

Final Report on  
**Value Chain Assessment**  
at National Level

**World Vision** 

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**Value Chain Assessment at National Level**

For  
World Vision Bangladesh



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# Acronyms

ADP	Area Development Program
AGEP	Agricultural Growth and Employment Programme
AI	Artificial Insemination
AP	Area Program
APC	Area Program Clusters
ASA	Association for Social Advancement
BCRDV	Baby Chick Ranikhet Disease Vaccine
BDT	Bangladesh Taka
CBO	Community Based Organization
CEAL	Community Extension Agent for Livestock
CER	Central Eastern Region
CHT	Chittagong Hill Tracts
CIG	Common Interest Group
CWB	Child Well-Being
DAE	Department of Agricultural Extension
DAM	Dhaka Ahsania Mission
DLS	Department of Livestock Services
DYD	Department of Youth Development
FFS	Farmer's Field Schools
FGD	Focus Group Discussion
FIVDB	Friends in Village Development Bangladesh
FO	Farmer Organizations
FSED	Food Security and Economic Development
GMR	Greater Mymensingh Region
IFMC	Integrated Farm Management Component
IGA	Income Generating Activities
KII	Key Informant Interview
LEAF	Local Extension Agent for Fisheries
LVCD	Local Value Chain Development
MFI	Micro-Finance Institution
MT	Metric ton
N/A	Not Applicable
NATP	National Agricultural Technology Programme
NBR	Northern Bangladesh Region
NDV	Newcastle Disease Virus
NGO	Non-Governmental Organization
NO	National Office (of World Vision)
RDRS	Rangpur Dinajpur Rural Services
RDV	Ranikhet Disease Vaccine
RMG	Ready-Made Garments
RVTC	Rural Vocational Training Centres
SAAO	Sub-Assistant Agricultural Officer
SBR	Southern Bangladesh Region
SME	Small & Medium Enterprise
SWOT	Strengths, Weaknesses, Opportunities and Threats
T&V	Training and Visit

TMSS	Thengamara Mohila Sabuj Sangha
ToR	Terms of Reference
TSP	Training Service Provider
TVET	Technical and Vocational Education and Training
UCEP	Underprivileged Children's Educational Programs
UHT	Ultra-High Temperature Processing
USAID	United States Agency for International Development
VC	Value Chain
VCD	Value Chain Development
VTI	Vocational Training Institutes
WVB	World Vision Bangladesh

# Executive Summary

**Introduction:** World Vision is an international humanitarian relief and development organization focusing on children, their families and communities to alleviate poverty in Bangladesh with the objective of “Building a better life for girls and boys in Bangladesh”. World Vision Bangladesh (WVB) works on advocacy, disaster management, education, maternal and child health, agriculture, food security and economic development. WVB is currently operating through 51 Area Programs (APs) in 22 districts under 15 Area Program Clusters (APCs). In the beginning of 2017, WVB adopted the Learning through Evaluation with Accountability and Planning 3 (LEAP 3) approach which incorporated the learning of the previously worked through Food Security and Economic Development (FSED) program. WVB commissioned Innovision to conduct a nationwide value chain assessment that will help in the overall design of LEAP 3 program.

**Methodology:** The study was conducted following the Local Value Chain Development (LVCD) model of WVB in key regions which include Greater Mymensingh Region, Central Eastern Region, Southern Bangladesh Region and Northern Bangladesh Region. The study covered 38 APs under WVB working areas. The assessment team also incorporated the issue of community engagement, pro-poor engagement and youth engagement while selecting the value chains as well as designing the interventions and activities. The methodology used for this

assessment was based on a “value chain” framework. Major elements of a value chain framework include: end markets, Inter-firm Cooperation (vertical and horizontal linkages), supporting products/services and business enabling environment. The key steps in the value chain program design were: Value Chain Selection, Value Chain Analysis, Identification and selection of market based solutions, assessment of market-based solutions and identification and selection of interventions. Innovision began the assignment by conducting a secondary literature review and moved onto conducting value chain selection/consultation workshop which was conducted with the participation of a range of stakeholders from beneficiaries to government agencies and key informants. This step helped in shortlisting of potential value chains in each of the Areas Programs (APs). After sharing the findings with WVB national office and regional offices and accommodating for changes as per discussion between the study team and WVB office, the shortlisted value chains were finalized. The study team then conducted a detailed value chain assessment in each of the APs to understand the market, assess performance of the value chain actors and identify market constraints. The findings of the field assessment were shared with the WVB team and after accommodating any changes/revisions as requested by WVB, the final report was submitted.

## Selected Value Chains:

Value Chain Selected	Region	AP
Dairy	GMR	Sherpur, Sribordhi, Mymensingh, Muktagacha, Jolchotro.
	NBR	Thakurgaon, Rangpur sadar, Mithapukur, Ghoraghat, Birganj, Birampur, Pirganj, Kishorganj, Godagari, Dhamoirhat, Biral, Fulbari, Paba, Tanore
	SBR	Assasuni, Kachua, Pirojpur, Kotalipara. Debhta
	CER	Sylhet, Gowainghat, Tahirpur, Laksham
Country Chicken	GMR	Sherpur, Jhenaigati, Mymensingh, Muktagacha south, Jolchotro.
	NBR	Nilphamari, Thakurgaon, Rangpur sadar, Paba, Kaharole, Birampur, Pirganj, Biral, Fulbari.
	SBR	Assasuni, Kachua, Rampal, Barisal, Bhandaria, Kotalipara. Debhata
	CER	Laksham, Bandarban, Gowainghat, Sylhet, Tahirpur

Beef Fattening	NBR	Nilphamari, Kaharole
Goat	NBR	Mithapukur, Birganj, Dhamoirhat
Duck	NBR	Tanore
	SBR	Assasuni, Kachua, Barisal, Bhandaria, Kotalipara, Debhata
	CER	Tahirpur
Vegetables	GMR	Sribordhi, Sherpur, Jhenaigati, Muktagacha, Muktagacha south
	NBR	Ghoraghat, Godagari, Paba
	SBR	Assasuni, Rampal, Pirojpur, Bhandaria, Debhata
Carp Fish Culture	SBR	Rampal
Fruits (Banana, Papaya and Pineapple)	GMR	Jolchotro
	CER	Bandarban
Handicrafts	GMR	My mensingh Sadar
Vocational Training	SBR	Barisal
	CER	Dhaka east, Dhaka shishu, Kamalapur
Maize cultivation	NBR	Kishoregonj

Dairy Value Chain: Dairy production is one of the most important economic activities in Rural Bangladesh. The sector is mostly comprised of small scale producers following traditional rearing practices. The end market of dairy in Bangladesh consists of two markets: formal where the milk producers sell their milk to large institutional milk processors such as Milk Vita and BRAC and Informal where the milk producers sell their milk to consumers through other intermediaries. Majority of the milk produced is sold through the informal market and this represents an upgradation scope to link the smallholder milk producers with large institutional milk processors. The major input suppliers in the dairy value chain are Beparis/Dairy Farmers, AI service providers, Feed and other input seller. Beparis and dairy farmers usually supply the cow that the farmers rear. Private (BRAC, Lal Teer) and public AI service providers (DLS) provide artificial insemination services through which cows are impregnated. There are numerous feed and other inputs sellers in the project location who supply feed, medicine and vaccines. Some of these companies are national (medicine and vaccines: Renata, Acme and ACI) and there are some local companies. Hay, napier grass, rice bran and husk are usually sold in the local market and there are no branded products.

Majority of the farmers in the visited APs are small dairy farmers. These farmers usually have around 1-5 dairy cows and have been observed rearing indigenous cows. The small dairy farmers generally feed their cows home-made feed such as rice straw which is often mixed with

broken rice, rice husk, maize and molasses to feed the cow. Often the cows are malnourished as they are not fed proper nutritious feed. The cows are generally vaccinated and dewormed regularly. The farmers are reliant on the local veterinary physicians for any disease related information. The farmers usually keep the cows in shed which are made with bamboo and corrugated tin. Usually there are four bamboo poles and a roof. A large tub is used as manzer where the cow is fed feed and water.

Majority of the project area are reasonably well connected. There is electricity in majority of the project areas except some very rural areas. Transports are easily available and the most used transport is locally engineered small trucks (Nasimon or Korimon). The different public service providers active in the Dairy value chain are: Department of Livestock Services (DLS), Department of Youth Development (DYD) and Ministry of Women and Children Affairs: The Department of Livestock Services (DLS) provides a range of services: prevention and control of diseases, analyse animal feed, increase kid and calf production, increase breeding and extension of artificial insemination. The Department of Youth Development (DYD) and Ministry of Women and Children Affairs mainly provide training to women and youth.

Various banks (public and private) and MFIs are active in the project region. While some of the NGOs provide micro credit for dairy farming, the product offerings (interest rate, payment schedule) is not suitable for the smallholder farmers. None of the beneficiaries have been

observed to have availed loan products from banks. No major health effects were found in dairy farming and labour rights are not applicable for dairy farming as most of them are small scale businesses, often run by members of the family. In majority of the households it was observed that the cow dung is properly removed from the cowshed and used as fertilizer.

We have identified the following constraints in the dairy value chain: No marketing or training

service provision by the AI service providers and input provider, selling of Napier is absent in many regions, Preference for indigenous varieties over high milk producing breeds, farmers do not know about animal feed preservation, farmers do not follow proper rearing practices, is no linkage with formal dairy processors, the public extension service is not adequate and smallholder dairy farmers do not utilize micro finance for dairy operations

Proposed intervention	Potential Partners	Key Activities
Facilitate Linkage between AI service providers and smallholder farmers	BRAC, American Dairy, ACI	<ul style="list-style-type: none"> <li>Partner with leading AI service providers such as BRAC, American dairy or ACI.</li> <li>Companies promote their AI services to the beneficiaries of WVB and provide a range of embedded services such as training provision.</li> <li>Trainings can focus on both benefits of rearing improved-quality breeds, the process of breeding and modern rearing practices.</li> <li>Introduction of new technologies such as AI Shield in Bangladesh</li> </ul>
Facilitate linkage between input companies and small holder farmers	Renata, ACME, Popular	<ul style="list-style-type: none"> <li>Partner with Renata, ACME or Popular</li> <li>Companies promote their products and provide a range of embedded services such as training provision.</li> <li>These trainings can focus on benefits of using improved quality inputs, the right usage of inputs and modern rearing techniques.</li> </ul>
Promotion of commercial cultivation of Napier/ Pakchong to be sold in the market	DLS	<ul style="list-style-type: none"> <li>Partner with the local DLS office</li> <li>Select one or two interested farmers in each union under an AP to organize demonstration plots of commercial Napier/ Pakchong cultivation</li> <li>WVB can promote the produced Napier to other beneficiaries</li> </ul>
Promotion of Napier/ Pakchong at smallholder dairy farmer level	DLS	<ul style="list-style-type: none"> <li>Partner with the local DLS office</li> <li>Select one or two interested farmers in each union under an AP to organize demonstration plots of Napier/ Pakchong cultivation</li> </ul>
Facilitate linkage with formal dairy processors	BRAC, MilkVita, Pran	<ul style="list-style-type: none"> <li>Farmer group formation</li> <li>Partner with BRAC, MilkVita and Pran</li> <li>Companies train the farmers on modern rearing techniques and by the milk from the farmers</li> </ul>
Development and promotion of specific micro finance product for dairy farmers	BRAC, ASA, TMSS, FIVDB	<ul style="list-style-type: none"> <li>Partner with MFIs</li> <li>Develop new products/ modify existing product offerings</li> </ul>
Promotion of hydroponics technology	DAE and DLS	<ul style="list-style-type: none"> <li>Partner with DAE and DLS</li> <li>Promotion of hydroponics</li> </ul>
Promotion of animal feed preparation (Silage) from crop residue (maize stalk and leaves, green fodder)	DLS	<ul style="list-style-type: none"> <li>Partner with DLS</li> <li>Promote silage production and usage among beneficiaries</li> </ul>



**Country Chicken Value Chain:** Country chicken rearing is perhaps the most common income generating activity for the rural households in Bangladesh. The sector is mostly comprised of small scale producers (5-10 chickens) following traditional rearing practices. The end market of country chicken and egg in Bangladesh is Informal where the producers sell their chicken and egg to consumers through other intermediaries. The major input suppliers in the chicken value chain are local small traders and chicken farmers, vaccine and medicine sellers and local feed sellers. Local small traders and chicken farmers supply the chicken and egg that the farmers buy and rear. Private (Renata, ACI, Intervet) and public AI service providers (DLS) provide vaccination and other inputs. The chicken is usually fed rice bran and husk which are usually sold in the local market and there are no branded products.

Majority of the farmers in the visited APs are small subsistence chicken farmers. These farmers usually have around 5-10 chicken and have been observed rearing country chicken while some have been observed rearing Shonali and Fayoumi breeds. The farmers generally allow their chicken to forage for food and usually feed once a day with rice, rice bran or rice husks. Often the chicken are malnourished as they are not fed proper nutritious feed. The chicken is not generally vaccinated and often fall ill especially during the winter season. The farmers are reliant on the local veterinary physicians for any disease related information. The farmers usually keep the chicken in homemade coups which are made with bamboo and corrugated tin.

Majority of the project area are reasonably well connected. There is electricity in majority of the project areas except some very rural areas. Transports are easily available and the most

used transport is locally engineered small trucks (Nasimon or Korimon). The different public service providers active in the Chicken value chain are: Department of Livestock Services (DLS), Department of Youth Development (DYD) and Ministry of Women and Children Affairs: The Department of Livestock Services (DLS) provides a range of services: prevention and control of diseases, analyse animal feed, increase kid and calf production, increase breeding and extension of artificial insemination. The Department of Youth Development (DYD) and Ministry of Women and Children Affairs mainly provide training to women and youth.

Various banks (public and private) and MFIs are active in the project region. While some of the NGOs provide micro credit for chicken farming, the product offerings (interest rate, payment schedule) is not suitable for the smallholder farmers. None of the beneficiaries have been observed to have availed loan products from banks. No major health effects were found in chicken farming and labour rights are not applicable for chicken farming as most of them are small scale businesses, often run by members of the family. In majority of the households it was observed that the chicken waste is not properly managed.

We have observed the following constraints in the country chicken value chain: No marketing or training service provision by input sellers/providers, farmers do not feed their country chicken proper feed, no vaccination, farmers do not know about modern rearing practice of country chickens, smallholders country chicken farmers do not utilize micro finance for chicken rearing operations and lack of manpower and budget of government agencies hampers the information dissemination

Proposed intervention	Potential Partners	Key Activities
Facilitate linkage between input companies and small holder farmers	Renata, ACME, Popular	<ul style="list-style-type: none"> <li>Partner with Renata, ACME or Popular</li> <li>Companies promote their products and provide a range of embedded services such as training provision.</li> <li>These trainings can focus on benefits of using improved quality inputs, the right usage of inputs and modern rearing techniques.</li> </ul>

Formation of farmers groups and promoting vaccination	DLS	<ul style="list-style-type: none"> <li>• Partner with the local DLS office</li> <li>• Form chicken farmer groups</li> <li>• Promote group vaccination</li> </ul>
Development and promotion of specific micro finance product for chicken farmers	BRAC, ASA, TMSS, FIVDB	<ul style="list-style-type: none"> <li>• Partner with MFIs</li> <li>• Develop new products/ modify existing product offerings</li> </ul>
Promotion of hydroponics technology	DAE and DLS	<ul style="list-style-type: none"> <li>• Partner with DAE and DLS</li> <li>• Promotion of hydroponics</li> </ul>
Creating farmers groups and facilitate linkage with Incubator Sellers)	DLS	<ul style="list-style-type: none"> <li>• Partner with DLS</li> <li>• Form groups</li> <li>• Promote incubator usage</li> </ul>

**Beef Fattening Value Chain:** Beef fattening has become an important business for smallholder farmers in Bangladesh, due to increasing demand for meat. Total meat intake in Bangladesh has been increasing significantly over the years. There are generally three types of markets of cattle in Bangladesh, which are local market (haat), regional market and national markets. These markets are functioning with three major types of buyers, namely: Regional Trader (Bepari), National Traders (Bepari) and Butchers. Majority of these cattle are sold through the informal market and this represents an upgradation scope to link the smallholder producers with large institutional meat processors. For beef fattening, the three main input suppliers are: Beparis/Farmers, Artificial Insemination (AI) Service Providers, and feed sellers. Beparis and bull farmers usually supply the bull that the farmers rear. Private (BRAC, Lal Teer) and public AI service providers (DLS) provide artificial insemination services through which cows are impregnated. There are numerous feed and other inputs sellers in the project location who supply feed, medicine and vaccines. Some of these companies are national (medicine and vaccines: Renata, Acme and ACI) and there are some local companies. Hay, Napier grass, rice bran and husk are usually sold in the local market and there are no branded products.

Majority of the farmers in the visited APs are small farmers. These farmers usually have around 1-3 cows and have been observed rearing indigenous cows. The small farmers generally feed their cows home-made feed such as rice straw which is often mixed with broken rice, rice husk, maize and molasses to feed the cow. Often the cows are malnourished as they are not fed proper nutritious feed. The cows are generally vaccinated and dewormed regularly. The farmers are reliant on the local veterinary physicians for any disease related information. The farmers usually keep the cows in shed which are made with bamboo and corrugated tin. Usually there are four bamboo poles and a roof. A large tub is used as manzer where the cow is fed feed and water.

Majority of the project area are reasonably well connected. There is electricity in majority of the project areas except some very rural areas. Transports are easily available and the most used transport is locally engineered small trucks (Nasimon or Korimon). The different public service providers active in the Beef fattening value chain are: Department of Livestock Services (DLS), Department of Youth Development (DYD) and Ministry of Women and Children Affairs. The Department of Livestock Services (DLS) provides a range of services: prevention and control of diseases, analyse animal feed, increase kid and calf production, increase breeding, promotion of high yielding fodder (Napier/Pakchong-I) and

extension of artificial insemination. The Department of Youth Development (DYD) and Ministry of Women and Children Affairs mainly provide training to women and youth.

Various banks (public and private) and MFIs are active in the project region. While some of the NGOs provide micro credit for beef fattening, the product offerings (interest rate, payment schedule) is not suitable for the smallholder farmers. None of the beneficiaries have been observed to have availed loan products from banks. No major health effects were found in beef fattening and labour rights are not applicable for beef farming as most of them are small scale businesses, often run by members of the family. In majority of the households it was observed that the cow dung is properly

removed from the cowshed and used as fertilizer.

