72	78	38	78	56
Not satisfied	21	28	22	62	22	44

11.11 Are there any existing district or regional associations of farmers?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Yes	0	0	0	0	0	0
No	100	100	100	100	100	100

12.1 Are you aware of any government agricultural policies or activities that target farmers?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Yes	14	17	21	29	17	23
No	86	83	79	71	83	77

12.2 If Yes, what are the policies you know about?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Subsidy in fertilizer	96	83	93	33	94	67

Subsidy in diesel and electricity	46	75	70	67	60	72
Fixing rate in rice purchasing	12	0	20	0	16	0
Interest free credit facility	6	0	12	0	9	0

12.3 Do you get the benefits from these policies?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Yes	17	14	11	29	13	20
No	83	86	89	71	87	80

12.4 If yes, what are the benefits?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Financial benefit	80	20	67	56	74	38
Cost of production reduction	20	60	33	18	27	39
Increase of yield	0	20	0	27	0	24

12.6 How often do you come across the SAAO or other agricultural extension officers in your area?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
SAAO comes 3 or times a year	9	13	11	14	10	14
SAAO comes very rarely	20	15	24	9	22	12
Don't come	71	72	65	77	68	74

12.7 What would you suggest be done to improve your interaction with the government offices so that you can access and benefit most from such government activities and policies?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary

	%	%	%	%	%	%
Government facility should increase	22	29	43	8	34	21
Number of block supervisor should increase	25	12	12	33	17	21
Can't say	53	59	45	59	49	58

13.1 Do you face any problem for belonging ethnic group?

	Mymensing		Sherpur		All	
	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary	Beneficiary	Non beneficiary
	%	%	%	%	%	%
Yes	0	0	0	0	0	0
No	100	100	100	100	100	100

ANNEX 5: LOGICAL FRAMEWORK WITH BASELINE FIGURES

Sustainable livelihoods through small-scale agriculture						
Impact Indicator 1		**Baseline**	**Milestone 1**	**Milestone 2**	**Target (date)**	
The proportion of people whose income is less than $1 a day (MDG 1 indicator)	**Planned**	40% (2010)			29% (2015)	
	Achieved	96% of the target population having income less than $1 (96% of the target households having yearly income less than BDT 144000 with an average family size 5)				
		Source				
		UN Human Development Reports, national statistics				
Impact Indicator 2		**Baseline**	**Milestone 1**	**Milestone 2**	**Target (date)**	
	Planned					
	Achieved					
		Source				

Outcome Indicator 1		**Baseline**	**Milestone 1**	**Milestone 2**	**Target (date)**	**Assumptions**
Percentage of farmers that see a 50% increase in disposable income (disaggregated by gender and ethnicity)	**Planned**	0% (2012)	10% (600) (March 31st 2013)	30% (1800) (March 31st 2014)	80% (4800) (March 31st 2015)	Economic conditions are stable and conducive to small-scale agriculture Bangladesh Government continues to promote agricultural growth and food security Natural disasters do not
	Achieved	0% (0) (Average current household income is BDT 56,441)				
		Source				
		Baseline & project progress report, annual & final project evaluations				
Outcome Indicator 2		**Baseline**	**Milestone 1**	**Milestone 2**	**Target (date)**	

Percentage of farmers who perceive an improvement in their well-being (disaggregated by gender and ethnicity)	**Planned**	To be assessed	10% (600) (March 31st 2013)	40% (2400) (March 31st 2014)	80% (4800) (March 31st 2015)	undermine project impact
	Achieved	To be assessed				
		Source				
		Baseline & project progress report, annual & final project evaluations				
DFID (£)		**Govt (£)**	**Other (£)**	**Total (£)**	**DFID SHARE (%)**	
724,011			**241,337**	**965,348**	**75**	
DFID (FTEs)						
20.042						