We have identified the following constraints in the Beef fattening value chain: No marketing or training service provision by the AI service providers and input provider, Farmers do not cultivate green grass for cow feed and thus are reliant on buying grass from markets, selling of Napier is absent in many regions, 4) preference for indigenous varieties over improved breeds, farmers do not know about animal feed preservation, farmers do not follow proper rearing practices, linkage between farmers and formal meat processors is absent, the public extension service is not adequate and smallholder beef fattening farmers do not utilize micro finance for beef fattening operations

Proposed intervention	Potential Partners	Key Activities
Facilitate Linkage between AI service providers and smallholder farmers	BRAC, American Dairy, ACI	<ul style="list-style-type: none"> <li>Partner with leading AI service providers such as BRAC, American dairy or ACI.</li> <li>Companies promote their AI services to the beneficiaries of WVB and provide a range of embedded services such as training provision.</li> <li>Trainings can focus on both benefits of rearing improved-quality breeds, the process of breeding and modern rearing practices.</li> <li>Introduction of new technologies such as AI Shield in Bangladesh</li> </ul>
Facilitate linkage between input companies and small holder farmers	Renata, ACME, Popular	<ul style="list-style-type: none"> <li>Partner with Renata, ACME or Popular</li> <li>Companies promote their products and provide a range of embedded services such as training provision.</li> <li>These trainings can focus on benefits of using improved quality inputs, the right usage of inputs and modern rearing techniques.</li> </ul>
Promotion of commercial cultivation of Napier/ Pakchong to be sold in the market	DLS	<ul style="list-style-type: none"> <li>Partner with the local DLS office</li> <li>Select one or two interested farmers in each union under an AP to organize demonstration plots of commercial Napier/ Pakchong cultivation</li> <li>WVB can promote the produced Napier to other beneficiaries</li> </ul>
Promotion of Napier/ Pakchong at smallholder beef fattening farmer level	DLS	<ul style="list-style-type: none"> <li>Partner with the local DLS office</li> <li>Select one or two interested farmers in each union under an AP to organize demonstration plots of Napier/ Pakchong cultivation</li> </ul>
Development and promotion of specific micro finance product for beef fattening farmers	BRAC, ASA, TMSS, FIVDB	<ul style="list-style-type: none"> <li>Partner with MFIs</li> <li>Develop new products/ modify existing product offerings</li> </ul>
Promotion of contract farming with formal meat processors	Bengal Meat, Pabna Meat	<ul style="list-style-type: none"> <li>Partner with formal meat processors to promote contract farming.</li> <li>Companies can train the beneficiaries on proper cattle rearing methods</li> <li>Companies can support the beneficiaries in getting better bred cows.</li> </ul>

Promotion of hydroponics technology	DAE and DLS	<ul style="list-style-type: none"> <li>• Partner with DAE and DLS</li> <li>• Promotion of hydroponics</li> </ul>
Promotion of animal feed preparation (Silage) from crop residue (maize stalk and leaves, green fodder)	DLS	<ul style="list-style-type: none"> <li>• Partner with DLS</li> <li>• Promote silage production and usage among beneficiaries</li> </ul>

**Duck Value Chain:** Duck farming in Bangladesh is mostly practices under traditional rearing methods in the rural areas, mainly for meat and egg. The sector is mostly comprised of small scale producers (5-20 duck) following traditional rearing practices. The end market of duck and egg in Bangladesh is Informal where the producers sell their duck and egg to consumers through other intermediaries. The major input suppliers in the duck value chain are local duckling traders and duck farmers, vaccine and medicine sellers and local feed sellers. Local duckling traders and duck farmers supply the duck and egg that the farmers buy and rear. Private (Renata, ACI, Intervet) and public AI service providers (DLS) provide vaccination and other inputs. The duck is usually fed rice paddy, maize, broken rice and wheat which are usually sold in the local market and there are no branded products.

Majority of the farmers in the visited APs are small subsistence duck farmers. These farmers usually have around 5-20 ducks and have been observed rearing country and better breed (Khaki campbell). The farmers generally allow their duck to forage for food and usually feed once a day with rice, rice bran or rice husks. Often the duck is malnourished as they are not fed proper nutritious feed. The ducks are not generally vaccinated and often fall ill especially during the winter season. The farmers are reliant on the local veterinary physicians for any disease related information. The farmers usually keep the duck in homemade coups which are made with bamboo and corrugated tin.

Majority of the project area are reasonably well connected. There is electricity in majority of the project areas except some very rural areas. Transports are easily available and the most

used transport is locally engineered small trucks (Nasimon or Korimon). The different public service providers active in the Dairy value chain are: Department of Livestock Services (DLS), Department of Youth Development (DYD) and Ministry of Women and Children Affairs: The Department of Livestock Services (DLS) provides a range of services: prevention and control of diseases, analyse animal feed, increase kid and calf production, increase breeding and extension of artificial insemination. The Department of Youth Development (DYD) and Ministry of Women and Children Affairs mainly provide training to women and youth.

Various banks (public and private) and MFIs are active in the project region. While some of the NGOs provide micro credit for duck farming, the product offerings (interest rate, payment schedule) is not suitable for the smallholder farmers. None of the beneficiaries have been observed to have availed loan products from banks. No major health effects were found in duck farming and labour rights are not applicable for dairy farming as most of them are small scale businesses, often run by members of the family. In majority of the households it was observed that the duck waste is not properly managed.

We have observed the following constraints in the duck value chain: No marketing or training service provision by input sellers/providers, farmers do not feed their duck proper feed, no vaccination, farmers do not know about modern rearing practice of ducks, smallholders duck farmers do not utilize micro finance for goat operations and lack of manpower and budget of government agencies hampers the information dissemination

Proposed intervention	Potential Partners	Key Activities
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Facilitate linkage between input companies and small holder farmers	Renata, ACME, Popular	<ul style="list-style-type: none"> <li>• Partner with Renata, ACME or Popular</li> <li>• Companies promote their products and provide a range of embedded services such as training provision.</li> <li>• These trainings can focus on benefits of using improved quality inputs, the right usage of inputs and modern rearing techniques.</li> </ul>
Formation of farmers groups and promoting vaccination	DLS	<ul style="list-style-type: none"> <li>• Partner with the local DLS office</li> <li>• Form duck farmer groups</li> <li>• Promote group vaccination</li> </ul>
Development and promotion of specific micro finance product for duck farmers	BRAC, ASA, TMSS, FIVDB	<ul style="list-style-type: none"> <li>• Partner with MFIs</li> <li>• Develop new products/ modify existing product offerings</li> </ul>
Creating farmers groups and facilitate linkage with Incubator Sellers)	DLS	<ul style="list-style-type: none"> <li>• Partner with DLS</li> <li>• Form groups</li> <li>• Promote incubator usage</li> </ul>

**Goat Value Chain:** There has been a positive trend in production of goat rearing in Bangladesh, along with high demand for goat for meat. Goat rearing generally requires less working capital compared to other cattle such as cows. The Black Bengal is the most common breed amongst small livestock in Bangladesh and has high demand in both local and international market. Besides black Bengal, rural households in Bangladesh rear goats of different breeds – local breeds include the Boer and Sirohi; and other breeds such as Saanen and Jamunapari. There are generally three types of markets of Goat in Bangladesh, which are local market (haat), regional market and national markets. These markets are functioning with three major types of buyers, namely: Regional Trader (Bepari), National Traders (Bepari) and Butchers. Individual consumers also buy from these markets in small quantities. Majority of these goats are sold through the informal market and this represents an up gradation scope to link the smallholder producers with large institutional meat processors. For goat rearing, the two main input suppliers are: Beparis/Farmers, feed supplements sellers. Beparis and goat farmers usually supply the goat that the farmers rear. There are numerous feed supplements sellers in the project location who supply feed, medicine and vaccines. Some of these companies are national (medicine and vaccines: Renata, Acme and ACI) and there are some local companies. Hay, Napier grass, rice

bran and husk are usually sold in the local market and there are no branded products.

Majority of the farmers in the visited APs are small farmers. These farmers usually have around 1-5 goats. The small farmers generally feed their goats; road side grass, tree leaves and vegetable by-products of the household kitchen. Often the goats are malnourished as they are not fed proper nutritious feed. The goats are not generally vaccinated and dewormed regularly. The farmers are reliant on the local veterinary physicians for any disease related information. The farmers usually keep the goats in shed which are made with bamboo and corrugated tin.

Majority of the project area are reasonably well connected. There is electricity in majority of the project areas except some very rural areas. Transports are easily available and the most used transport is locally engineered small trucks (Nasimon or Korimon). The different public service providers active in the goat value chain are: Department of Livestock Services (DLS), Department of Youth Development (DYD) and Ministry of Women and Children Affairs: The Department of Livestock Services (DLS) provides a range of services: prevention and control of diseases, analyse animal feed, increase kid production, increase breeding, promotion of high yielding fodder (Napier/Pakchong-I). The Department of Youth Development (DYD) and

Ministry of Women and Children Affairs mainly provide training to women and youth.

Various banks (public and private) and MFIs are active in the project region. While some of the NGOs provide micro credit for goat rearing, the product offerings (interest rate, payment schedule) are not suitable for the smallholder farmers. None of the beneficiaries have been observed to have availed loan products from banks. No major health effects were found in goat rearing and labour rights are not applicable for goat farming as most of them are small scale businesses, often run by members of the family.

We have identified the following constraints in the goat rearing value chain: no marketing or training service provision by the input provider, farmers do not cultivate green grass for goat feed and thus are reliant on buying leaf/grass from markets, selling of Napier is absent in many regions, farmers do not know about animal feed preservation, farmers do not follow proper rearing practices, linkage between farmers and formal meat processors is absent, the public extension service is not adequate and smallholder goat farmers do not utilize micro finance for goat rearing operations.

Proposed intervention	Potential Partners	Key Activities
Facilitate linkage between input company and smallholder farmers.	Renata, ACME, Popular	<ul style="list-style-type: none"> <li>Partner with Renata, ACME or Popular</li> <li>Companies promote their products and provide a range of embedded services such as training provision.</li> <li>These trainings can focus on benefits of using improved quality inputs, the right usage of inputs and modern rearing techniques.</li> </ul>
Creating Linkage between DLS and input providers	Renata, ACME, and DLS	<ul style="list-style-type: none"> <li>Create linkage between DLS and input providers</li> <li>Input providers can organize training in partnership with WVB and where DLS can provide technical support.</li> </ul>
Promotion of commercial cultivation of Napier/ Pakchong to be sold in the market	DLS	<ul style="list-style-type: none"> <li>Partner with the local DLS office</li> <li>Select one or two interested farmers in each union under an AP to organize demonstration plots of commercial Napier/ Pakchong cultivation</li> <li>WVB can promote the produced Napier to other beneficiaries</li> </ul>
Promotion of Napier/ Pakchong at smallholder goat farmer level	DLS	<ul style="list-style-type: none"> <li>Partner with the local DLS office</li> <li>Select one or two interested farmers in each union under an AP to organize demonstration plots of Napier/ Pakchong cultivation</li> </ul>
Development and promotion of specific micro finance product for goat farmers	BRAC, ASA, TMSS, FIVDB	<ul style="list-style-type: none"> <li>Partner with MFIs</li> <li>Develop new products/ modify existing product offerings</li> </ul>
Promotion of contract farming with formal meat processors	Bengal Meat, Pabna Meat	<ul style="list-style-type: none"> <li>Partner with formal meat processors to promote contract farming.</li> <li>Companies can train the beneficiaries on proper goat rearing methods</li> <li>Companies can support the beneficiaries in getting better breed goat.</li> </ul>
Promotion of hydroponics technology	DAE and DLS	<ul style="list-style-type: none"> <li>Partner with DAE and DLS</li> <li>Promotion of hydroponics fodder.</li> </ul>
Promotion of animal feed preparation (Silage) from crop residue (maize stalk and leaves, green fodder)	DLS	<ul style="list-style-type: none"> <li>Partner with DLS</li> <li>Promote silage production and usage among beneficiaries</li> </ul>



**Maize Value Chain:** Maize is not very popular amongst the people of Bangladesh as a consumer food and is therefore not very extensively cultivated. Amongst all 38 APs observed, maize cultivation was selected in one AP, which was Kishoreganj. However, corn has been facing an increase in demand over the past decade as it is being extensively used as a source of animal feed, particularly in higher areas of North Bengal. The end market of Maize in Bangladesh is of two types: formal, where the maize is sold to large institutional animal feed processors through various channels, and informal where the maize is sold to customers through various intermediaries. Most of the maize is sold to animal feed processors in the formal markets, as the demand for maize by customers is low. The Maize value chain has three main input suppliers, namely seed sellers, fertilizer and pesticide seller. Seed sellers mainly purchase high quality hybrid seed from companies such as Supreme Seed Company, BRAC, ACI and Sygenta and sell it to maize farmers. Fertilizers and Pesticide retailers also purchase inputs from companies such as ACI, Syngenta and Intefa and sell the inputs to maize farmers. These input suppliers are the major source of information for maize farmers.

Most of the farmers of maize are well off and possess land which are located on relatively higher areas. Maize farmers start by ploughing the land and add fertilizers to the land in order to increase fertility of soil. As maize is highly susceptible to pests and diseases, maize farmers have to add pesticides and medicines regularly to ensure that the maize crops are healthy. The land also has to be de-weeded regularly. However, maize farmers are usually reliant on input sellers for information on seeds, fertilizers and pesticides. These suppliers often lack

proper training themselves, leading to wrong information dissemination. This often contributes to poor maize yield.

The project area is reasonably well connected and has proper electric supply. Maize Value chain has one major public Service provider, which is The Department of Agriculture Extension (DAE). The Department of Agricultural Extension mainly provides training to maize farmers about cultivation methods, improved land preparation, improved seed bed and nursery maintenance, use of good and quality seeds, need and use for seed treatment, timely field operation, proper space of plants, etc.

Various banks (public and private) and MFIs are active in the project region. No major health effects were found in maize cultivation. As maize farmers are usually relatively well off, they usually employ around four to five people in maize cultivation. These labour usually are paid low wages and are made to work long working hours. The pesticides and insecticides used in maize cultivation can cause adverse health effects and can also seep into ground water, resulting in the loss of aquatic life.

We have identified the following constraints in maize value chain: preference for traditional farming technique rather than usage of modern cultivation techniques, lack of information channels, no formal training is given to agricultural input suppliers, farmers are not aware of safe cultivation practices, due to overuse of fertilizers and pesticides and preference for traditional farming technique rather than usage of modern cultivation techniques and farmers do not utilize micro finance for maize production.

Proposed intervention	Potential Partners	Key Activities
Facilitate group formation of farmers	DAE, DYD	<ul style="list-style-type: none"> <li>WVB can organize farmers group with help from DAE and DYD</li> <li>train groups to develop expertise in identifying quality seeds, purification of seeds, fertilizer and pesticides</li> <li>farmers will decide in groups the quantity of maize each farmer should grow</li> <li>improve bargaining power of farmers which will ensure that farmers get correct price</li> </ul>

Facilitate linkage between input companies and maize farmers/ maize input sellers	Syngenta, ACI and Intefa	<ul style="list-style-type: none"> <li>• Partner with leading input providers such as Syngenta, ACI and Intefa</li> <li>• Companies can promote their products to the beneficiaries</li> <li>• Companies can provide a range of embedded services such as training provision</li> <li>• These trainings can focus on benefits of using improved quality inputs, the right usage of inputs and modern rearing techniques.</li> </ul>
Development and promotion of specific micro finance product for maize farmers	BRAC, ASA, TMSS	<ul style="list-style-type: none"> <li>• Partner with MFIs</li> <li>• Develop new products/ modify existing product offerings</li> </ul>
Promotion of animal feed preparation (Silage) from crop residue (maize stalk and leaves, green fodder)	DLS	<ul style="list-style-type: none"> <li>• Partner with DLS</li> <li>• Promote silage production and usage among beneficiaries</li> </ul>

**Vegetable Value Chain:** Nearly 100 varieties of vegetables are grown throughout Bangladesh, particularly in the winter season. Vegetables are important for nutrition and food security. As a result, it can play an important role in the development of the country. Amongst all 38 APs observed, vegetable cultivation has been observed in 13 APs. The market for vegetables are informal, where vegetables are sold to customers through a number of intermediaries. The main input suppliers of vegetables include: Seed sellers and Fertilizer and pesticide sellers.

Smallholder and medium-holder farmers usually collect necessary inputs for production and are involved in production in the field. They are responsible for ploughing the land, applying fertilizers and pesticides and de-weeding. Once the harvest is completed, they reap the harvest, manage post-harvest and sell the produce in the forward market.

Majority of the project area are reasonably well connected with few exceptions where there is lack of concrete roads example Pirojpur, Muktagacha. There is electricity in majority of the project areas except some very rural areas.

The vegetable value chain has two main government support services, which are the Department of Agriculture Extension (DAE) and Department of Youth Development (DYD). The Department of Agricultural Extension mainly provides training to vegetable farmers about modern cultivation methods, improved land preparation, improved seed bed and nursery maintenance, use of good and quality seeds, need and use for seed treatment, timely field operation, proper space of plants, etc. The Department of Youth Development (DYD) mainly provide training to youth regarding the cultivation of vegetables.

Various banks (public and private), MFIs and credit unions are active in the project region. The constraints which we have identified from the vegetable value chain are insufficient marketing or training of agro-input suppliers, preference of traditional farming methods over high yielding modern farming techniques, limited knowledge about quality seeds and inputs amongst farmers, lack of market access, lack of utilization of micro finance for cultivation and limited access to public extension services.

Proposed intervention	Potential Partners	Key Activities
Facilitate group formation of farmers	DAE, DYD	<ul style="list-style-type: none"> <li>• WVB can organize farmers group with help from DAE and DYD</li> <li>• train groups to develop expertise in identifying quality seeds, purification of seeds, fertilizer and pesticides</li> <li>• farmers will decide in groups the quantity of maize each farmer should grow</li> </ul>



		<ul style="list-style-type: none"> <li>improve bargaining power of farmers which will ensure that farmers get correct price</li> </ul>
Facilitate linkage between input companies and maize farmers/ maize input sellers	Syngenta, Bayer, Lal Teer, ACI	<ul style="list-style-type: none"> <li>Partner with leading input providers such as Syngenta, Bayer, Lal Teer and ACI</li> <li>Companies can promote their products to the beneficiaries</li> <li>Companies can provide a range of embedded services such as training provision</li> <li>These trainings can focus on benefits of using improved quality inputs, the right usage of inputs and modern rearing techniques.</li> </ul>
Development and promotion of specific micro finance product for maize farmers	BRAC, ASA, TMSS, FIVDB	<ul style="list-style-type: none"> <li>Partner with MFIs</li> <li>Develop new products/modify existing product offerings</li> </ul>
Facilitate linkage with forward buyers	Agora, Swapno and Meena Bazaar	<ul style="list-style-type: none"> <li>Partner with Agora, Swapno and Meena Bazaar</li> <li>Partner with forward buyers to ensure market access of the vegetables</li> </ul>

**Carp Fish Value Chain:** A large portion of the population of Bangladesh is engaged in fish farming. The sector is mostly comprised of small scale fish farmers following traditional rearing practices. The end market of carp fish in Bangladesh is Informal where the producers Smallholder fish farmers sell produced fish in three ways: firstly, sells fish to the local Farias (small traders) which collects fish from farm gate; secondly, direct sell to the local Arot (Large wholesale traders); and thirdly, direct sell in the local markets by farmers themselves. The major input suppliers in the carp fish value chain are fry/fingerling traders and input retailers. Fish fry and fingerling traders are the mobile fingerling sellers who roam around village to village with fish fry/fingerling in portable vessels and they carry a range of fish with such such Tilapia, Pangus and Carp. National (Eskayef, ACI, Eon CP) and local input sellers provide feed, medicine and other inputs. The carp fish is usually fed rice bran or maize which are usually sold in the local market and there are no branded products.

Majority of the farmers in the visited APs are small subsistence carp fish farmers. These farmers usually have ponds with area of around 10 to 50 decimals. The farmers generally do not feed their carp fish regularly rather they usually apply the feed once every week or in two weeks. They follow a mixed culture practice where Tilapia, Pangus and other species of fish are cultivated alongside the carp fish.

Majority of the project area are reasonably well connected. There is electricity in majority of the project areas except some very rural areas. Transports are easily available and the most used transport is locally engineered small trucks (Nasimon or Korimon). The different public service providers active in the carp fish value chain are: Department of Fisheries (DoF), Department of Youth Development (DYD) and Ministry of Women and Children Affairs: The Department of Fisheries (DoF) provides a range of services: prevention and control of diseases, analyse animal feed, technology dissemination. The Department of Youth Development (DYD) and Ministry of Women and Children Affairs mainly provide training to women and youth.

Various banks (public and private) and MFIs are active in the project region. While some of the NGOs provide micro credit for chicken farming, the product offerings (interest rate, payment schedule) is not suitable for the smallholder farmers. None of the beneficiaries have been observed to have availed loan products from banks. Overuse of antibiotics have been observed in carp fish cultivation.

We have observed the following constraints in carp fish value chain: Fry/fingerling sellers sell sub-optimal quality of fry and fingerling, smallholder farmers do not demand quality fish fry, fingerling and other inputs, no marketing or promotion service provision by the feed and other input sellers, farmers do not ask for and get information on modern culture method and

disease management from public service providers and smallholder fish farmers do not utilize micro finance for fish culture

Proposed intervention	Potential Partners	Key Activities
Facilitate linkage among hatcheries and fry/fingerling traders and promote quality fry and fingerling to the smallholder fish farmers	Hatcheries	<ul style="list-style-type: none"> <li>• Partner with hatcheries</li> <li>• Facilitate the linkage among fry/fingerling traders and hatcheries producing and marketing quality Tilapia and carp fry with fish farmers</li> </ul>
Facilitate linkage between input seller and smallholder fish farming groups and promote quality feed and inputs	Eskayef, ACI, Uttara Feed, Quality Feed	<ul style="list-style-type: none"> <li>• Partner with the input companies</li> <li>• Promotion of feed, inputs among smallholder farmers.</li> <li>• conduct range of activities including training of input retailers, demonstration of advanced culture using feed and aqua chemical, training of smallholder farmers on improved culture practices etc.</li> </ul>
Facilitate formation of smallholder fish farmers group and linkage among smallholder fish farmers group with Input companies/retailers, public service providers, output traders etc.	Input suppliers in “Intervention 1”, Input companies in “Intervention 2”, Upazilla Fisheries Office (Department of Fisheries), Local Arot	<ul style="list-style-type: none"> <li>• WVB can facilitate formation of smallholder fish farming group and establish as a platform of entry for market actor and support function.</li> <li>• Partners facilitated on supply of inputs and information to the farmer’s group.</li> <li>• A range of activity could be done based on farmer’s group: establishing demonstration, training of farmers, group purchase of inputs, group selling of output etc.</li> </ul>
Development and promotion of specific micro finance product for carp fish farmers	BRAC, ASA, TMSS, FIVDB	<ul style="list-style-type: none"> <li>• Partner with MFIs</li> <li>• Develop new products/ modify existing product offerings</li> </ul>

**Fruits Value Chain: Economic Growth,** rising incomes and urbanization has caused an increase in demand for fruits in Bangladesh. These fruits are produced by farmers seasonally, similar to that of vegetables. However, the demand for fruits exist throughout the year. As a result, several agro-processing industries in Bangladesh has undertaken the processing of Bangladeshi fruits in order to meet local demand throughout the year. In our assessment we have come across fruits in two locations: Banana in Bandarban AP and Pineapple in Jolchotro AP. The end market of fruits is mainly informal, where the fruits are sold to customers through intermediaries. The main input suppliers of fruits include: Fertilizer and Pesticide sellers. The percentage of retained seed usage for fruits is high in Bangladesh.

Small and medium holder farmers usually retain seeds from last harvest and reuse it. After collecting necessary inputs for production such as fertilizers and pesticides, these farmers become involved in production in the field. They are responsible for ploughing the land, applying fertilizers and pesticides and de-weeding. Once the harvest is completed, they reap the harvest, manage post-harvest and sell the produce in the forward market.

Majority of the project area are reasonably well connected. There is electricity in all the project areas where fruits have been assessed. Fruit Value chain has one major public service provider, which is The Department of Agriculture Extension (DAE). The Department

of Agricultural Extension mainly provides training to maize farmers about cultivation methods, improved land preparation, improved seed bed and nursery maintenance, use of good and quality seeds, need and use for seed treatment, timely field operation, proper space of plants, etc.

Various banks (public and private), MFIs and credit unions are active in the project region.

The constraints which we have identified from the fruit value chain are insufficient marketing or training of agro-input suppliers, preference of traditional farming methods over high yielding modern farming techniques, limited knowledge about quality seeds and inputs amongst farmers, lack of market access, lack of utilization of micro finance for cultivation and limited access to public extension services.

Proposed intervention	Potential Partners	Key Activities
Facilitate group formation of farmers	DAE, DYD	<ul style="list-style-type: none"> <li>• WVB can organize farmers group with help from DAE and DYD</li> <li>• Train groups to develop expertise in identifying quality seeds, purification of seeds, fertilizer and pesticides</li> <li>• Farmers will decide in groups the quantity of maize each farmer should grow</li> <li>• Farmers face improved bargaining power of farmers which will ensure that farmers get correct price</li> </ul>
Facilitate linkage between input companies and maize farmers/ maize input sellers	Syngenta, Bayer, Lal Teer, ACI	<ul style="list-style-type: none"> <li>• Partner with leading input providers such as Syngenta, Bayer, Lal Teer and ACI</li> <li>• Companies can promote their products to the beneficiaries</li> <li>• Companies can provide a range of embedded services such as training provision</li> <li>• These trainings can focus on benefits of using improved quality inputs, the right usage of inputs and modern rearing techniques.</li> </ul>
Development and promotion of specific micro finance product for maize farmers	BRAC, ASA, TMSS, FIVDB	<ul style="list-style-type: none"> <li>• Partner with MFIs</li> <li>• Develop new products/ modify existing product offerings</li> </ul>
Facilitate linkage with forward buyers	Agora, Swapno and Meena Bazaar	<ul style="list-style-type: none"> <li>• Partner with Agora, Swapno and Meena Bazaar</li> <li>• Partner with forward buyers to ensure market access of the vegetables</li> </ul>

**Vocational Training Value Chain:** Vocational Training is the education and training that provides knowledge and skills needed for a specific trade, craft or job function, emphasizing on improvement in practical skills of individuals willing to pursue a specific trade or craft as a profession. Vocational training is pursued generally by the youth who drop out or complete secondary or tertiary education and are relatively poorer people. The main forms of technical and vocational training available in Dhaka are tailoring/sewing, embroidery, carpentry, beauty parlour, small boutiques, driving and computer etc.

**Beauty Parlour:** There are two types of beauty salons operating in Bangladesh: large beauty parlours operating in commercial spaces with more than two-three technicians and smallholding beauty parlours. The smallholder beauty parlours are operating in the residential building (sharing one of the owner's rooms) and providing services to the lower and lower-middle income group have been assessed in the study since; World Vision Bangladesh is targeting the marginal and ultra-poor as beneficiaries. These entities provide services with the owner as the lead technician sometimes employing one or two trainee technicians and provide eye brow shaping, hair styling, facial etc. regularly (about 100 work in a

month) which generates about BDT 50-100 per work. They also provide 2-4 numbers of luxury services in a month such as bridal make-over, hair treatment and re-bonding etc. which generates higher revenue ranging from BDT 2,000 to 8,000. Since, beautification is recently widely accepted by the lower and lower-middle income group, this is not facing significant competitions in the market.

**Tailoring:** Similar to the beauty salons, we found two types of tailoring service providers in the studied locations: individual tailors operating at their own home with one or two machines to offer tailoring services, and tailoring shops having around three to four machines and a few employees. The study targeted the tailors who operate in households, the owner as the technician themselves or employing one or two trainee tailors. These entities produce kids clothing, women's clothing such as three pieces, blouses, kids shirt, pant etc. Some of the tailors produce bed sheets and pillow covers also. A chunk of their revenue comes from various occasions such as Eid, Pohela Boishakh and school admission season. These entities target the lower and lower-middle income group of people within the community. Shift of demand for readymade garments is posing competition for the tailoring service providers, however, increase in population and altering, re-shaping of readymade clothing is creating scope of work for household based tailors.

**Small Boutiques:** Small boutiques are home-based cloth retailing entities which sell Saree, three pieces, kids dress, bed cover, cushion cover etc. In most cases, they sell their products from within their homes; in some of the cases they also move from household to household in order to sell their products. These entities are run by individuals and sell cloth to people in low income groups within the locality such as garments worker, wage earners etc. The targeted customers are low income earning people such as RMG workers, wage earners etc. and their sale ranges from 5-10 three-pieces, 2-5 Sarees, and 3-5 kids cloth, 1-2 bed cover etc. in a month. Since small boutiques target the niche market, no significant competition observed in the APs.

**Driving:** Bangladesh is facing a rise in the number of motorized vehicles so the demand for drivers has also been on the rise. Generally, youth coming from low and lower-middle income families who drop out of secondary or tertiary education are significant group of people who learn driving. Drivers provide driving services to private households, commercial offices, various industries and transportation businesses. There are numbers of driving training providers observed in the studied APs providing training to individual learners. The driving service providing sector is facing no significant competition; however, drivers face challenge when finding a job since there is no such entity responsible for job placement for the drivers.

**Computer:** Computer learners are youth studying or just finished study taking training on computer hardware engineering or different applications. The training helps them to find a job either in any service oriented companies, data entry jobs, computer printing shops located all over Dhaka city or work as freelancer in providing online based data entry operating job. The study found two types of computer training service providers: the public sector computer training providers comprising of the Department of Youth Development (DYD) of the Government of Bangladesh and the private sector training service provider comprising of the vocational training institutes are providing computer training with designated fees for different trade. The courses offered by public and private sector computer training institutions ranges from certificate course in computer office application, Diploma in computer science and Hardware Engineering, Diploma in Graphics Design, Diploma in Web Design etc. Completing the training the trainees then require enrolling for an examination administered by the Bangladesh Technical Education Board and gets a certificate. Since the demand has been increasing for computer based job in the market, computer trainee or a start-up does not face significant competition from the industry. However, computer trainees struggle to find decent job because of lack of linkage with computer based or IT based

employers and lack of advanced training that employers require.

Majority of the assessed project area falls under Dhaka and Barisal Metropolitan city (except Dakkhinkhan, Uttarkhan and Barua Union under Dhaka East AP) and is reasonably well connected to input and output market. Most of the project areas have access to proper electricity and adequate infrastructure facilities. The Department of Youth Development (DYD) is providing skill development institutional and non-institutional training, extension of micro-credit services, organization of self-employment projects, establishment of youth organizations and provision of grants to youth organization to increase the active participation of the youth in National Development. The TVET Reform Project initiated by the Government of Bangladesh in 2006, with support from International Labor Organization (ILO) has produced a National Skills Development Policy and National Qualifications Framework. Bangladesh Technical Education Board (BTEB) provides competency-based training and assessment under the TVET system. Ministry of Women and Children Affairs are working for equal opportunity of women in economic and activity, eliminate violence against women and children and empower them.

Various banks (public and private) and MFIs are active in the project region. While some of the MFIs provide micro credit for vocational trades, the product offerings (interest rate, payment schedule) are not suitable for the smallholder entities. None of the beneficiaries have been observed to have availed loan products from banks. No major health effects were found in targeted trades and labour rights are not applicable for targeted trades, often run by members of the family.

We have identified the following constraints in the vocational training value chain: public and Private TSPs do not emphasize on providing advanced and technical vocational training, tailors target only community women, but no institutional buyers thus have shortage of work order. They purchase inputs from the local market and forgo wholesale price in the wholesale markets, small Boutiques purchase inputs from the local market and forgo wholesale price in the wholesale markets, small beauty parlors provide sub-optimal service, lack the advanced technical skills; Lack linkage with potential employer for computer professionals, lack expertise for driving; lack finance for licensing fees, new vocational trainees do not get micro finance for starting-up operations.

Proposed intervention	Potential Partners	Key Activities
Facilitate potential employer to finance training for development of potential employees skill	Arong, Grameen Check, Nagardola (for tailoring); Local beauty parlors, Persona, Farzana Shakil's Makeover Salon (beauty technicians), Graphics design and printing shops, hardware servicing shops such as Computer Source, Daffodil Computer (for computer professionals)	<ul style="list-style-type: none"> <li>For tailoring, partner with leading chain boutiques such as Arong, Grameen Check</li> <li>For beauty parlours, partner with Persona, Farzana Shakil's Makeover Salon and Local beauty parlours in Dhaka city</li> <li>For computer training, partner with computer hardware selling and servicing shops such as Computer Source Ltd., Daffodil Computer and graphics design and printing shops in Dhaka city</li> <li>Facilitate these companies on financing (and reimbursement after employment) the training and development of expertise.</li> </ul>
Facilitate public and private TSPs for providing training on advanced technical skills that employer requires with embedded services (such as providing	Department of Youth Development led training centers (under Thana Jubo Unnayan Offices in Dhaka city), private sector Jubo Unnayan O Karigori Proshikkhon Academies, Driving learning centers.	<ul style="list-style-type: none"> <li>Partner with DYD led training centres and private sector youth development and vocational training centres.</li> <li>facilitate advanced technical training</li> <li>Facilitate private sector TSPs to provide embedded services such as job placement and financing initial fees such as licensing fees.</li> </ul>

loan for licensing of drivers, facilitating job placement)		
Facilitate aggregation of demand from similar enterprises (by forming group) and bulk purchase of inputs from wholesale markets	Local NGO for group formation and mobilization, Community Based Organization (CBO)	<ul style="list-style-type: none"> <li>• Partner with a local NGO for forming producer groups</li> <li>• Facilitated groups in aggregating demand for inputs and purchase inputs in bulk from wholesale markets</li> </ul>
Facilitate MFIs/Banks for designing and providing long term finance and seasonal loan	BRAC, ASA, Grameen Bank	<ul style="list-style-type: none"> <li>• Partner with microfinance institutions to develop and promote specific micro finance products.</li> <li>• Facilitate development of specific micro-finance products such as seasonal loan, long term loan (usually tenure of more than one year).</li> </ul>

**Handicrafts Value Chain:** Handicrafts are generally defined as handmade items that are generally artistic and traditional in nature, used for utility of as an object of decoration, portraying a particular culture, religion, symbol or community. The Bangladeshi handicraft industry includes products associated with textile, leather, straw, clay, metal, jewelry, woodwork, stone craft, pottery, cane and bamboo, many of which sell in the local market and export as well. Some of the major Bangladeshi handicraft products are nakshi katha, jamdani, shital pati, mirrors, picture frames, baskets, as well as furniture made of bamboo and cane; decorative items such as wall hangings, draperies, carpets and accessories such as bags, belts, etc. made of jute. The industry is labor-intensive, out of which a significant proportion are women. It is a low-cost with minimum overhead expenses and infrastructure, hence creates large scale employment (particularly off-season employment) and empowerment of the rural poor. It is also a major source of income and empowerment for the country's rural communities.

In Bangladesh, handicrafts are produced, traded and exported by the giant non-government organizations (NGOs) and private enterprises including Karuponno Rangpur, Dhaka Trade, Kumudini, Aarong, Nipun crafts, Creation and Pioneers which are exporting handicrafts to foreign countries. These large firms have

professional designers with technical expertise and skilled or semi-skilled people living in rural areas work at the dictation of the designers.

Smallholder handicraft producers in World Vision intervention areas are selling their products in local markets. Many of the products, which are of daily use, such as chicken baskets made from bamboo, mats woven in jute, earthen pots or textiles are generally sold within the village or nearby haat / bazaars. Some of the products find ways to the larger markets through the intervention of intermediaries. But the producers face a lot of trouble in securing work orders, the demand for items (bag, basket etc) is always fluctuating and the producers suffer from uncertainty about continuity of their work. It is primarily a women led activity and the producers are usually women who take orders and deliver products by working extra hours after their household chores. These women receive training either from Department of Youth Development or from development projects. Training is affordable but there are producers who believe that the training is not effective as the expertise required by the market is not achieved by the short term basic training programs.

Majority of the project area are reasonably well connected. There is electricity in majority of the project areas. The Department of Youth Development (DYD) is working to increase the active participation of the youth in National

Development including range of services: providing skill development institutional and non-institutional training, extension of micro-credit services, organization of self-employment projects, and establishment of youth organizations and provision of grants to youth organization.

Microcredit organizations are actively working in these regions such as BRAC, ASA, TMSS, BRAC, Grammen Bank and RDRS. It has been observed that many of the beneficiaries availed micro credit however they are not using the money for handicraft production. Both state owned and private commercial banks are active in the project areas however, none of the handicraft producers have been observed availing these products. This is because the product offerings (interest rate, payment schedule) are not suitable for the smallholder

handicraft producers. No major health effects were found in targeted areas and labor rights are not applicable for targeted trades, often run by members of the family.

We have identified the following constraints in the handicraft value chain: Training service providers do not have good trainers; they lack training facilities on design, product development and appropriate crafting methods; Preference for indigenous technique over modern productive techniques; producers do not consider it as a profession; producers do not have access to market; Low capacity in product innovation and diversification; Information asymmetry about the volume of product they can buy; The training program from DYD is not enough; Smallholder producers do not utilize micro finance for production.

Proposed intervention	Potential Partners	Key Activities
Facilitate group formation of producers	N.A	<ul style="list-style-type: none"> <li>Form producer groups</li> <li>Facilitate aggregation of work orders commercially</li> </ul>
Capacity development of training service provider	DYD, Private training service providers	<ul style="list-style-type: none"> <li>Partner with training service providers</li> <li>Facilitate training service providers in hiring trainers</li> <li>Facilitate development of multimedia training modules such as video documentary, booklet etc.</li> </ul>
Facilitate linkage with forward buyers	Aarong, NGOs exporting handicraft items	<ul style="list-style-type: none"> <li>Facilitate forward market linkage of producer groups</li> <li>Facilitate in wining bulk contract</li> <li>Facilitate training on items which are mostly sought by buyers</li> </ul>
Development and promotion of specific micro finance product for artisans	BRAC, ASA, Grameen Bank,	<ul style="list-style-type: none"> <li>Partner with microfinance institutions to develop and promote specific micro finance products.</li> <li>Facilitate development of specific micro-finance products such as seasonal loan, long term loan (usually tenure of more than one year)</li> </ul>

**Inclusion of Women, Youth and Ultra Poor Household:** In each of the value chains assessed, there is a scope for engaging women, youth and the ultra-poor, which can significantly improve living standards of these stakeholders. These beneficiaries can also play an important role in the Value chain recommended interventions. In dairy farming and Beef fattening, the cultivation of Napier for cattle can be promoted especially for ultra-poor households as a potential non-

farm income generating activity. In country chicken and duck rearing, the ultra-poor can be provided with an incubator by WVB, which they can use for hatching eggs. These farmers can sell the chicks and ducklings at a higher price compared to eggs, which can increase their income levels significantly. This can lead to the graduation of ultra poor households. Youth can be engaged as veterinary physicians for cows and young bulls in beef fattening and dairy



farming. In goat rearing, youth can be engaged as vaccinators by providing them with necessary training. In country chicken and duck rearing, the youth can be employed as incubator technicians and vaccinators. WVB can develop specific micro finance schemes for women, youth and ultra poor with partner microfinance organizations, which can suit the needs of such beneficiaries. The LVCD facilitators of WVB can also play a strong role in promotional activities. These facilitators can work with the input companies in promotional activities. These facilitators can provide information through the use of mobile phones at both individual and household level.