Output Indicator 1.1		**Baseline**	**Milestone 1**	**Milestone 2**	**Target (date)**	**Assumption**
Percentage of farmer groups taking collective actions	**Planned**	0% (2012)	20% (48) (March 31st 2013)	50% (120) (March 31st 2014)	75% (180) (March 31st 2015)	Farmers, groups and associations are willing to work together Strong leaders are available for the groups and associations Local authorities and other stakeholders engage with the project
	Achieved	0% (0) (No farmer groups exist and no collective actions taken by the farmers)				
	Source					
	Baseline & project progress report, annual & final project evaluations					
Output Indicator 1.2		**Baseline**	**Milestone 1**	**Milestone 2**	**Target (date)**	
Percentage of farmer groups that negotiate with local stakeholders for improved resources and services	**Planned**	0% (2012)	20% (48) (March 31st 2013)	40% (96) (March 31st 2014)	50% (120) (March 31st 2015)	
	Achieved	0% (0) (No farmer groups negotiating with local stakeholders)				
	Source					
	Baseline & project progress report, annual & final project evaluations					
Output Indicator 1.3		**Baseline**	**Milestone 1**	**Milestone 2**	**Target (date)**	
Percentage of farmers that perceive benefits from membership of local groups (disaggregated by gender and ethnicity)	**Planned**	0% (2012)	40% (2400) (March 31st 2013)	75% (4500) (March 31st 2014)	90% (5400) (March 31st 2015)	

	Achieved	0% (0) (Since there is no farmer groups exist)				
	Source					**RISK RATING**
	Baseline survey, FGDs & interviews with sample of target farmers, annual & final project evaluations					Medium
DFID (£)		**Govt (£)**	**Other (£)**	**Total (£)**	**DFID SHARE (%)**	
199,109			**66,370**	**265,479**	**75**	
DFID (FTEs)						
7.2335						

Output Indicator 2.1		**Baseline**	**Milestone 1**	**Milestone 2**	**Target (date)**	**Assumptions**
Number of improvements in policies, practices or resources negotiated by the district or regional associations	**Planned**	0 (2012)	0 (March 31st 2013)	2 (March 31st 2014)	4 (March 31st 2015)	Government bodies and officials recognise the associations as farmer representative bodies Private sector actors see a business case for working with farmers Farmers willing to pay for/take up services provided by public/private service providers
	Achieved	0 (No policy improvements yet)				
	Source					
	Baseline & project progress report, annual & final project evaluations, interviews with representative sample of government officials					
Output Indicator 2.2		**Baseline**	**Milestone 1**	**Milestone 2**	**Target (date)**	
Number of public & private service providers providing more appropriate & affordable services to target farmers	**Planned**	200 (2012)	200 (March 31st 2013)	300 (March 31st 2014)	300 (March 31st 2015)	
	Achieved	204 (service providers-trained through SLIPP providing services to farmers in the targer area)				
	Source					
	Records from service providers, companies and farmers groups					
Output Indicator 2.3		**Baseline**	**Milestone 1**	**Milestone 2**	**Target (date)**	
Percentage of farmers that perceive benefits from district/regional association membership (disaggregated by gender and	**Planned**	0 % (2012)	0% (March 31st 2013)	40% (2400) (March 31st 2014)	75% (4500) (March 31st 2015)	

ethnicity)	**Achieved**	0% (0) (No farmers exist directly linked or have membership to any farmers' association)				
	Source					**RISK RATING**
	Baseline survey, FGDs & interviews with sample of target farmers, annual & final project evaluations					Medium

DFID (£)		**Govt (£)**	**Other (£)**	**Total (£)**	**DFID SHARE (%)**
97,427			**32,476**	**129,903**	**75**

DFID (FTEs)	
3.5285	

Output Indicator 3.1		**Baseline**	**Milestone 1**	**Milestone 2**	**Target (date)**	**Assumption**
Percentage of farmers who see a 15% decrease in production costs (disaggregated by gender and ethnicity)	**Planned**	0% (2012)	10% (600) (March 31st 2013)	50% (3000) (March 31st 2014)	80% (4800) (March 31st 2015)	Service providers have adequate technical expertise and knowledge