**Impact on Women Economic Empowerment:** The development interventions proposed in this study can have a significant impact on Women Economic Empowerment. Some of the proposed interventions such as facilitating linkages between input companies and smallholder farmers, development and promotion of specific micro financing products and promotion of Napier cultivation at smallholder farmer level can have a significant impact on women's empowerment by ensuring a higher level of engagement and opportunities to earn higher income, higher disposable income and increased agency.

**Disaster Risk Reduction Strategy:** Disaster risk mitigation strategies are vital in order to facilitate the participation of beneficiaries in the end market. The three main types of risk in each value chain assessed are natural and climate change induced risk, business risk and social barriers to business/political risk. Mitigation

strategy for natural and climate change induced risk include adoption of alternative feed source such as Napier and Pakcong, promotion of feed conservation techniques and use of GIS to provide early warning system. Strategies to mitigate business risk include establishing linkages with institutional buyers, development of alternative loan product and promotion of existing loan product. Social barriers to business include engagement local community leaders with producer groups and awareness/motivational campaign at household level with participation of male household member.

**Implementation Guideline:** For successful implementation of the project, the following guidelines have to be considered. As with all designs, the value chain project design process needs to be guided by a theory of change that builds on a development hypothesis to say how a set of interventions will catalyze desired change. The portfolio approach, which is the selection of multiple value chains with diverse risk profiles, is crucial to mitigate the risk associated with working in a dynamic and volatile markets. After the development of the theory of change, the program team needs to design intervention and activities and decide upon which interventions to undertake. This will be followed by the identification and selection of potential lead farms who will become project partners and implement the designed interventions and activities. Finally, WVB needs to implement the activities as per the log frame and develop a strong monitoring and results development framework to evaluate the activities and interventions undertaken.



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# Chapter I: Introduction

## I.1 Background:

World Vision is an international humanitarian relief and development organization focusing on children, their families and communities to alleviate poverty in Bangladesh. With the objective “Building a better life for girls and boys in Bangladesh”, World Vision Bangladesh (WVB) emphasizes on 4 major strategic areas:

- Improve health and nutrition status of mothers and children,
- Improve access to and quality of education,
- Ensure children are protected and cared for and
- Increase community resilience.

To achieve these objectives, WVB works on advocacy, disaster management, education, maternal and child health, agriculture, food security and economic development. World Vision Bangladesh is currently operating through 51 Area Programs (APs) in 22 districts under 15 Area Program Clusters (APCs).

Previously WVB worked through the Food Security and Economic Development (FSED) Program which operated in 53 rural and urban locations in WVB Bangladesh's four working regions, namely Central-Eastern, Greater Mymensingh, Northern Bangladesh and Southern Bangladesh embodying in 21 districts in 2017. Broadly, the program focused on empowering the poor households, particularly those with children, pregnant and lactating women, youth and disabled members, to diversify agricultural production, expand non-farm microenterprises and improve market access, thus creating employment, growing incomes, increasing access to foods and accumulating assets towards increased economic well-being and community resilience. WVB operated using the Area Development

Program (ADP) methodology. The major interventions under the FSED program were: Crop production through adopting technology packages resilient to climate change; Small-scale livestock keeping through improved genetic make-up and improved management practices; Fish culture through stocking and improved management practices; House-based manufacturing such as handicrafts, paper bags, bamboo baskets, etc.; Cottage industries, namely handloom, small-scale agro-processing, carpentry, etc.; and Service activities like small business, driving, repairing services, managing parlours, etc.

Beginning from 2017, WVB adopted the Learning through Evaluation with Accountability and Planning 3 (LEAP 3) approach which incorporated the learning of the FSED program and focuses on the link between national office strategy and programming. It enables national offices to ensure that a focused, relevant strategy is applied effectively through all programmes; that strategy is informed by programming experience and the national landscape; and that all programmes can show a clear contribution to national strategic objectives and targets. The new strategy of WVB on livelihood technical program thus focuses on implementing a value chain based approach in the 46 Area Programs (AP) as these APs selected the Livelihood Technical Program to be suitable for their working area. As many of these APs did not engage in value chain approach based livelihood program, WVB felt the need to conduct a nationwide value chain assessment to identify opportunities, assess specific value chains, design its value chain program and develop specific interventions to address the constraints identified through the assessment. WVB commissioned Innovision to conduct a nationwide value chain assessment that will serve the purpose of LEAP 3 program.

## 1.2 Objective of the Assignment:

The primary objective of the study is to conduct a value chain assessment to select potential value chain (on and off farm) in 18 districts where WVB operates and develop appropriate interventions in the selected value chains. According to the terms of reference (TOR), the specific objectives are:

- To identify potential value chains (sub-sector for both farm and non-farm) for poor producers and explore value chain activities (input supply, production, processing, selling etc.) in targeted APs
- In depth 'Sub-sector Analysis' needs to be conducted (at least 2 sub-sector analysis per region) as per WVB working area production capacity and market potentiality
- To explore potential non-farm income generating activities (IGA) and technical, vocational skills as per market demand for ultra-poor households
- To analyze the support services (e.g. business development, finance, infrastructure/transport, climatic issues etc.)
- To assess the Dis (enabling) environment (e.g. policy and regulations, natural resources, market trends, consumer behavioural issues, infrastructure, technology/research, groups/associations etc.)
- To identify potential sub-sectors and cost benefit analysis for potential value chains for four regions (CER, GMR, NBR and SBR) of Bangladesh
- To generate a short list of profitable and technically feasible sub-sectors (district/AP wise)
- To assess the resources, skills, technology and capacities of small holder farmers related to agricultural and non-agricultural value chains in urban and rural areas of Bangladesh
- To identify and elaborate opportunities and constraints for enhancing the participation of small holder farmers/producers in market system to increase production, quality and strengthen household resilience
- To assess Child Well-Being (CWB) at HH level and 'Women Power' in market at APC levels
- To explore 'Private Sector Engagement' potentiality to provide value added service for poor producers in potential sub-sectors.
- To explore Youth friendly promising value chains for both rural and urban contexts.
- To explore 'Youth Engagement' potentiality in value chain activities, identify most effective entry points for integrations for youth in potential Value Chains (VCs) in four regions.
- To explore 'Ecological suitability' of suggested sub-sectors.
- To explore pro-poor bio-technology (bio-fertilizer, bio-pesticides etc.) potential for rural and urban poor small business (both farm and non-farm) holders.
- To analyse potential natural and man-made risks in target areas market system and explore pro-poor rural and urban mitigation mechanism
- To recommend a pro-poor value chain development model and market mapping tool.
- To explore strategies for increasing competitiveness of the markets and strengthening the resilience of the market system



## 1.3 Scope of the Study

- The study was conducted following the Local Value Chain Development (LVCD) model of WVB.
- The study was conducted in the key regions i.e. Greater Mymensingh Region, Central Eastern Region, Southern Bangladesh Region and Northern Bangladesh Region
- The study covered 38 APs under WVB working area
- The assessment intentionally tried find out the child protection issues that

greatly influence child development ultimately contributing to Child Well-being at community level.

The assessment team also kept in mind the issue of community engagement, pro-poor engagement and youth engagement while selecting the value chains as well as designing the interventions and activities. These issues are not explicitly discussed in the individual assessment reports, but governed the overall selection of subsectors and activities.

## 1.4 Theoretical Discussion on Value Chain:

The methodology used for this assessment was based on a “value chain” framework. A value chain encompasses the full range of players, activities, and services required to bring a product (or service) from its conception to its end use and beyond. Value chain analysis seeks to understand the various factors that drive the incentives, growth, and competitiveness within a particular industry; and to identify the opportunities and constraints to increase the benefits for MSMEs throughout the industry.

Major elements of a value chain framework include:

- End Markets;
- Inter-farm Cooperation (vertical and horizontal linkages);
- Supporting Products/Services and;
- Business Enabling Environment

Innovision employed a value chain framework that combines the strengths of value chain analysis with participatory methods for identifying sustainable market-based solutions.

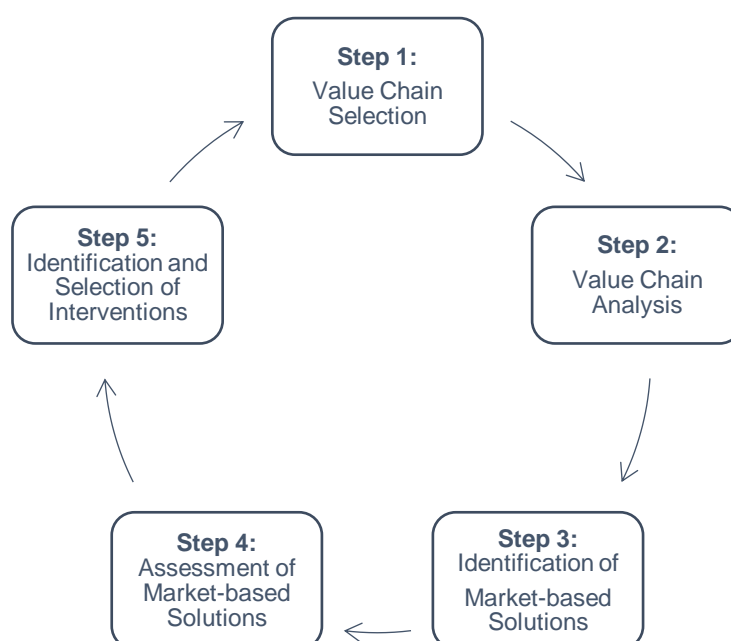


Figure 1: Key Steps in Value Chain Program Design

- **Step 1 – Value Chain Selection:** During this step, a number of selection criteria was used to choose promising value chains in a specific location. Once defined, these criteria were used to compare different value chains. Those that rank the highest were chosen for more detailed analysis.
- **Step 2 – Value Chain Analysis:** During this step, interviews with different stakeholders, and research was conducted to gain a greater understanding of market trends and industry dynamics including value chain participants, their roles, and interrelationships. The goal of this step is to determine key constraints that hinder the participation of the poor and extreme poor in the selected value chains.
- **Step 3 – Identification and Selection of Market-based Solutions:** During this step, potential market-based solutions was identified that can contribute to the competitiveness of the targeted value chain and address the major constraints and opportunities identified in Step 2.
- **Step 4 – Assessment of Market-based Solutions:** During this step, the market-based solutions identified in Step 3 was assessed. Through this process, private sector players were identified who can provide market-based solutions to beneficiaries in a sustainable and commercially viable manner.
- **Step 5 – Identification and Selection of Interventions:** At this stage, interventions that can address the challenges and facilitate the market-based solutions was developed. The scope of interventions was also identified in conjunction with market actors and finalized by the research team.

## 1.5 Methodology:

### 1.5.1 Step 1: Value Chain Selection:

**Secondary Literature Review:** The value chain selection exercise was initiated with conducting secondary literature review. The study team conducted a detailed secondary literature review to understand and identify the potential value chain in the study locations. The study team looked at different publication and reports and identified potential value chains that includes the agriculture statistics of Bangladesh, publications of SME foundation. In addition, the study team also consulted the previous value chain assessment reports conducted by WVB in some of the APs. These reports helped the study team in understanding the AP specific regions and identifying the potential sub-sectors for each of the APs.

**Consultation with WVB:** After identifying the AP-wise potential value chains, the study team sat with WVB national office and went through the list of value chains. The justification for coming to these potential value chains was

shared with WVB national office and after receiving feedback from the WVB national office, the list of potential value chains were finalized. At this stage, specific selection criteria were also finalized against which selection of specific value chains can be made from the list of potential value chains.

**Value Chain Selection Consultation Workshops:** After selecting the potential value chains, WVB helped the study team in organizing the value chain selection consultation workshops in each of the APs. The study team shared the probable list of participants in the value chain selection consultation workshops and the list was finalized in consultation with WVB. The type of persons participated in the value chain selection consultation workshop has wide knowledge on the potential of the area, the advantage and disadvantage of specific sub-sector in a particular area, hence they were in a position to rank specific sub-sectors against each other. The

study team consulted the following personnel during the value chain selection meeting.

Table 1: Participants of Value Chain Selection Consultation Workshops

Participant Type	Number of Participants
Farmers (On Farm)	6
Producers (Off Farm)	6
Backward Market Actors (Input Suppliers)	4
Forward Market Actors (Wholesalers (Arotkar, Bepari and Faria))	4
Government Officials <ul style="list-style-type: none"> <li>Upazilla Agriculture Officer</li> <li>Upazilla Livestock Officer</li> <li>Upazilla Jubo Unnayan Officer</li> <li>Upazilla Women and Children Officer</li> </ul>	4
Other Development Programs working in the region	2
Associations	1/2
MFIs	2
<b>Total Participants</b>	<b>30</b>

The study team tried to select and assess the knowledge of different stakeholders in the potential value chains in the value chain selection meeting to better understand the region, understand the prospects and challenges. Some of the participants were purposely selected to provide key insights such

as government officials and representatives of other development programs in the region who have in-depth understanding of the region and value chains. After the value chain selection meeting, the team finalized the value chain in consultation with WVB national office and relevant technical field staff of WVB.

## 1.5.2 Step 2: Value Chain Assessment:

After the finalization of the value chains, the study team conducted assessment of the value chains in each of the APs.

**Tools used:** The assessment was conducted using qualitative tools. Based on the findings from the literature review and key informant's interview (KII), questionnaires for the value chain analysis was developed. The assessment was conducted using semi-structured question guides to facilitate probing and in-depth discussion with the respondents. Question guides were developed for forward market actors, inputs suppliers, key informants, on-farm producers and off farm producers. The guides were shared with WVB and finalized in consultation with the WVB national office after accommodating necessary changes as suggested by WVB. The question guides are attached in annex. Informal on-field FGDs were also

conducted wherever found necessary and appropriate to capture responses from multiple respondents.

### Sampling:

Value chain assessment is conducted based on a normative model as the goal is not just to gather facts or how things are (defined as descriptive approach) but to investigate and recommend on how things can be improved. We followed a normative case based approach in which the interviewer spends significant time with most respondents to determine the current situation of the respondent group and develop ideas about potential solutions that could improve the situation of the respondent group. In some cases, the potential solutions were discussed with the respondents and their opinions about the benefit of the potential solutions are also investigated. To facilitate this exchange of in-

depth information snowball sampling<sup>1</sup> was used so that the researchers could investigate and validate the information provided by one group of respondents by the other. Usually in any value chain there are higher number of population in the producer group and declining number of population on the forward linkage (traders, processors) and on the backward linkage (input

suppliers). Therefore, higher number of respondents were chosen from the farmers/producers and proportionately lower number of respondents were selected from the different actors in the forward and the backward linkage. The list of respondents is provided in annex.

### 1.5.3. Step 3: Identification and Selection of Market-based Solutions:

During this step, potential market-based solutions was identified that can contribute to the competitiveness of the targeted value chain and address the major constraints and opportunities identified in Step 2. To design the potential solutions, the impact, scalability and

sustainability of the interventions were judged along with paying special attention to WVB objectives. The intervention ideas were shared with WVB and finalized after receiving feedback from both field offices and national office.

### 1.5.4 Step 4: Assessment of Market-based Solutions:

During this step, the market-based solutions identified in Step 3 was assessed. Through this process, private sector players were identified who can provide market-based solutions to beneficiaries in a sustainable and commercially

viable manner. Some of the private sector players were interviewed and potential interventions were pitched to them to assess the willingness and interest of the private sector parties in such interventions.

### 1.5.5 Step 5: Identification and Selection of Interventions:

At this stage, interventions that can address the challenges and facilitate the market-based solutions were developed. The scope of interventions was also identified in conjunction

with market actors and finalized by the research team. The finalized interventions were shared with WVB and finalized after receiving feedback.

## 1.6 Value Chain Selection Process:

Ranking Exercise: To select the potential value chains, the study team utilized a ranking approach. Innovision utilized the following selection criteria in consultation with the WVB National Office:

- (i) Number of farmers/producers engaged in a value chain,
- (ii) Previous or existing experience and activity of WVB in a value chain,
- (iii) Potential for growth,

- (iv) Initiatives from public sector, private sector and development projects in the value chain
- (v) Scope for inclusion of women and youth, and
- (vi) Scope for engagement of poor and ultra-poor as producer or employees.

USAID recommends the following criterion to be used in the value chain selection:

<sup>1</sup> Snowball sampling is a non-probability sampling technique where existing study subjects recruit future subjects from among their acquaintances.

- a) Competitiveness Potential,
- b) Impact Potential,
- c) Cross-cutting Issues and
- d) Industry Leadership.

Based on these broad criterion, the study team selected the before mentioned criterions to be suitable for the purpose of this assignment. Some criterion such as previous work experience of WVB in a value chain were proposed WVB and the final selection criterion were approved by the WVB national office before the study team commenced the field assessments.

These criterions were utilized to identify and shortlist the potential value chains. The value

chain selection meeting started with an overall discussion on the most promising value chains in the regions. All the respondents were asked about the most promising value chains in the region and the key informants i.e. government officials and other respondents were asked to validate the findings. The discussions lead to the shortlisting of 5-8 potential value chains in the region and after that a ranking exercise was conducted. Each of the value chains were given a score out of 5 with 1 being the lowest score and 5 being the highest. Through this exercise, the scoring matrix for each individual area programs were developed, one such sample is provided below:

Table 2: Scoring Matrix of Short-listed value chains in Kaharole AP, Dinajpur

Kaharole, Dinajpur	Pointed Gourd	Maize	Brinjal	Beef Fattening	Goat rearing	Sewing	Cauliflower	Fish cultivation	Duck rearing	Country chicken
Number of farmers/producers engaged in a value chain	3	5	2	5	3	3	2	4	4	4
Previous or existing experience and activity of WVB in a value chain	2	1	2	3	4	3	2	0	4	4
Potential for growth	4	5	3	5	4	4	3	2	3	4
Initiatives from public sector, private sector and development projects in the value chain	1	3	1	5	4	4	1	4	3	3
Scope for inclusion of women and youth	3	5	3	5	5	5	1	1	5	5
Scope for engagement of poor and ultra-poor as producer or employees	2	4	1	3	5	5	2	3	4	5
Total	15	23	12	26	25	24	11	14	23	25

Note: All the AP wise scoring matrixes are provided in Annex.

As it can be seen from the table, each of the shortlisted value chains were given a score out of five which was given by the participants. For Kaharole AP, Dinajpur, the shortlisted value chains were pointed gourd, Maize, Brinjal, Beef

Fattening, Goat Rearing, Sewing, Cauliflower, Fish Cultivation, Duck Rearing and Country

Chicken. During the value chain selection exercise, each of the value chains were given a

score by the participants and after tabulation of the scores, Beef fattening and Country Chicken rearing were selected as potential value chains

for Kaharole AP. The same exercise was conducted in each of the APs and similar scoring matrixes were developed.

## 1.7 Finalization of Potential Value Chains:

After the value chain selection meeting, the study team compiled the findings and shared with the WVB national office. The WVB national office shared the findings with the field offices and gathered their feedback. After receiving feedback from the field offices and

WVB national offices, some value chains were changed. The following value chains were changed in consultation with WVB national office and field offices and the reasoning for these changes are given in the following table.

Table 3: Potential Value Chains

	Selected during selection exercise	Proposed by WVB regional team	Changed Value Chain	Justification for Change
<b>Northern Bangladesh Region</b>				
Paba	Beef Fattening, Country Chicken Rearing	Cow rearing (Dairy), Vegetable	Cow rearing (Dairy), Vegetable	As the previous experience of WVB in Paba indicates weak impact potential in Beef Fattening and Country Chicken rearing, the value chains were changed to Cow Rearing (Dairy) and Vegetable
Tanore	Poultry (Duck) and Beef Fattening	Poultry (Duck) and Cow rearing (Dairy)	Poultry and Cow rearing (Dairy)	As the previous experience of WVB in Tanore indicates weak impact potential in Beef Fattening, the value chain was changed to Cow Rearing (Dairy)
Kishoreganj	Cow (dairy) and Goat Rearing	Cow (Dairy) and Maize	Cow (Dairy) and Maize	As per the feedback of AP, goat rearing is not suitable for Kishoreganj as the area is susceptible to various goat diseases. Maize was chosen as it has good growth potential.
<b>Greater Mymensingh Region</b>				
Jhinaigati	Country Chicken and Tailoring	Country Chicken and Vegetable	Country Chicken and Vegetable	As WVB has previous work experience of working in vegetables sub-sector, focusing on vegetables can leverage on the previous interventions of WVB.
Mymensingh	Cow (Dairy) and Country Chicken, Tailoring	Cow (Dairy) and Handicrafts	Cow (Dairy) and Handicrafts	Selecting Tailoring as a sub-sector will constrict the scope of work for WVB and was thus changed to Handicrafts which will also include Tailoring
Muktagacha	Vermicomposting and Cow(Dairy)	Cow (Dairy) and Vegetable	Cow (Dairy) and Vegetable	According to the feedback of WVB, the scope for up gradation for vermicomposting is very low as only a small number of producers are engaged in the sub-sector. Thus it was changed to vegetable, a sub-sector which WVB has previously focused on.
Muktagacha South	Country Chicken and Cow (Dairy)	Country Chicken and Vegetable	Country Chicken and Vegetable	As WVB has previous work experience of working in vegetables sub-sector, focusing on vegetables can leverage on the previous interventions of WVB.

It is to be noted that Innovision was instructed to select specific value chains rather than

generic value chains during the early stage of discussion (specific variety of vegetable like

pointed gourd instead of vegetable in general). For this, Innovision conducted the value chain selection exercise with specific value chains in mind. In many instances, specific value chains were assessed such as pointed gourd or

eggplant. However, after the value chain selection process, WVB changed the decision and asked Innovision to consider vegetable as whole. Thus in case some of the APs, vegetable as a whole was chosen.

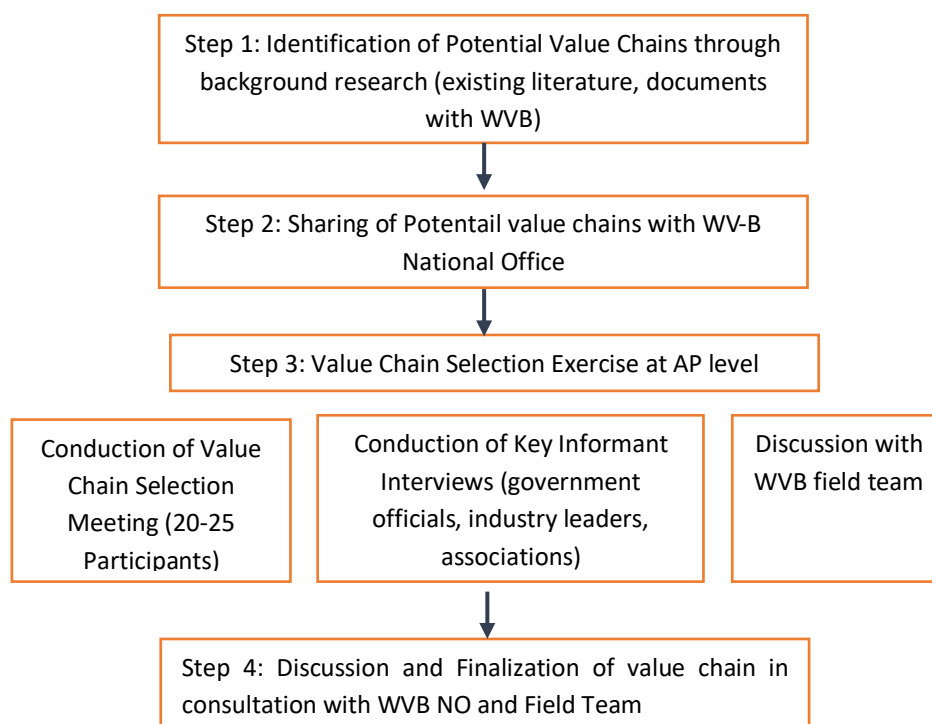


Figure 2: Value Chain Selection Process

The final selected value chains are as follows:

Table 4: Selected Value Chains

Value Chain Selected	Region	AP
Dairy	GMR	Sherpur, Sribordhi, Mymensingh, Muktagacha, Jolchotro.
	NBR	Thakurgaon, Rangpur sadar, Mithapukur, Ghoraghat, Birganj, Birampur, Pirganj, Kishorganj, Godagari, Dhamoirhat, Biral, Fulbari, Paba, Tanore
	SBR	Assasuni, Kachua, Pirojpur, Kotalipara. Debhta
	CER	Sylhet, Gowainghat, Tahirpur, Laksham
Country Chicken	GMR	Sherpur, Jhenaigati, Mymensingh, Muktagacha south, Jolchotro.
	NBR	Nilphamari, Thakurgaon, Rangpur sadar, Paba, Kaharole, Birampur, Pirganj, Biral, Fulbari.
	SBR	Assasuni, Kachua, Rampal, Barisal, Bhandaria, Kotalipara. Debhata
	CER	Laksham, Bandarban, Gowainghat, Sylhet, Tahirpur
Beef Fattening	NBR	Nilphamari, Kaharole
Goat	NBR	Mithapukur, Birganj, Dhamoirhat
Duck	NBR	Tanore
	SBR	Assasuni, Kachua, Barisal, Bhandaria, Kotalipara, Debhata

	CER	Tahirpur
Vegetables	GMR	Sribordhi, Sherpur, Jhenaigati, Muktagacha, Muktagacha south
	NBR	Ghoraghat, Godagari, Paba
	SBR	Assasuni, Rampal, Pirojpur, Bhandaria, Debhata
Carp Fish Culture	SBR	Rampal
Fruits (Banana, Papaya and Pineapple)	GMR	Jolchotro
	CER	Bandarban
Handicrafts	GMR	Mymensingh Sadar
Vocational Training	SBR	Barisal
	CER	Dhaka east, Dhaka shishu, Kamalapur
Maize	NBR	Kishoregonj



# Chapter 2: Analysed Value Chains

## Chapter 2.1: Assessment of Dairy Value Chain

### 2.1.1 Overview of Dairy

Dairy production is one of the most important economic activities, which provides significant income and employment opportunities and livelihood enhancement in the rural areas. The dairy sector mostly consists of small-scale operations owned by small-holder farmers with a few animals; they mostly carry out the farming by themselves and with the help of other household members. The industry holds vast potential for sustainable development in Bangladesh, more specifically in the rural economies. One of the major growth drivers of this industry is the high cattle density (145 large animals per square kilometres in 2010). However, with the country's increasing population, rising incomes, growing nutrition awareness and evolving diet; the demand for dairy products is rising faster compared to the supply. There was a production deficiency per consumption requirement of around 78% (DLS, 2011), despite of the growth of milk production of around 6.2% between 2005 and 2012. Under such circumstances, the dairy industry of Bangladesh has huge potential for intervention.

The major clusters of dairy farms in Bangladesh are located in Sirajganj, Pabna, Munshiganj, Mymensingh, Gazipur, Khulna, Jessore, Kushtia, Bogra, Natore, Rajbari, Faridpur, Madaripur, Dinajpur, Rangpur, Tangail, Kishoreganj, Narshingdhi, Brahmanbaria, Sylhet, Comilla and Chittagong districts. There is a co-existence of both formal and informal marketing channels in the dairy market of Bangladesh. Smallholder farmers supply raw milk through the informal traditional market and a certain proportion for dairy processing entrepreneurs in the formal manufacturing market, who carry out further processing and distribution across the country. Formal milk processors collect milk supplies from local farmers as well as skimmed milk powder from imports of dairy products. In the informal sector, sweet producers, tea shops and restaurants are the major market players. The value chain of dairy includes procurement, transportation, processing, storage, packaging, distribution, retailing and other services. Dairy products produced include pasteurized milk, UHT milk, milk powder, flavoured milk, yoghurt, butter, cheese, curd and ghee.

APs analysed under regional areas for cow dairy rearing are:

Table 5: Region wise AP (Dairy)

Region	AP
GMR	Sherpur, Sribordhi, Mymensingh, Muktagacha, Jolchotro.
NBR	Thakurgaon, Rangpur sadar, Mithapukur, Ghoraghat, Birganj, Birampur, Pirganj, Kishorganj, Godagari, Dhamoirhat, Biral, Fulbari, Paba, Tanore
SBR	Assasuni, Kachua, Pirojpur, Kotalipara, Debhata.
CER	Sylhet, Gowainghat, Tahirpur, Laksham

### 2.1.2 End Market Analysis

#### 2.1.2.1 Main Market, Buyers & Competition

There are generally two types of milk market; formal market and informal market. The formal market consists of milk collected by the large institutional dairy agro processors such as PRAN, BRAC, Milk Vita etc. These large

institutional buyers buy the milk through collection points in the locality where they collect the milk from milk producers and process the milk accordingly. Usually the producers have to be registered with the formal

buyers to sell their milk at the collection points. Sometimes one farmer among a village acts as a collector and delivers the milk to collection points. The formal institutional buyers pay the producers according to their fat content. Milk with higher fat content fetches a higher price as compared to milk with low fat content. The formal institutional buyers transport the milk to cooling centres and then use the milk to produce a variety of dairy products.

The informal market consists of milk sold in the locality. Some producers sell their milk directly at local markets. Usually these producers sell the milk at the evening in small plastic containers and the buyers buy from them directly. These buyers are generally individual consumers who buy small quantities such as half litre, one litre, etc. Some producers also sell the milk directly to their neighbours, while some collect milk from their neighbours and sell them at large urban centres as they usually get better price if they sell to individual buyers in the large urban centres. However, this depends on the number of cows one producer has and the proximity to large urban centres. Usually producers with 4-8 dairy cows sell their milk to individual consumers if they are located near large urban centres. Sometimes the milk is also

sold directly to informal processors such as local sweet maker. These sweet makers make a range of dairy products such as curd, clarified butter and sweets. The market where the milk is sold is generally dependent on the size of the dairy farm and proximity to large urban areas. Smallholder producers with 1-4 cows generally sell the milk in their locality i.e. to their neighbours. Larger producers with 5-10 cows sell both in the locality and to nearby urban centres. There are also some local milk collectors (goala) who collect the milk from individual producers and sell the milk to either individual consumers or local sweet makers.

No significant competition among the buyers have been observed in the APs.

#### Scope for Up-gradation:

Linkage with formal institutional buyers: It has been observed in majority of the APs that the producer lack access to market. The producers are not linked with any institutional buyers and thus they do not receive a fair price for their milk especially in locations which are at a distance from large urban centres.

AP specific Findings: The scope for up-gradation was observed for all APs.

### 2.1.3 Description of Value Chain

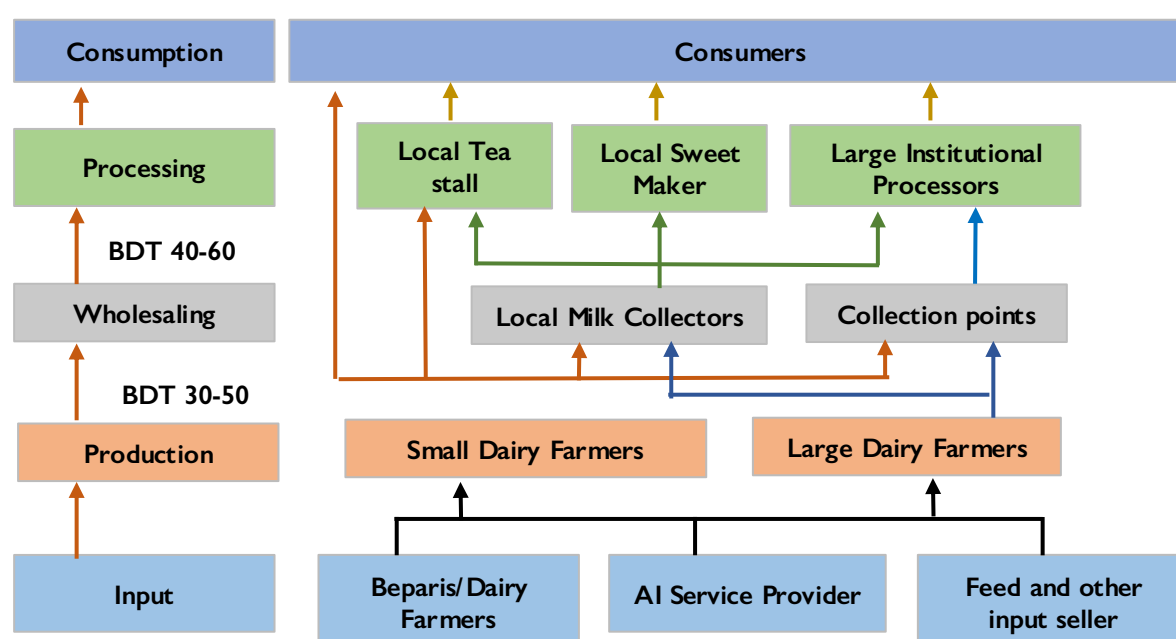


Figure 3: Dairy Value Chain

## 2.1.4 Performance of the Value Chains and Scope for Upgrading

### 2.1.4.1 Input Suppliers:

#### Beparis/Dairy Farmers:

The dairy farmers usually buy their cow from local haats or from neighbours. If the dairy farmer can buy a good quality cow (with high milk production capacity) from a neighbour or an acquaintance, they usually buy it from these farmers as they can be sure about the milk production capacity of the cow they are buying. Those farmers who do not have access to such farmers (having cows with high milk production capacity) buy their cow from local haats where both beparis and other dairy farmers sell their cows.

**Scope for Upgrading:** There was no scope for upgrading observed at the bepari/dairy farmer level.

#### AI Service Providers:

To improve the breed of the dairy cow, the farmers utilize the artificial insemination (AI) service where the cow is impregnated with the semen of an improved breed. The semen is available in two forms: frozen and liquid. This service is provided by both government and non-government agencies. For the government agency, the local livestock office provides the service in exchange for a fee. If the farmer brings the cow to the livestock office, they need to pay BDT 15 for liquid semen and BDT 30 for frozen semen. They also need to pay BDT 40 for the AI technician. There are some private AI service providers such as BRAC, Lal Teer who have their own production and distribution system. The dairy farmers usually avail the service through the local veterinary physician. These physicians collect the semen from both government and non-government sources and administer the AI themselves. They usually charge BDT 200-300/dosage for the government sourced semen and BDT 500-800/dosage for the private sources.

**Scope for upgrading:**

Marketing and Training Service Provision by the AI companies:

No marketing or training service provision by the AI service providers has been observed for the smallholder farmers. Although the government agencies have their extension program, however the shortage of manpower and inadequate funding severely restricts service delivery. The large private AI service providers do not have any marketing or training service provision for the smallholder farmers.

**AP specific Findings:** The scope for up-gradation was observed for all APs.

#### Feed and other input seller:

There are numerous feed and other input (feed supplement and medicine) sellers selling a range of products. Some of the large animal health product companies are Renata, Acme and ACI. These companies have a range of products and they usually sell their products through their dealers and retailers. These companies sell a range of medicine and feed supplements for dairy cow. Only a small percentage of the dairy farmers buy these products directly from the retailers rather they rely on the local veterinary physicians to buy the products for themselves. As farmers are becoming more conscious about their dairy cows, the usage of ready feed and other inputs (vitamins and feed supplements) is increasing. Some of the farmers have been observed to feed their cow ready feed and other supplements, however the practice is still not widespread. When the cows are giving milk, some of the farmers feed their cow feed supplements such as calcium and vitamin premixes. However, the farmers are primarily reliant on the local veterinary physicians for information regarding such improved feed. In some areas (Pirganj, Nilphamari, Mithapukur, Ghoraghat, Birganj, Phulbari, Rangpur, Birampur), high yielding grass such as Napier are sold in the market.

#### Scope for Upgrading:

- Marketing and Training Service Provision by the input companies: No

marketing or training service provision by the feed and other input sellers has been observed for the smallholder farmers. The input companies restrict their marketing efforts to the large dairy farms while not focusing on smallholder farmers. However as dairy farming is becoming increasingly popular, the input companies can tap onto this opportunity and increase their market share. As the farmers are reliant on the local veterinary physicians, they are not linked with the input companies. Thus the input companies can target these smallholder farmers and increase their presence in the locality.

AP specific Findings: The scope for up-gradation was observed for all APs.

- Selling of Napier and Pakchong in local market: In many of the study locations, Napier and Pakchong are not available in the local market as feed for cattle. Such green grass is especially essential for ensuring high milk production for dairy cow. If such green grass is sold in the market, farmers can buy the grass from the market and feed their cattle.
- AP specific Findings: The scope for up-gradation was observed in Thakurgaon, Birganj, Kishoreganj, Dharmoirhat, Biral, Sylhet, Tahirpur, Gowainghat.

#### Samsul's Story of Napier Cultivation

Md Samsul Islam lives with his family with two children, wife and parents in a village named Shibpur, which is in Fulbari upazila of Dinajpur district of Bangladesh. Previously, he used lease out land and cultivate rice, potato and vegetables. One day he went to visit one of his relatives in Pirganj, Rangpur and saw Napier grass being sold in the local market. Out of curiosity, he asked his relative what the grass is for. His relative informed him that it is a kind of grass which is fed to cows and can also be sold in the market commercially. Feeding the cow Napier grass increases the milk production and also improves the health of the cow as it has high nutritional value.

Interested to try it out, Md Shamsul collected and brought back some cuttings of Napier grass. His primary interest was to feed the grass to his own cows and he immediately saw results as the milk quantity increased. From the next year he started selling the excess Napier in the local market. Currently he leases 150 decimals of land to cultivate Napier grass. The grass is harvested eight times a year, and around 50 metric tons of Napier grass is produced every year.

His operational costs include lease cost of BDT 11,000 per year, land preparation cost of BDT 1,000 per year; fertilization cost of BDT 2,000 and irrigation cost of BDT 800 after every harvest. His annual revenue from sale of Napier grass is around BDT 200,000 (BDT 4,000 per MT).

As one of the successful farmers of Napier grass, Samsul claims that it has changed things for the better, both for himself and his family, as he now makes a profit of around BDT 161,600 per year. He has purchased a van last year with the income from Napier grass, which runs on battery, and uses it to transport the grass to the local markets and sell them. Other than selling Napier, he also uses his van as a public transport for extra earnings.

#### 2.1.4.2 Dairy Farmers:

**Small Dairy Farmers:** Majority of the farmers in the visited APs are small dairy farmers. These farmers usually have around 1-5 dairy cows and

they keep these cows inside their households. Majority of the farmers have been observed rearing indigenous cows rather than improved as the price of an indigenous cow is lower compared to a improved breed cow. They have

also reported that they indigenous cows and hardy and have better immune system compared to better breed cows. As these smallholder farmers do not rear the cows on a commercial basis, they feel more comfortable rearing indigenous cows despite these cows having low milk production (usually 0.5 litre to 1.5 litre). The misconception of higher feed demand of improved breed cows also prevents smallholder farmers from rearing such cows. Although the improved breed cows do require larger quantity of feed due to their bigger size, the increased milk production more than offsets the higher cost of feed which is reflected in the below analysis.