	Achieved	• Average current production cost of rice is BDT 26667 per 100 decimal • Average current production cost of vegetable is BDT 53311 per 100 decimal • Average current production cost of LS (cow) is BDT 24865 per cow • Average current production cost of LS (goat) is BDT 3911 per goat • Average current production cost of LS (poultry) is BDT 2864 per 10 poultry bird (local variety)				Farmers willing to adapt practices and use new knowledge and skills Farmers see the value of technical and business services
	Source					
	Baseline survey, annual & final project evaluations					
Output Indicator 3.2		**Baseline**	**Milestone 1**	**Milestone 2**	**Target (date)**	
Percentage of farmers who see a 30% increase in productivity (disaggregated by gender and ethnicity)	**Planned**	0% (2012)	10% (600) (March 31st 2013)	50% (3000) (March 31st 2014)	80% (4800) (March 31st 2015)	

	Achieved	• Average current productivity of rice is 1943 kg per 100 decimal • Average current productivity of vegetable is 4104 per 100 decimal • Average current productivity of LS (cow) is 438 Litter milk and 124 kg meat per cow • Average current productivity of LS (goat) is 14 kg meat per goat • Average current productivity of LS (poultry) is 508 eggs and 10.5 kg meat per 10 poultry bird (local variety)				
	Source					
	Baseline survey, annual & final project evaluations					
Output Indicator 3.3		**Baseline**	**Milestone 1**	**Milestone 2**	**Target (date)**	
Percentage of farmers who see a 30% increase in sales (disaggregated by gender and ethnicity)	**Planned**	0% (2012)	10% (600) (March 31st 2013)	40% (2400) (March 31st 2014)	75% (4500) (March 31st 2015)	

	Achieved	• Average current sales price of rice is BDT 29690 per 100 decimal • Average current revenue of vegetable is BDT 65656 per 100 decimal • Average current revenue of LS (cow) is BDT 50357 per cow • Average current revenue of LS (goat) is BDT 4690 per goat • Average current revenue of LS (poultry) is BDT 6794 per 10 poultry bird (local)				
	Source					**RISK RATING**
	Baseline survey, annual & final project evaluations					Medium

DFID (£)		**Govt (£)**	**Other (£)**	**Total (£)**	**DFID SHARE (%)**
190,994			**63,665**	**254,659**	**75**
DFID (FTEs)					
5.7515					

Output Indicator 4.1		**Baseline**	**Milestone 1**	**Milestone 2**	**Target (date)**	**Assumptions**
Percentage of farmers that diversify production and/or adopt more environment friendly cultivation practices (disaggregated	**Planned**	0% (2012)	0% (March 31st 2013)	50% (3000) (March 31st 2014)	80% (4800) (March 31st 2015)	Farmers realise the impact of climate change on their livelihoods

by gender and ethnicity)	**Achieved**	0%(0) (No farmers diversifying and adopting more environment friendly cultivation practices)				Farmers understand the need to reduce dependency on a single crop Farmers actively participate in a range of safety mechanisms such as insurance, savings schemes and a community fund etc.
	Source					
	Baseline survey, focus group discussions & interviews with sample of target farmers, annual & final project evaluations					
Output Indicator 4.2		**Baseline**	**Milestone 1**	**Milestone 2**	**Target (date)**	
Percentage of farmers that report an increase in soil fertility (disaggregated by gender and ethnicity)	**Planned**	0% (2012)	0% (March 31st 2013)	25% (1500) (March 31st 2014)	50% (3000) (March 31st 2015)	
	Achieved	0% (0) (no farmers testing their soil to determine soil fertility. Soil Resource Development Institute reports that average organic matter content of the soil is around 1% in the project area but optimum value is 5%.)				
	Source					
	Baseline survey, annual & final project evaluations, SRDI/DAE reports					
Output Indicator 4.3		**Baseline**	**Milestone 1**	**Milestone 2**	**Target (date)**	
Percentage of farmers covered by safety measures (disaggregated by gender and ethnicity)	**Planned**	0% (2012)	0% (March 31st 2013)	30% (1800) (March 31st 2014)	90% (5400) (March 31st 2015)	

	Achieved	0%(0) (No farmers covered by safety measures. Farmers are not practicing any crop/income diversification, group savings and improved cultivation technique to reduce the cost of production.)				
	Source					**RISK RATING**
	Baseline survey, annual & final project evaluations					Low
DFID (£)		**Govt (£)**	**Other (£)**	**Total (£)**	**DFID SHARE (%)**	
236,480			**78,827**	**315,307**	**75**	
DFID (FTEs)						
3.5285						

ANNEX 6: IN-DEPTH CASE STUDIES

Mr. Sadek – What am I doing wrong?