The small dairy farmers generally feed their cows home-made feed. Rice straw is the most common feed which is often mixed with broken rice, rice husk, maize and molasses to feed the cow. Farmers who have access to grazing lands graze their cow during the daytime and bring the cow home in the evening. Usually the cow is tied outside the house during the day time and brought into the shed after evening. The cows are usually fed green grass but the farmers try to feed it more regularly during the milk production stage as green grass is essential for milk production. In some areas such as Pirganj, Nilphamari, Mithapukur, Birampur, farmers cultivate high yielding grass such as Napier to feed their cow. Only a small percentage of the farmers have been observed feeding their cow ready feed and other feed supplements, usually this is practiced for improved breed cows. Thus often the cows are malnourished as they are not fed proper nutritious feed. The farmers are reliant on the most easily available feed that is available in a particular season. When the farmers cultivate maize, they feed their cows maize leaves and maize, when they cultivate potato, they feed their cows potatoes. Such reliance on a particular feed often contributes to malnutrition of the cows as they are not fed a varied diet.

The cows are generally vaccinated and dewormed regularly. The farmers are reliant on the local veterinary physicians for any disease related information. These physicians are trained on animal health but are not registered

physicians. They provide a range of services such as deworming, vaccination, AI and disease identification and treatment. They also provide farmers with information related to feed and overall management.

The farmers usually keep the cows in shed which are made with bamboo and corrugated tin. Usually there are four bamboo poles and a roof. A large tub is used as manzer where the cow is fed feed and water. Usually the floor is earthen with only around 10% of the sheds having pacca (cemented) floor.

#### Scope for Upgrading:

- **Promotion of Improved Breed:** As majority of the farmers are still rearing indigenous cattle, there is a scope for promoting AI services and encouraging farmers to rear improved breed cows (Holstein Friesian and Jersey). In some areas: Red-Sindhi and Sahiwal can also be promoted. Many of the farmers are not aware of these breeds and simply refer them as 'Austaliah'. Often the local veterinary physicians also do not tell the farmers about the particular breed. By rearing improved breed cows, the farmers can earn more milk and have increased income. The calves of improved breed cows also sell for higher price.

AP specific Findings: The scope of upgrading has been observed for all APs

- **Promoting Proper Feed Management:** It has been observed that the farmers are not feeding their cows properly. They only feed the cows whatever feed can get at a specific time of the year. Rice straw is the most common feed which does not have good nutritional value. As most farmers are primarily dependent on rice straw, the cows suffer from malnutrition from a lack of nutritious diet. The farmers are also not aware of alternative feed such as molasses/urea feeds. In most areas, the farmers are not aware or motivated

enough to cultivate green grass such as Napier. Thus there is scope for promoting proper feed management at the farmer level.

AP specific Findings: The scope of upgrading has been observed for all APs

- **Linkage with large institutional processors:** Majority of the dairy farmers are not linked with any institutional processors. Farmers residing near large urban centres do get a fair price for their cow however farmers in rural areas often do not get a fair price of their milk as there is a lack of access to market. Linking these farmers with large institutional processors can ensure a fair price of the milk produced by the farmers.

AP specific Findings: The scope of upgrading has been observed for all APs

- **Promotion of proper cattle management:** As majority of the farmers are still following traditional cultivation methods, they are not aware of modern rearing practices. The unhygienic living condition of the cow and the improper feed management

lead to poor health of cow which also reduces the milk production of the cows.

AP specific Findings: The scope of upgrading has been observed for all APs

**Large Dairy Farmers:** The large dairy farmers are farmers with more than 5 cows. These farmers are usually well off and rear the cows on a commercial basis. As the project target beneficiaries are poor and ultra-poor, we have excluded these farmers from our investigation.

**Inclusiveness of the value chain:** Women involvement is very high in dairy farming. Although the household is headed by a male member and he is in charge of buying the cow, buying inputs and selling the cow if needed, the women members are almost entirely responsible for looking after the cow. As the male members are often working out of the house, the female members are entrusted to look after the cow. They prepare the feed for the cow, clean up after the cow and bring the cow inside and outside the cowshed. They also milk the cow and sell it through local milk collectors. The education level among the dairy farmers is very low, majority of the farmers only have primary education.

Table 6: Cost Benefit Analysis of different rearing practices

		Indigenous Breed with bought feed	Cross Breed with bought feed	Cross Breed with Napier Cultivation	
Production cost	Cost head	Amount BDT	Amount BDT	Amount BDT	Note
	Lease cost	N/A	N/A	N/A	Farmers usually keep their cows in own living premises.
	Cow shade Maintenance Cost (yearly)	1,000	1,000	1,000	The smallholder farmers usually build the cow shade with bamboo and corrugated tin which costs around three thousand BDT. The shade's durability lasts for three to four years.
Type of Inputs & Cost	Cow	40,000	80,000	80,000	A single indigenous cow which is in heat.
	Feed	21,900	46,500	46,500	The feed consists of rice straw, broken rice, rice husk, maize and molasses. Feed cost of calf included.
	Medicine	500	1,500	1,500	
	Vaccine	250	500	500	Physician's honorarium included.
	AI	1,500	1,500	750	Often a cow needs to be inseminated twice as the 1st insemination doesn't impregnate the cow.
	Labour Cost	N/A	N/A	N/A	The female member of the household take care the cow as they don't need to hire labour
	Transport Cost	1,000	1,000	1,000	In case for treatment to veterinary hospital and selling to haats the transportation cost required.
	Others	1,000	1,000	1,000	Bowls, manzer, bucket
	Total costs (excluding cow procurement cost)	27,150	53,000	52,250	The farmers don't sell the milk producing cow because the cow would be inseminated again.
	Total Cost	67,150	133,000	132,250	
Sales of production	Total sales volume of milk (Litre/year)	300	1,600	1,800	
	Average sales price (BDT/litre)	35	35	35	
	Sales quantity of calf (Unit/year)	1	1	1	
	Average sales price (BDT/Unit)	25,000	35,000	35,000	
	Total sales (BDT/Year)	35,500	91,000	98,000	
Profit (BDT/Year)		8,350	38,000	45,750	Total costs (excluding cow procurement cost) subtracted from Total sales of calf and milk

## 2.1.5 Assessment of the regulatory environment and support services

### 2.1.5.1 Infrastructure:

Majority of the project area are reasonably well connected. There is electricity in majority of the project areas except some very rural areas. Transports are easily available and the most used transport is locally engineered small trucks (Nasimon or Korimon).

### 2.1.5.2 Public Services:

None of the dairy farmers have any certification. The public services available for dairy farming are offered by Department of Livestock Services (DLS), Department of Youth Services and Ministry of Women and Children Affairs.

Department of Livestock Services (DLS): The Department of Livestock Services (DLS) aims to increase livestock production and productivity, maintain ecological balance, conserve biodiversity and improve public health. They provide a range of services in Bangladesh in order to achieve these goals which includes: prevention and control of diseases, analyse animal feed, increase kid and calf production, increase breeding and extension of artificial insemination.

DLS provides healthcare (Vaccination monitoring of diseases) to domestic livestock through upazila livestock extension offices and district veterinary hospitals. Upazila sub-sector and union points provide vaccination services for domestic livestock at government determined prices. Monitoring and surveillance of diseases, collecting disease samples, and taking appropriate measures for treatment also fall within the department's provided services.

DLS also organizes training and supports technology transfer to farmers free of cost. Moreover, the department tries to ensure expansion of improved methods of farming grass so that the higher demands for more nutritious livestock feed are met at low cost.

Other services provided by the DLS include: (i) registration of livestock, (ii) license issuance and renewal of livestock feed importers and exporters, (iii) monitoring the standard of cow fattening, feed meal and veterinary medicine stores, (iv) preventing trade of livestock and testing of different imported and exported livestock through quarantine centres at the border. Furthermore, DSL help farmers directly by (i) providing emergency services via mobile call and SMS (ii) issuing and distribution of loans and ensuring loan repayment.

Observations from field research have found a linkage between people's awareness of these extension services to proximity to extension offices. The further away the community is from the extension offices, the lower is the awareness of such services. The extension of such services are further weakened by inadequate budget and shortage of government manpower.

Department of Youth Development (DYD): The Department of Youth Development (DYD) aims to increase the active participation of the youth in National Development. They provide a range of services in Bangladesh in order to involve the youth in the mainstream national development process which includes: providing skill development institutional and non-institutional training, extension of micro-credit services, organization of self-employment projects, establishment of youth organizations and provision of grants to youth organization.

Amongst the department's wide range of institutional and non-institutional training, DYD provides some which are relevant to cattle fattening. The relevant training courses for the unemployed youth include:

(i) Livestock, Poultry rearing, Fishery and Agriculture program: This is a residential training program with a duration of 2.5 months, and has an admission fee of Tk. 100.

Ministry of Women and Children Affairs: The main objective of the Ministry of Women and Children Affairs is to create equal opportunity of women in economic and activity, eliminate violence against women and children and empower them. The range of services provided



by the ministry include: providing technical and vocational training to women, providing day care services for children of working women, providing allowances and grants with a view to alleviating poverty of women and children and extending micro credit services for underprivileged women to promote self-

### 2.1.5.3 Health, Labour Rights and Environmental Safety Issues:

- No major health effects were found in dairy farming
- Labour rights are not applicable for dairy farming as most of them are small scale businesses, often run by members of the family.
- Environmental impact: Waste disposal is an important issue in terms of environmental safety. Wastage generated from dairy farming can cause malodor which affects the neighbourhood and surrounding areas especially if there is a lack of proper ventilation system and inadequate management of wastage. Such inadequate waste disposal also attracts parasites, flies, fleece worms, etc. in the shelter which can transmit diseases to humans. However, in majority of the households it was observed that the cow dung is properly removed from the cowshed and used as fertilizer. The cow dung is removed and kept in a pile and used in agriculture lands as fertilizer. Composting of cow dung was not observed. In some cases, the household makes fuel sticks with the cow dung and sell it in the local bazaar. Such usage of cow dung as fuel leads to environmental pollution. However, the urine is in almost all cases is not properly disposed and pollutes the environment.

### 2.1.5.4 Financial Services:

Micro Credit organisation: Microcredit organizations are actively working in these regions such as BRAC, ASA, TMSS, BRAC, Grameen Bank and RDRS. To avail any service

employment. The Ministry mainly provide training and micro-credit to women who are interested in investing in dairy farming. The micro credit program provides credit to rural destitute women ranging from Tk. 10,000 to Tk. 15,000 with a 5 percent service charge, which can be used to buy livestock for dairy farming.

from these MFIs, one needs to become a member of the institute. These MFIs usually have a branch office and several centres/groups under each branch office. The first loan limit for new members is usually around BDT 5,000 to 10,000 for almost all the MFIs which is increased every year with the repayment of the previous loan. The payback period usually is 1 year with 44 instalments (weekly payment). The interest charged by the MFIs range from 20-26.5% per annum. It has been observed that many of the beneficiaries have been observed who availed micro credit however they are not using the money for dairy farming.

Banks: Banks active in the project area are primarily state-owned commercial banks such as Sonali bank and Agrani bank. The non-state owned commercial banks are established at the upazila level. Some of the major banks are BRAC Bank, Ansar VDP Bank, Islami Bank and Farmers Bank. To take out an SME loan from these banks, the borrower must have an already established business of two to three years. To avail the loan, the borrowers must submit trade license, Tax Identification Number, Environmental, sanitary and fire-fighting certificate picture of the store front, list of inventories. However, none of the dairy farmers have been observed availing these products.

Value chain financing/ suppliers credit is usually provided by the different value chain actors such as input retailers. Such financing has been observed for medicine or feed supplement whereas the owner of the input retail shop gives credit to well-known customers.

### 2.1.5.5 Business Membership Organizations:

No Business membership organisation have been observed in the field.

## 2.1.6 SWOT Analysis

Table 7 SWOT Analysis of Dairy

Strengths	Opportunities
<ul style="list-style-type: none"><li>▪ Almost all households own dairy cows</li><li>▪ There is a strong interest among the beneficiaries to improve their rearing practice.</li></ul>	<ul style="list-style-type: none"><li>▪ With the increasing population, the demand for milk is ever increasing</li><li>▪ Significant scope for women and youth involvement</li></ul>
Weaknesses	Threats
<ul style="list-style-type: none"><li>▪ Majority of the cows are of low milk-producing indigenous variety</li><li>▪ Farmers are not aware of modern rearing practices</li><li>▪ Reliance on traditional feed decreases the profitability</li><li>▪ Low access to information channels</li><li>▪ Lack of access to formal market</li></ul>	<ul style="list-style-type: none"><li>▪ Increasing feed cost reduces the profitability of the farmers</li><li>▪ Natural calamities such as flash floods often kill the cow</li><li>▪ Improper vaccination often leads to death of cows.</li><li>▪ </li></ul>

## 2.1.7 Constraints Analysis

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Table 8 Constraints Analysis of Dairy

	Actors	Functions	Constraints	Root Cause	APs where the constraint was observed
Core Function	AI Service Providers	Providing AI service	No marketing or training service provision by the AI service providers has been observed for the smallholder farmers.	Smallholder dairy farmers are not targeted as potential customers by the AI service providers.	All the APs
	Feed and other input seller	Selling different Inputs	No marketing or training service provision by the feed and other input sellers has been observed for the smallholder farmers.	Smallholder dairy farmers are not targeted as potential customers by the input sellers.	All the APs
			Selling of Napier is absent in many regions.	Napier has not been promoted in many regions. Farmers are not aware of the profitability of Napier Cultivation.	Thakurgaon, Birganj, Kishoreganj, Dharmohat, Biral, Sylhet, Tahirpur, Gowainghat
	Smallholder Dairy Farmers	Rearing Dairy Cows	Preference for indigenous varieties over high milk producing breeds lowers the milk production	Farmers are not aware of the benefits of rearing improved breed cows and they do not know the rearing practice of improved breed cows	All the APs
			Farmers are not cultivating green grass for cow feed and thus are reliant on buying grass from markets	Farmers are not aware of the benefits and cultivation techniques of cultivating green grass	All the APs
			Farmers do not build proper cowshed	Smallholder farmers do not have the financial capacity to build proper cowshed Smallholders farmers are not motivated to build proper cowshed	All the APs
			Farmers do not feed their cow nutritious food	Farmers are not aware of the benefits feeding and process of making nutritious food	All the APs
			Farmers do not know about modern rearing practice of dairy cows	There is a lack of information channels	All the APs
	Marketing Actors	Selling the milk	There is no linkage with formal dairy processors	There are no collection points The low quantity of milk produced by individual farmers is not enough for setting up a collection point by the large dairy processors.	All the APs

Support Functions	Public services	Providing information and implementation of different activities	The public extension service is not enough	Lack of manpower and budget of government agencies hampers the information dissemination	All the APs
	Infrastructure	Roads and communication for transportation	None		
Enabling Environment	NGO	Providing micro finance	Smallholder dairy farmers do not utilize micro finance for dairy operations	The product offering (duration, interest rate and repayments schedule) of the NGOs is not suitable for smallholder dairy farmers NGOs do not target the smallholder dairy farmers as prospective clients	All the APs

## 2.1.8 Recommendations

The opportunities for working on these constraints can be analysed to develop intervention plans that can be used as the basis to plan project activities:

Table 9 Intervention Plans for Dairy

Constraint	Intervention	Areas (Suitable APs)	Output	Outcome	Impact
No marketing or training service provision by the AI service providers has been observed for the smallholder farmers.  Preference for indigenous varieties over high milk producing breeds lowers the milk production	Facilitate Linkage between AI service providers and smallholder farmers	AI APs	AI service providers provide training and embedded service to farmers	Farmers are aware of improved breeds and use AI to improve their breed	Smallholder farmers enjoy higher milk production and increased income
No marketing or training service provision by the feed and other input sellers has been observed for the smallholder farmers.  Farmers do not build proper cowshed  Farmers do not feed their cow nutritious food  Farmers do not know about modern rearing practice of dairy cows  The public extension service is not enough	Facilitate linkage between input companies and small holder farmers	AI APs	Input companies provide training and embedded service to farmers	Farmers are aware about and use improved quality inputs and practice modern cultivation techniques	Smallholder farmers enjoy higher milk production and increased income
Selling of Napier/Pakchong is absent in many regions.	Promotion of commercial cultivation of Napier/Pakchong to be sold in the market	Thakurgaon, Birganj, Kishoreganj, Dhamoirhat, Biral, Sylhet, Tahirpur, Gowainghat	Farmers are aware and knowledgeable about commercial cultivation of Napier and Pakchong	Napier/Pakchong is sold in the local market as feed	Napier farmers enjoy higher income  Smallholder farmers enjoy higher milk production and increased income
Farmers are not cultivating green grass for cow feed and thus are reliant on buying grass from markets	Promotion of Napier/Pakchong at smallholder dairy farmer level	AI APs	Farmers are aware and knowledgeable about	Farmers cultivate Napier/Pakchong	Smallholder farmers enjoy higher milk production and reduced input cost

			cultivation of Napier and Pakchong		
There is no linkage with formal dairy processors	Facilitate linkage with formal dairy processors	All APs	Formal dairy processors establish collection points	Farmers sell their milk through the collection points	Farmers enjoy higher income
Smallholders dairy farmers do not utilize micro finance for dairy operations	Development and promotion of specific micro finance product for dairy farmers	All APs	MFIs develop and promote specific micro credit programs for smallholder dairy farmers	Farmers utilize the microfinance products	Farmers have access to finance

## 2.1.9 Intervention details

**Intervention 1: Facilitate Linkage between AI service providers and smallholder farmers**

**Potential Partners:** BRAC, American Dairy, ACI

**Intervention Details:**

WVB can partner with leading AI service providers such as BRAC, American dairy or ACI. These companies can promote their AI services to the beneficiaries of WVB and provide a range of embedded services such as training provision. These trainings can focus on both benefits of rearing improved-quality breeds, the process of breeding and modern rearing practices.

WVB can also partner with these providers to bring new technologies such as AI Shield in Bangladesh which will ensure longer hold times for extended-term storage of semen at cryogenic temperatures, durability and optimum performance even in the most rugged conditions and absolute protection of the semen samples it holds. Such improved technology for AI technology can contribute to higher conception rate, increased semen viability and increased productivity.

**Intervention 2: Facilitate linkage between input companies and small holder farmers**

**Potential Partners:** Renata, ACME, Popular

**Intervention Details:**

WVB can partner with leading input providers such as Renata, ACME or Popular. These companies can promote their products to the beneficiaries of WVB and provide a range of embedded services such as training provision. These trainings can focus on benefits of using improved quality inputs, the right usage of inputs and modern rearing techniques. By learning about modern rearing techniques, the farmers can be aware about proper feed management (preparing nutritious feed), vaccination and overall cattle management.

**Intervention 3: Promotion of commercial cultivation of Napier/Pakchong to be sold in the market**

**Potential Partners:** DLS

WVB can partner with the local DLS office to promote commercial cultivation of Napier/Pakchong. WVB can select one or two interested farmers in each union under an AP to organize demonstration plots of commercial Napier/Pakchong cultivation. The local DLS office can provide cuttings of Napier or Pakchong and provide training on proper cultivation methods of such grasses. WVB can promote the produced Napier to other beneficiaries. Such commercial cultivation can lead to availability of Napier/Pakchong in the local which the dairy farmers can use to feed their cow.

**Intervention 4: Promotion of Napier/Pakchong at smallholder dairy farmer level**

**Potential Partners:** DLS

WVB can partner with the local DLS office to promote cultivation of Napier/Pakchong at smallholder farmer level. WVB can select one or two interested farmers in each union under an AP to organize demonstration plots of Napier/Pakchong cultivation. The local DLS office can provide cuttings of Napier or Pakchong and provide training on proper cultivation methods of such grasses. Such cultivation of Napier/Pakchong can lead to reduced input cost for farmers. The farmers can utilize the fallow land beside their homestead to cultivate the Napier/Pakchong.

**Intervention 5: Facilitate linkage with formal dairy processors**

**Potential Partners:** BRAC, MilkVita, Pran

To ensure proper price of the produced milk of the beneficiaries, WVB can partner with formal dairy processors to ensure market access of the milk. One of the key constraints in linking smallholder farmers with the formal dairy processors is the limited amount of milk produced by individual farmers. WVB can form producer groups and link the farmer groups with the formal dairy processors. The formal dairy processors can also train the farmers on proper cultivation techniques.

**Intervention 6: Development and promotion of specific micro finance product for dairy farmers**

**Potential Partners:** BRAC, ASA, TMSS, FIVDB

WVB can partner with microfinance institutions to develop and promote specific micro finance products. The terms and conditions of the micro finance products (high interest rate, repayment terms) are not suitable for the ultra-poor beneficiaries of WVB. Thus WVB can develop specific micro-finance products which will suit the need of their beneficiaries and promote such products to their beneficiaries.

**Intervention 7: Promotion of hydroponics technology**

**Potential Partners: DAE and DLS**

Hydroponics, the method of growing plants without soil, using mineral nutrient solutions in a water solvent, can be promoted through DAE and DLS. This intervention can be especially suitable for ultra-poor households and poor women as there is no requirement of soil. Women and ultra poor households can produce and sell animal feed through this technology. WVB can provide the infrastructure through its

graduation approach or link their members with MFIs to provide micro finance for them. Through this technology, the households can produce animal feed during floods and earn money by selling them in the market place.

**Intervention 8: Promotion of animal feed preparation (Silage) from crop residue (maize stalk and leaves, green fodder)**

**Potential Partners: DLS**

WVB can partner with DLS to promote preparation of animal feed from crop residue (maize stalk and leaves). Although the farmers usually feed the crop residue to their livestock, they do not know that they can preserve these feed for 4-6 months. The process also improves the nutritional value of the crop residue. This process can be suitable for preserving crop residue and feeding the animal during the dry season. The producer can also sell the silage in the market.



## Chapter 2.2: Assessment of Country Chicken Value Chain

### 2.2.1 Overview of Country Chicken

Country chicken has been widely reared in Bangladesh in rural areas as a source of additional income for poor and marginalized farmers. It plays a vital role in generating employment opportunity and improving the nutritional level for poor rural farmers<sup>2</sup>. It is also crucial for meeting the nutritional requirements of the population as a whole and ensuring food

security<sup>3</sup>. The country chicken sector mainly consists of smallholder rural farmers, who typically raise chickens within their households for their own consumption<sup>4</sup>. Large commercial country chicken farmers have also been entering the market as a result of huge opportunities of growth in the country chicken rearing sector, leading to market growth and innovation<sup>5</sup>.

Population growth and the increase in per capita income has increased the demand for country chicken and eggs in Bangladesh over the last decade. The demand for eggs has also increased dramatically due to its high nutritional value. The low capital and land requirement for rearing country chicken compared to crop and dairy production makes it easy for poor and marginalized farmers to enter into the business. Rearing is also labor intensive and does not require lengthy training, which means that anyone can enter into the business. The

excrements from chicken can also be used as fertilizers for growing crops and as fish feed. Therefore, additional income can be earned by selling chicken excrement in the market. Chicken rearing also leads to the establishment of hatcheries, feed mills and pharmaceutical companies, which are closely linked to the country chicken rearing business, leading to increased employment and income of the economy as a whole. Therefore, growth in this sector is absolutely essential for Bangladesh.

APs analysed under regional areas for country chicken rearing are:

Table 10: Region wise AP (Chicken Rearing)

Region	AP
GMR	Sherpur, Jhenaigati, Mymensingh, Muktagacha south, Jolchotro.
NBR	Nilphamari, Thakurgaon, Rangpur sadar, Paba, Kaharole, Birampur, Pirganj, Biral, Fulbari.
SBR	Assasuni, Kachua, Rampal, Barisal, Bhandaria, Kotalipara, Debhata
CER	Laksham, Bandarban, Gowainghat, Sylhet, Tahirpur

### 2.2.2 End Market Analysis

#### 2.2.2.1 Main Market, Buyer and Competition

In general, the market for chicken is mostly informal. There are basically two types of buyers of country chicken and eggs within a

locality, which are customers within the neighbourhood and local traders. Rural farmers who are engaged in country chicken rearing

<sup>2</sup> “Profitability Analysis of Poultry Farming in Bangladesh: A Case Study on Trishal Upazilla in Mymensingh District”, Mohammad Shafiur Rahman Chowdhury, 2015

<sup>3</sup> [http://www.pri-bd.org/main/view\\_publication/bangladesh-s-poultry-sector-are-the-chickens-coming-home-to-roost\\_344](http://www.pri-bd.org/main/view_publication/bangladesh-s-poultry-sector-are-the-chickens-coming-home-to-roost_344)

<sup>4</sup> <http://wpsa-bb.com/wp-content/uploads/2016/04/Keynote-Paper-7th.pdf>

<sup>5</sup> [http://bida.portal.gov.bd/sites/default/files/files/bida.portal.gov.bd/page/f40752f4\\_ccac\\_45d4\\_9bc4\\_3367eb475e8a/7.0%20VP%20-%20POULTRY.pdf](http://bida.portal.gov.bd/sites/default/files/files/bida.portal.gov.bd/page/f40752f4_ccac_45d4_9bc4_3367eb475e8a/7.0%20VP%20-%20POULTRY.pdf)

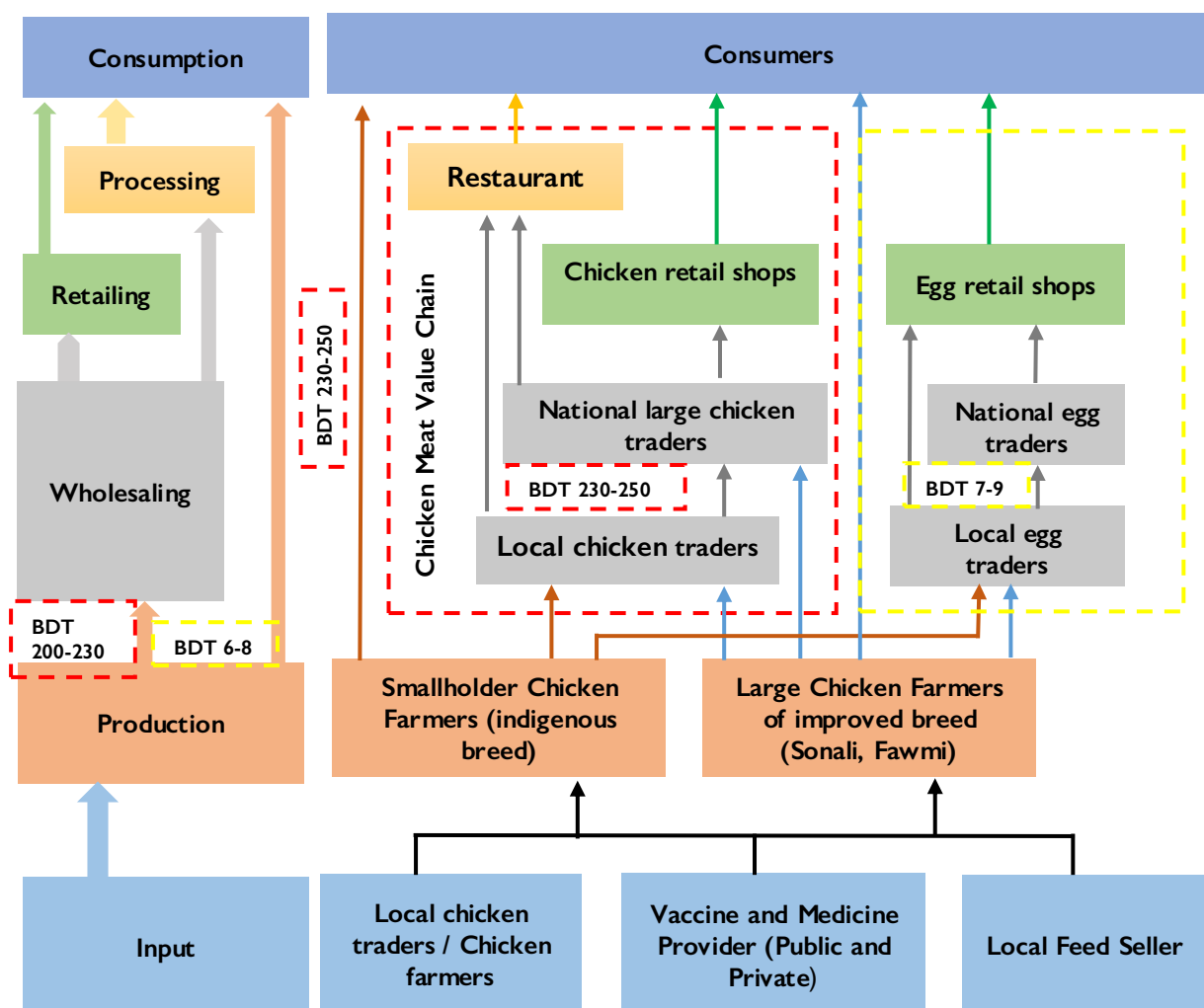
usually take their chickens and eggs to local markets (haats), and sell them to local customers and local traders directly. These local markets (haats) typically function once or twice a week and comprise buyers and sellers from two or three villages within the locality. In some areas, local traders directly purchase chickens and eggs from rural farmers in bulk by moving from household to household within a village.

Local small traders sell chicken and eggs to two buyers: large traders and local poultry retailers/restaurants. Large traders sell the chicken and eggs to urban markets located in

sub-districts and districts, and to national markets.

Country chicken farmers are usually not facing competition from Broiler and layer chicken farmers. The price of country chicken is higher compared to that of broiler or layer chicken farmers. Country chicken is sold at a rate of BDT 300-320 per kg whereas broiler chicken is sold at a rate of BDT 110 – 120 per kg. In spite of higher price, people prefer to consume country chicken over broiler chicken due to better taste. Only people who cannot afford to purchase country chicken consume broiler and layer chicken at lower price.

### 2.2.3 Description of Value Chain



## 2.2.4 Performance of Value Chains and Scope for Upgrading

### 2.2.4.1 Input Suppliers

**Local Small Traders/ Chicken Farmers:** Country chicken farmers usually retain eggs laid by existing hens and traditionally hatch these eggs. Those who are looking to enter into the country chicken rearing market purchase their chicken from two sources: 1) farmers in the neighborhood and 2) local chicken traders. Farmers prefer to purchase eggs or hens from neighbouring farmers, whom they know personally over local traders, as they can obtain accurate information regarding the health of hens and egg hatching capabilities. From our field assessment, we have observed that around 60–70 % of country chicken rearing farmers use their own hens or retained eggs for reproduction.

**Scope for Upgrading:** There are no scopes of upgrading observed at local small traders/ chicken farmers level.

**Vaccines and Medicine Providers:** There are two types of vaccines and medicine providers for country chicken, which are: 1) public sector vaccine and medicine providers such as Department of Livestock Services (DLS) and 2) Private sector vaccine and medicine providers (ACME, Reneta, Intervet and Incepta). Department of Livestock Services provides vaccination and medicine from offices located in district and Upazila level. Farmers who live in close proximity to such offices can directly go to DLS offices to avail their services. Private sector vaccine and medicine like Intervet, Incepta Reneta, ACI, ACME, etc. usually sell their products through local veterinary physicians, who have their own pharmacies in upazila level market or large local markets. These services are usually availed by farmers who live further away from DLS offices.

**Scope for Upgrading:** From our field assessment, we have found that private sector physicians do not sell vaccines, and prefer to sell medicines such as antibiotics. These vaccines have to be stored in freezers at appropriate temperatures, which the physicals generally do

not have. Moreover, the demand for vaccines for chicken in rural areas is low. DLS offices usually have chicken vaccines. However, these offices lack manpower to serve rural farmers living further away from DLS offices. Therefore, DLS should employ more trained representatives, who can provide vaccination and medication services to the farmers who reside further away from DLS offices.

**Local Feed Seller:** Country chicken farmers usually purchase feed from local feed sellers /grocery shops. Local feed sellers usually sell rice paddy, broken rice, wheat, etc. which smallholder farmers procure and prepare homemade feed. On the other hand, large farmers buy factory produced poultry feed.

**Scope for Upgrading:** There was no scope for upgrading observed at the local feed seller level.

#### Chicken Farmers

**Smallholder country chicken farmers:** Smallholder country chicken farmers usually rear 5 to 10 chickens of indigenous breed for their own consumption. Some smallholder chicken farmers also rear improved varieties such as Shonali and Fayoumi. These chickens are kept in simple housing facilities made up of wood, bamboo and hay within their households. These housing are weak, and are easily broken during storms and by predators. In the morning, the chickens are allowed to roam freely within their backyard in order to scavenge for food. In the evening, they are brought back to their housing facilities. Farmers provide chicken with leftover food from households as rice, broken rice, wheat, etc. The amount of feed is not adequate, which causes the chicken to become unhealthy and malnourished.

Each chicken usually lays around 10 – 15 eggs, four times a year. Generally, these eggs are consumed by the members of households themselves or served to guests. A small number of these eggs are retained and hatched using traditional methods. The mortality rate of hatched chicken is extremely high, where about

30%-40% of the hatched chickens survive to become adults. The chicks usually die young, as they are not provided with proper vaccination or are killed by predators such as hawks, foxes and dogs. Chicks are not properly vaccinated as farmers are not aware of the price and proper schedule of vaccination. Usually farmers take their chicken to DLS vaccination offices once there is an outbreak of diseases such as Newcastle disease virus (NDV) and Avian Influenza. However, vaccines are unable to save chickens once they have already contracted the disease. A small number of adult chickens are sold in the market.

#### Scope for Upgrading:

- **Promoting Proper Feed Management:**  
It has been observed that farmers do not feed their chickens properly. Chickens are hardly able to obtain sufficient nutrients by scavenging for food in their back yard, and eating leftover food provided to them by farmers. Therefore, better feed can be promoted to farmers to improve the nutrition of chickens.
- **Facilitating access to extension services such as vaccinations and medicines:**  
Most of the farmers do not provide vaccines to chicks, which increases their mortality. The chicks are also provided with vaccines once they have contracted diseases like Newcastle disease and Avian Influenza. Therefore, the DLS can provide a complete package for vaccination for farmers, which include:
  - **Ranikhet Disease Vaccine (RDV):** Recommended vaccination at every six months throughout the life of a chicken.

- **Baby Chick Ranikhet Disease Vaccine (BCRDV):** Recommended vaccination at 7th day and 21st day of a chick.
- **Chicken Pox Vaccine:** Recommended vaccination once in life of a chicken.
- **Cholera Vaccine:** Recommended vaccination at every six months throughout the life of a chicken.
- **Deworming Medication:** Recommended medication at every six months throughout the life of a chicken.
- Farmers should have access to and be encouraged to vaccinate their chickens on a regular basis in order to prevent the outbreaks of such diseases.

- **Promotion of Incubators for hatching eggs:** When chickens lay eggs, they have a tendency to stay within the households in order to hatch the eggs. This also causes the number of eggs chickens can lay in a year to become lower. As a result, modern incubators for hatching chicken eggs can be promoted, which may cost around BDT 4,000 to BDT 6,000. The chicks which are hatching in this way can be sold off in the market for BDT 25 – 35.

**Large Chicken Farmers:** Large chicken farmers rear improved breed such as Shonali and Fayoumi, which lay around 180 to 200 eggs. These farmers are usually well off and rear the chicken and eggs on a commercial basis. As the project target farmers who are poor or marginalized, these farmers are excluded from our analysis.

Table 11: Cost Benefit Analysis of Chicken Rearing

Cost benefit of smallholder chicken farmers		Method 1_Traditional Method_Indigenous (5 Hen and 1 Rooster) rearing for 1 year	Method 2_Indigenous Chicken (7 Hen and 2 Rooster) rearing for 1 year with proper vaccination and rearing management	Method 3_Improved (8 Sonali/Fayourni Hen and 2 Rooster) rearing for 1 year with proper vaccination rearing management	Note			
Production cost	Cost head	Amount	Amount	Amount	Method_1	Method_2	Method_3	
	Lease cost	N/A	N/A	N/A	Farmers usually keep their chickens in own living premises.			
	Coop Maintenance Cost (yearly)	500	1,800	3,000	The small hold farmers usually build the coop with bamboo and wood which costs around two thousand BDT. The shade's durability lasts for three to four years.	Each chicken requires 2 sq. feet space for rearing. Therefore, rearing 140 chickens in a 280 sq. ft. space costs around BDT 9,000. The coops are made of corrugated tin and net, which lasts for five to six years.	Each chicken requires 2 sq. feet space for rearing. Therefore, rearing 208 chickens in a 416 sq. ft. space costs around BDT 18,000. The coops are made of corrugated tin and net, which lasts for five to six years.	
	Type of Inputs & Cost	Chicken	1,600	2,450	2,200	Each indigenous hen and each rooster is procured at BDT 250 and BDT 350 respectively		Each Sonali/Fayourni hen and each rooster is procured at BDT 200 and 300 respectively
		Feed	6,396	23,400	38,412	The feed consists of rice bran, broken rice, rice husk, maize mash and molasses	The feed consists of 30% commercial feed and 70% home-made feed such as rice bran, broken rice, rice husk, maize mash, molasses etc.	The feed consists of 40% commercial feed and 60% home-made feed such as rice bran, broken rice, rice husk, maize mash, molasses etc. The (Sonali/Fayourni) chickens' requirement of commercial feed a bit more compare to indigenous chicken.
		Medicine	50	N/A	N/A	Physician's honorarium included.	Ensuring proper vaccination reduces the chances of medication	
		Vaccine	20	100	200	Farmers provide vaccination in case of any disease outbreak.	Increasing number of chickens reduces the overall cost of vaccination for each chicken.	
	Labour Cost	N/A	N/A	N/A	Female members of the households look after the chickens, hence hiring labour is not required.			
	Transport Cost	50	200	200	Transportation costs are incurred while selling chickens in the haats and taking them to the veterinary hospital.			
	Others	50	150	200	Bowls, pots, etc. for feeding			
	Operational cost	7,066	25,650	42,012	Egg-producing chickens are not sold as they are kept for further production of eggs.			
	Total Cost	8,666	28,100	44,212	The investment required for traditional indigenous chicken rearing is BDT 8,666/year	The investment required for improved methods of indigenous chicken rearing is BDT 22,250/Year	The investment required for improved methods of improved variety of chicken rearing is BDT 37,228/Year	
	Production	Total egg produced	150	300	850	Under the traditional method, if a hen is used for hatching then its	Under the modern rearing method, 2 out of 7 hens are generally used	Under the modern rearing method of improved variety

					production reduces from 60 pieces to 30 pieces per year.	for hatching and 5 other hens are kept for egg production, each producing 15 to 17 eggs four times a year.	(sonali/Fayoumi) chicken, 3 out of 8 hens are generally used for hatching and 5 other hens are kept for egg production, each producing 40 to 45 eggs four times a year.
Sales of Egg production	Sales quantity of eggs	50	120	510	All produced eggs are sorted based on candle light testing in order to identify the fertile eggs, while rest are sold or consumed by farmers' family.	All produced eggs are sorted based on the hatching capacity of the 2 hens, space required for rearing, and candle light testing to identify fertile eggs. The fertile eggs are kept for further production, while the rest are sold/ consumed by farmers' family.	All produced eggs are sorted based on the hatching capacity of the 2 hens, space required for rearing, and candle light testing to identify fertile eggs. The fertile eggs are kept for further production, while the rest are sold/ consumed by farmers' family.
	Sales price of egg (BDT/egg)	8	8	7			
	Total sales of eggs (BDT/Year)	400	960	3,570			
Sales of Meat production	Sales quantity of chicken (Unit/year)	28	130	270	Indigenous chickens have a hatching rate of 77 % to 80%, while the traditional rearing method has a mortality rate of 60% to 70%. This implies that only 28 out of 100 eggs survive.	Indigenous chickens have a hatching rate of 77 % to 80%, while the modern rearing method has a mortality rate of 5% to 10%, if vaccinated properly.	Improved variety of chickens have a hatching rate of 77 % to 80%, while the modern rearing method has a mortality rate of 5% to 10%, if vaccinated properly.
	Sales price (BDT/3 month aged hen)	230	230	180	The price can vary from BDT 200 To BDT 250		The price of improved variety hen is comparatively lower than that of indigenous chicken
	Sales price (BDT/3 month aged Rooster)	300	300	200	Roosters have a comparatively higher price than hen, hence the selling price can vary between BDT 300 to BDT 400.		The price of improved variety hen is comparatively lower than indigenous chicken
	Total sales (BDT/Year)	7,820	35,304	54,870			
	Profit (BDT/Year)	1,154	7,204	10,658			
	Return on investment (%/Year)	13%	26%	24%			

## 2.2.5 Assessment of the regulatory environment and support services

### 2.2.5.1 Infrastructure

Majority of the project areas are reasonably well connected. There is electricity in majority of the project areas except some very rural areas.