Md. Sadek Ali (36) is a crop farmer from Sankibhanga village in Sherpur. Running a family of 7, with only 2 earning members (him and his wife) is difficult with yearly household expenses running as high as Tk. 20, 000. Despite having an income of Tk. 30,000 yearly, he has no savings. This is because he paid back his loans of Tk.15,000 with 8% interest for a total of Tk. 16,200. As a result, he is left with no contingency money for the coming year. He exclusively farms rice, alternating between Boro and Bawa and does so mainly for his own subsistence. Out of 45mond he harvests annually on average, he only sells 15 mounds and takes the rest for self-consumption of his family. Even though he has 65 decimals of land for cultivation, and spends a fourth of his total costs on tilling it properly, the returns have not been successful due to low prices, Tk. 500 per mound as opposed to the government-mandated rate of TK. 720. He spends on acquiring the best inputs like packed seeds of hybrid variety from reputed retailers and even uses IPM (integrated Pest Management) to maximize his crops yield. Disappointed with rice farming, he has recently started fish farming in 20 decimal of land, which despite no prior experience and no expense even on feeding the fishes (resulting in 40% mortality), is giving him a yearly profit of Tk. 4,470.

Some of the problems with his rice cultivation lies in use of fertilizer which makes the crops lose colour and damages the yield. Due to his ignorance on the effects of excess fertilizer use, he cannot identify the problem and blames the retailer for selling him “Bad fertilizer”. Also, he uses no micronutrients at all and does not know anything about soil testing, let alone its benefits. He is aware of things he does not know of. He has questions but no one to ask them to. He carries on his farming with the guidance of a local big farmer; who helps out with whatever he knows. In his desperation, he has even tried reaching out to the SAAO or other agricultural extension officers during the few times that they came to his village. After being repeatedly rejected by them for any help, he has given up hope on them for anything. However, he is appreciative of the fact that he still has access to subsidized fertilizer from the government during the seasons.

With 6 mouths to feed and 4 school-going children among them, Mr. Sadek looks at a bleak future, hoping for someone to just tell him what is going wrong.

Shajeda Begum – A snapshot of struggle

Shajeda Begum (40) is facing a growing crisis of livelihood. She and her husband Abed Ali cultivates rice on 50 decimals of own land. They also have a cow and a goat as livestock which she maintains mostly. With yearly expenses running up to Tk. 11,000, yearly income of only a little over Tk. 13,000 means the margin of error is very slim with no safety net and no scope of future planning for a better livelihood, let alone any savings.

Through the years, Shahida has stuck to traditional farming knowledge handed down through the generations. She sticks to Boro and Amon farming and spends 10% of her total production cost behind chemical fertilizers like Urea, TSP and Potash with the "more is more" principle. She puts her faith behind good chemical fertilizers only with no use of micronutrients or soil testing. The seeds are acquired from local retailers and are all loose seeds to reduce cost. The harvest is sold to the local *paiker* (wholesaler). In recent times, getting better prices for her harvest is getting increasingly difficult as increasing yields by other farmers generated a surplus in supply to the market, driving prices down; while the prices of inputs are increasing every year. The cow and goat gives a modest earning but is kept mainly as an asset to be sold in case of emergencies.

With the current trend, she worries this year the expenses of running a family of four might prove to be too much. The same life has served her family for generations very well. She wonders exactly what has changed for her time.

Jasim Uddin – Striving to improve

JasimUddin (50) has been thinking about the future of him and his family. Living in the village of Polashia of Sherpur, the remoteness of the location adds to his troubles. Working on 40 decimals of land, he cultivates rice on 25 decimals and does fish farming on the rest 15 decimals. Livestock of 2 cows also adds to his income. While focusing on rice farming, he has branched out to the other sources in recent years. Despite using the best inputs, he is unable to get good prices at the market. The wholesalers in the nearby market collude together to keep the prices low and thus forcing him to distress sell. The government, despite setting the price at Tk.720 per mond does not have anyone to enforce it and thus in peak season, Mr. Jasim has to sell his harvest for as low as Tk. 500 per mond. As a single farmer, he holds no sway over the market, and the remoteness of the location means his choices are few.

His fish farming is done only as an afterthought, keeping his investment limited by not even buying fish feed and just letting the fishes grow naturally. Although this results in 40% mortality rate, he still makes decent profit. In addition, a portion of his income comes from livestock, mainly selling milk of two cows he has. He plans to improve his situation and saved Tk. 3000 last year and took Tk. 11000 loan to expand improve his cultivation with better fertilizers. However, two years ago, he damaged his crops with excessive use of fertilizers and is trying to find the right balance. He is unsure regardless of production, if it is possible to get better returns due to volatility of the market. As he crosses 50, Mr. Jasim wonders if he can leave behind a better future for his children.

Shamsul Alam – Victim of Climate change

ShamsulAlam (33) is a crop farmer who is used to challenges. Living near the border in the remote village of Mahoshlot of Haluaghat Upazilla, various obstacles are thrown in the way of his rice farming. Being the sole-earner in a family of four, his monthly expenses run over BDT 35,000 yearly. Most of his

troubles are expected and accounted for. What he did not expect is natural calamity. His main crops are Boro and Aush rice with Snake gourd and Bitter gourd done in between. Last year, a drought damaged the grazing fields nearby which drove the cows there to eat his Boro harvest causing him to lose BDT 12,000. He planned to recover the loss with vegetables, which occurs during winter when the weather is always stable. However, a sudden unexpected and unprecedented windstorm blew away his snake gourd harvest leading to further loss of nearly BDT 12,000. With only income from Aush harvest, he found himself unable to run his family. Now, out of desperation, he is taking financial assistance from his in-laws to feed his family.

Mr. Alam is confused as to what is happening. He mentioned that farming is dependent on nature and it was the one thing he could depend on. These days, he knows not what he should prepare for, or what he should do. Weather resistant varieties of seeds are much more expensive and usually cannot be found. All he wishes for is the dignity of a livelihood; but he does not know if he can ensure it with the volatile nature of climate these days.

Fazlur Rahman – Struggle till the end

FazlurRahman (65) has spent his whole life as a farmer. With 40 Decimals of cultivable, his yearly earnings go over BDT 32000. But running a family of seven with only him and his son earning is no easy task. His expenditures run over BDT 37000. Thus, even in his old age, he still has to work in the field with his son pulling additional labor duty on others' fields to support the additional expenses. Years of experience has taught him that good input equals good output. Thus, he only acquires packet seeds of the hybrid variety, uses the fertilizers and gets creative with the secondary crop after rice. In recent years, for example, he has started cultivating Chilies which makes for 40% of his income. He believes the same for his family, making sure they eat vegetables every day. Despite good earnings from a rare crop, he believes he can do it better. He started chili farming thinking if supply is low, he will have good price. He even carries out grading of his harvest to get better prices. The problem lies in inconsistent quality of his yield. Some years, it's good and some years it's bad, and he does not understand why it happens either way.

He has tried to reach out to local agricultural officers from the government; but they can rarely be found and do not visit their remote location of Chokpara Village. Thus, he depends on the advices of other farmers, which works for rice farming; but is not very effective with crops like chili. As it stands, all he can do is hope for a better yield and acquire the best inputs. At the age of 65, he fears he might have to struggle as long as he lives.

Hazrat Ali – A life lived on Loan

Hazrat Ali (65) lives in the Nosmonpur village of Sherpur. He is a crop farmer with no land of his own. He leases 40 decimals of land and has to give 7 mond of his harvest to the owner, regardless of his harvest. As the sole-earner in a family of 3, his annual income of BDT 10,000 is no match for his yearly household expenditure of BDt 13,000. Doing a combination of rice and vegetable farming is not good enough and he has no way of earning more as his age prevents him from working extensively. As a result he lives on loan now. He has loaned BDT 15,000 from other farmers to run his family's expenses and got further BDT 15,000 loan from the bank to carry out his farming. After giving away a large portion of his harvest to the owner he has barely enough to sell let alone feed his own family. After paying back the loans, even partially, he ends with no money and has to take loans again. He sorts, grades, dries and cleans his harvest in the hopes of getting better prices. Alas, the local wholesalers refuse to pay the government rates and in the pressure to pay back the loans taken, he has to sell at whatever price he is offered. Mr. Ali, wonders what will happen to his wife and daughter when he passes away one day, and who will carry on the burden of loans on his behalf.

Rina Akhter – Suffering in Ignorance

RinaAkhter (26), mother of two lives in Phulpur, Mymensingh with her family. She is involved in vegetable farming with her husband. Despite having a small family with two earning member it becomes difficult for them to run the family. As their yearly income is about BDT 22381, they can spend about BDT 1865 per month; insufficient with one school-going child in the family. She usually produces hyacinth bean, sweet gourd, ribbed gourd and snake gourd etc. in 29 decimal of land. Though she incurred some profit from other vegetables, she incurred loss in major vegetables. To make up for the losses, they worked as hired labor. The circumstances have been severely de-motivating for her family as they have tried everything within their power to improve their situation. Though she heard about soil testing, she never tried it as she does not know why or how. As Rina is unable to acquire information or knowledge on modern farming; she depends on traditional methods like using own seeds recycled from last season and over dependence on chemical fertilizers.

As she could never prosper through vegetable farming her family never had any kind of securities like savings, insurance etc. She dreams to ensure three times meal a day for her children, but with this level of income this dream seems blurry.

Abu Hanifa – Trapped in a vicious cycle

Abu Hanifa, a 30 years old crop farmer who runs his life through vegetable and rice farming lives in Phulpur, Mymensingh. His family comprises of two school going children and his wife. His major crops are Cucumber, Boro rice and Brinjal. His yearly income BDT 43000 comes from two major sources; farming and business. As only BDT 15000 of his total income come from farming he had to start a business of shallow machine renting to run his life. Though the business helped him to sustain, his farming is yet to generate enough profit. His cultivation practice is questionable as he doesn't have

knowledge on soil management, improved cultivation technique, modern equipment or machineries etc. Due to lack of proper knowledge his major problems lie in seed selection and pricing. He does not even know about subsidies that government provides; let alone enjoying it. His perception towards the services from SAAO, DAE etc. is something that is only available for powerful and wealthy individuals.

He blames his methods of cultivation that are learnt from his ancestors for not developing, on the other hand being unskilled made him scared of changing his profession. In that circumstance he does not know who can help him out to resolve this dilemma.

Shubila Chichime – Portrait of an Ethnic Woman

ShubilaChichime (50) lives in Haluaghat, Mymensingh with her husband. He belongs to 'Garo' ethnic group. She works hard to generate yearly income about BDT 30000. Her major income comes from fishery. In the 25 decimal of pond she produces 200 Kg fish (Rui, Katla, Mrigel etc.). Major costs are incurred for fingerling collection and fish feed. Due to the lack of proper knowledge, she blames hatcheries for very high mortality rate of fingerlings (35%). She never heard about 'proper stocking density' and 'pond management' let alone their application. Though she is not satisfied with the prices she gets, she does not know how to negotiate for the better price. She always thinks of expanding her fisheries business but doesn't know how. She wants to have better fingerling and fish feed but doesn't know where to knock for it.

At this age she feels the necessity to have some savings to ensure future, but with this level of income her future seems uncertain in terms of financial security.

Shilpi Doufo – A Mother's Struggle

ShilpiDoufo (40), mother of five lives in Dhobaura, Mymensingh with her husband. As she is the only earning member in the family it becomes very hard for her to run the family with four school-going. Her yearly income is about BDT 44760, so she can spend about BDT 3730 per month; insufficient for such a big family. She usually harvests fish like silver carp, Shorputi etc. in her pond of 30 decimal. With very high cost for fingerling and feed and with 10% mortality rate she produces 400 Kg fish annually. As Shilpi is unable to acquire information or knowledge on modern farming; she depends on traditional methods. She cannot collect good quality fingerling and other inputs for not knowing a better source.

Shilpi is a hard working potential woman who dreams about the growth of her business. She wants to ensure well education for all her children but in that situation it seems a challenge to ensure three times meal a day.