### 2.2.5.2 Public Services

Department of Livestock Services (DLS): The Department of Livestock Services (DLS) aims to increase livestock production and productivity, maintain ecological balance, conserve biodiversity and improve public health. They provide a range of services in Bangladesh in order to achieve these goals which include: prevention and control of diseases analyse animal feed, increase kid and calf production, increase breeding and extension of artificial insemination.

DLS administer vaccines to country chicken at prices determined by the government directly from their offices or through rural camps, which are set up within a village for a limited period of time. They provide vaccines for a number of diseases such as Newcastle Disease (BDT 15/mg), Cholera (BDT 30/200mg) and pox (BDT 40/200mg). DLS also employs trained veterinary physicians who move from household to household in order to treat sick chickens. These veterinary physicians provide services free of cost. However, it has been observed from the field that these physicians charge farmers to cover transportation and other costs which they had to incur to travel to the farmer's household. DLS also provides training on rearing practices to farmers through their district offices free of cost. Through these training programs, DLS tries to make farmers aware of when to provide chickens with vaccines and train them on modern, more effective rearing methods. They also try to increase farmer's awareness on improved chicken breeds and the necessity of proper feed management.

It has been observed in the field that there is a linkage between people's awareness of these services to proximity to extension offices. The further away the community is from the

extension offices, the lower is the awareness of such services. The extension of such services are further weakened by inadequate budget and shortage of government manpower.

Department of Youth Development (DYD): The Department of Youth Development (DYD) aims to increase the active participation of the youth in National Development. They provide a range of services in Bangladesh in order to involve the youth in the mainstream national development process which includes: providing skill development institutional and non-institutional training, extension of micro-credit services, organization of self-employment projects, establishment of youth organizations and provision of grants to youth organization. Amongst the department's wide range of institutional and non-institutional training, DYD provides some which are relevant to poultry rearing. The relevant training courses for the unemployed youth includes the Livestock, Poultry rearing, Fishery and Agriculture program, which is a residential training program with a duration of 2.5 months, and has an admission fee of Tk. 100.

### 2.2.5.3 Health, Labor Rights and Environmental Safety Issues

- No major health effects were found from country chicken rearing. However, it has been observed from the field that, the housing facilities made for chickens usually lack proper waste management. Therefore, chicken waste and urine normally accumulate in the base of the coops, which creates health hazards for both chickens and humans. Some diseases like Avian Influenza can transmit from chicken to humans which call as bird flu.
- Labour rights are not applicable for country chicken farmers. This is because, chickens are usually reared within the households by members of the farmer's family. No additional

labour is employed by farmers in country chicken rearing.

- **Environment:** The housing facilities of chicken usually are a source of odour, as it lacks proper waste management. These odours usually contain compounds such as ammonia, volatile organic compounds and hydrogen sulphide, which have severe consequences on the environment. It also attracts flies, mosquitos, mice, rats and other pests which can transmit diseases such as cholera, dysentery, typhoid, malaria, filarial and dengue fever<sup>6</sup>. Chicken which die due to diseases or old age are not properly disposed of. These chicken carcasses usually rot over time, leading to discharge of blood, fat, flesh and excrements into the soil and water bodies. Often, these organic materials are absorbed into ground water, which can have adverse health effects when drunk by humans.

#### 2.2.5.4 Financial Services

**Microcredit organization:** Microcredit organizations are actively working in the studied regions such as ASA, BRAC, Uttaran, Heed Bangladesh, Grameen Bank etc. To avail any service from these MFIs, farmers need to become a member of the groups formed and mobilized by MFIs. These MFIs usually have a branch office and several centres/ groups under each branch office. Microfinance institutes generally offer two types of credit program: The Micro Credit and the Micro Enterprise Loan. For example, Uttaran offers Micro credit to the poor and ranges from BDT 5,000 to 49,000. The first loan limit for new members is usually around BDT 5,000 to 10,000 which is increased every year with the repayment of the previous loan.

On the other hand, the Micro Enterprise loan is offered to the micro enterprises with physical

business establishment such as large farmers rearing poultry in farm level (the scope of the study excluded large farming thus not assessed). Micro Enterprise loan ranges from BDT 50,000 to 300,000. The payback period usually is 1 year with 44 instalments (weekly payment). The interest charged by the MFIs range from 20-26.5% per annum. However, the field investigation found no smallholder country chicken farmers receiving microcredit for rearing indigenous country chickens. The reason behind such behaviour of farmers is the practice of farmers of rearing country chickens on a low-input and low-return basis. Paying back a microcredit with minimal return from traditional country chicken farming is not feasible.

**Banks:** Banks active in the project area are primarily state-owned commercial banks such as Sonali bank and Agrani bank. The non-state owned commercial banks are established at the upazila level. Some of the major banks are BRAC Bank, Ansar VDP Bank, Islami Bank and Farmers Bank. However, we found no smallholder country chicken farmers have taken bank loans for rearing of country chickens.

#### 2.2.5.5 Business Membership Organizations

From the field investigation in the APs visited no business membership organizations have been found for country chicken rearing producers/farmers.

#### 2.2.5.6 Other Development Programs

**National Agricultural Technology Programme – Phase II (NATP-II)**

NATP aims to increase income levels, fight poverty and hunger through development of climate-smart technologies in the agriculture, fisheries and livestock sector. The goal of the second phase of the project is to improve these sectors' market linkages in 57 districts of Bangladesh, which is expected to have direct

<sup>6</sup> <https://www.omicsonline.org/open-access/environmental-impacts-of-poultry-production-pfw.1000101.php?aid=11847>



impact on over one million households of marginal and smallholder farmers and their access to markets. The project particularly includes the following components: crop development, fisheries development, agricultural technology generation, livestock development and project management.

A platform for the farmers has been established so that they can share their experiences and discuss issues in their relevant areas and further improve their overall productivity. They are divided into groups of around 20 members – Common Interest Groups (CIGs), according to specific products or activities. The CIGs are categorized into five types – crop farmers, livestock farmers, fish farmers, farmers interested only in high value (HV) crops and farmers producing commodities under contract farming. The farmers receive training and demonstration on new methods and technology, seed preservation, etc. Majority of the CIGs are small and marginal farmers, while a minimum of around 30% of them are female farmers.

The Sub-Assistant Agricultural Officer (SAAO), Community Extension Agent for Livestock (CEAL) and Local Extension Agent for Fisheries (LEAF) are technical service providers and are also responsible for the formation of CIGs; they visit the CIGs on a regular basis in order to provide day-to-day need-based extension services to the farmers. Each CIG has an executive committee which is responsible for their overall management, as well as fund management. Funds are saved in their

respective bank accounts, and usually invested in production related activities.

#### Integrated Farm Management Component (IFMC)

IFMC is a five-year programme (July 2013 – June 2018), funded by the Government of Denmark and 30 percent funded by the Government of Bangladesh. The project is implemented by Department of Agricultural Extension (DAE) under the Ministry of Agriculture and is the largest component of the Agricultural Growth and Employment Programme (AGEP). The development objectives of IFMC include pro-poor, inclusive and sustainable growth and employment creation through empowerment of farmers, increasing farm activities, linkage to service providers, market actors and micro-finance organizations through creation of Farmer Organizations (FOs); and diversification adopting Integrated Farm Management (IFM) technologies and management practices. The programme promotes the concept of Integrated Farm Management through Farmer's Field Schools (FFS).

The target areas include 373 upazilas in 61 districts of Bangladesh, except the three districts in Chittagong Hill Tracts (CHT), considering poverty and prone and susceptibility to the effects of climate change and natural calamities. Target beneficiaries are male and female members of the landless, marginal and smallholder farm households cultivating up to 2.5 acres of land. Households run by women are particularly given more importance.

## 2.2.6 SWOT Analysis

Table 12: SWOT Analysis of Country Chicken Farming

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>▪ Almost all smallholder farmers own chicken within their household</li> </ul>	<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>▪ With the increasing population, the demand for country chicken meat and eggs is ever increasing</li> <li>▪ Significant scope for women and youth involvement.</li> <li>▪ Most of the households have space for small scale chicken rearing</li> </ul>
<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>▪ Farmers do not feed their chickens proper feed</li> <li>▪ Farmers are not aware of modern rearing practices.</li> <li>▪ Most of the Farmers do not vaccinate the chickens properly</li> <li>▪ Most of the Farmers do not accurately follow vaccination schedule</li> <li>▪ Low access to information channels.</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>▪ Increasing feed cost reduces the profitability of the farmers</li> <li>▪ Natural calamities such as flash floods often kill the chickens</li> </ul>

## 2.2.7 Constraints Analysis

Table 13: Constraints Analysis of Chicken Rearing

	Actors	Functions	APs where the constraint observed	Constraints	Root Cause	
Core Function		Feed and other input providers	Selling different Inputs	All the APs	No marketing or training service provision by the feed and other input providers have been observed for the smallholder farmers.	Smallholder chicken farmers are not targeted as potential customers by the input providers.
	Smallholder Country chicken Farmers	Rearing indigenous country chicken	All APs	Farmers do not feed their chickens proper feed	Farmers are not aware of the benefits of feeding proper food and the process for making nutritious feed.	
				Most of the Farmers do not vaccinate the chickens	Farmers do not practice chicken cultivation on a commercial basis	
				Farmers who vaccinate their chickens do not accurately follow vaccination schedule		
				Farmers do not know about modern rearing practice of country chickens	There is a lack of information channels	
Support Functions	Public services	Providing information and implementation of different activities	All APs	The public extension service is not adequate	Lack of manpower and budget of government agencies hampers the information dissemination	
Enabling Environment	NGO	Providing micro finance	All APs	Smallholder' s chicken farmers do not utilize micro finance for chicken rearing.	The product offering (duration, interest rate and repayments schedule) of the NGOs is not suitable for smallholder country chicken farmers NGOs do not target the smallholder country chicken farmers as prospective clients	

## 2.2.8 Recommendations

Table 14: Intervention Plans for Country Chicken

Constraint	Intervention	Areas (Suitable APs)	Output	Outcome	Impact
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<p>No marketing or training service provision by input sellers/providers observed for smallholder farmers.</p> <p>Farmers do not feed their country chicken proper feed</p> <p>Most of the Farmers do not vaccinate the country chickens</p> <p>Farmers who vaccinate their country chickens, do not accurately follow vaccination schedule</p> <p>Farmers do not know about modern rearing practice of country chickens</p>	<p>Facilitate linkage between input sellers and smallholder farmers.</p>	<p>All APs</p>	<p>Input sellers provide training and embedded services to farmers</p>	<p>Farmers are aware of improved rearing practices</p>	<p>Smallholder farmers enjoy higher production and increased income</p>
<p>Most of the Farmers do not vaccinate the country chickens</p> <p>Farmers who vaccinate their country chickens, do not accurately follow vaccination schedule</p>	<p>Formation of farmers groups and promoting vaccination</p>	<p>All APs</p>	<p>Farmer groups are formed</p>	<p>Farmer group members follow proper vaccination schedule</p>	<p>Mortality rate of country chickens is reduced</p>
<p>Smallholders country chicken farmers do not utilize micro finance for chicken rearing operations</p>	<p>Development and promotion of specific micro finance product for country chicken farmers</p>	<p>All Aps</p>	<p>MFs develop and promote specific micro credit programs for smallholder country chicken farmers</p>	<p>Farmers utilize the microfinance products</p>	<p>Farmers have access to finance</p>
<p>Lack of manpower and budget of government agencies hampers the information dissemination</p>	<p>Creating Linkage between DLS and input sellers</p>	<p>All Aps</p>	<p>DLS conduct training program in partnership with input sellers</p>	<p>Farmers are knowledgeable about service provision and improved rearing practice</p>	<p>Smallholder farmers enjoy higher production and increased income</p>

## 2.2.9 Intervention Details

**Intervention 1: Facilitate linkage between input sellers and smallholder farmers.**

**Potential Partners:** Renata, ACME, Popular and Local input seller

**Intervention Details:**

WVB can partner with leading input providers such as Renata, ACME or Popular. These companies can promote their products to the beneficiaries of WVB and provide a range of embedded services such as training provision. These trainings can focus on benefits of using better quality inputs, the right usage of inputs and modern rearing techniques. By learning about modern rearing techniques, the farmers can be aware about proper feed management (preparing nutritious feed), vaccination and overall country chicken management.

**Intervention 2: Formation of farmers groups and promoting vaccination**

**Potential Partners:** DLS

WVB can support the formation of farmer group with the support of DLS. Country chicken farmers usually do not vaccinate their chicken due to high vaccination costs. DLS sells vaccines at a rate of BDT 15-200/100 dosage. These vaccines are highly sensitive and cannot be stored once the container is opened. WVB in partnership with DLS can form groups and collectively vaccinate 100 chickens, which means that they can significantly lower per head costs of getting their chickens vaccinated. Otherwise, each farmer would have to buy vaccines at above mentioned rates, and a large portion of the vaccine would be unutilized. WVB can also train some of their beneficiaries on vaccination through DLS.

**Intervention 3: Development and promotion of specific micro finance product for country chicken farmers**

**Potential Partners:** BRAC, ASA, TMSS, FIVDB

WVB can partner with microfinance institutions to develop and promote specific micro finance products. The terms and conditions of the micro finance products (high interest rate, repayment terms) are not suitable for the ultra-poor beneficiaries of WVB. Thus WVB can develop

specific micro-finance products which will suit the need of their beneficiaries and promote such products to their beneficiaries.

**Intervention 4: Creating Linkage between DLS and input sellers**

**Potential Partners:** Renata, ACME, Popular and DLS

WVB can partner with both DLS and other input sellers such as Reneta and ACME to improve the dissemination of information regarding rearing of country chicken to smallholder farmers. These input sellers, in partnership with WVB, can organize training programs for smallholder country chicken farmers where the DLS can provide technical support. Groups of chicken farmers can be organized to support this intervention. In this way, input companies can reach a large number of potential customers.

**Intervention 5: Creating farmers groups and facilitate linkage with Incubator Sellers**

**Potential Partners:** Incubator Sellers

WVB can support the formation of farmer groups who can purchase incubators together and use them to hatch eggs. WVB may identify lead/potential members among the group who can also be trained to operate incubators through exposure visits.

**Intervention 6: Promotion of hydroponics technology**

**Potential Partners:** DAE and DLS

Hydroponics, the method of growing plants without soil, using mineral nutrient solutions in a water solvent, can be promoted through DAE and DLS. This intervention can be especially suitable for ultra-poor households and poor women as there is no requirement of soil. Women and ultra poor households can produce and sell animal feed through this technology. WVB can provide the infrastructure through its graduation approach or link their members with MFIs to provide micro finance for them. Through this technology, the households can produce animal feed during floods and earn money by selling them in the market place.

## Chapter 2.3: Assessment of Beef Fattening Value Chain

### 2.3.1 Overview of Beef Fattening

Beef fattening has become an important business for smallholder farmers in Bangladesh, due to increasing demand for meat. Cattle and buffalo constitute a major proportion of livestock in agribusiness. Total meat intake in Bangladesh has been increasing significantly over the years, with a yearly growth rate of 26.51% per year<sup>7</sup>. In the north-western region – Natore, Rajshahi and Pabna – average daily consumption per capita is comparatively higher than the national average. However, there are variations across different socio-economic classes. Out of the total meat consumption, beef accounts for around 65%<sup>8</sup>. To help meet the growing demand, around 3 million beef cattle is required per year<sup>9</sup>.

Farmers mostly use traditional rice straw, grass, sugarcane tops, maize leaf, wheat, rice bran, molasses, pulse bran, local resources such as vegetable by-products, rice gruel, boiled rice bran, oil cakes, etc. for beef fattening<sup>10</sup>. Small scale beef fattening with the use of modern technology leads to higher growth compared to the traditional practice. Moreover, nutritious food such as treatment of straw with urea and molasses can be used for better weight gain by the cattle.

The main consumer markets of cattle and beef fattening are located in Dhaka, Chittagong, Sylhet and Comilla, Barisal, Khulna, Pabna, Rajshahi, Thakurgaon, Lamanirhat districts. The major market players in industrial scale meat processing are Bengal Meat and Pabna Meat.

Beef fattening was observed in Nilphamary and Kaharole APs located in Northern Bangladesh Region.

### 2.3.2 End Market Analysis

#### 2.3.2.1 Main Market, Buyers & Competition

There are generally three types of markets of cattle in Bangladesh, which are local market (haat), regional market and national markets. Local markets are usually small haats which typically function once or twice a week, which comprises of buyers and sellers from two to three villages within a locality. Regional markets include a larger number of buyers and sellers from one or two districts. National markets are usually the largest markets, where the cattle are sold to consumers from a large geographical scope.

There are usually three major types of buyers of these cattle, namely: Regional Trader (Bepari), National Traders (Bepari) and Butchers. Smallholder farmers (two to four cattle per household) in Bangladesh who are engaged in the cattle fattening business usually sell their cattle in directly to local haats (markets) or to rural brokers. These Smallholder Farmers and rural brokers sell cattle at local haats. Regional Bepari usually purchase cattle from small rural haats and sell them at Regional haats. National Traders usually purchase cattle from a few selected Regional haats in mass and sell them at National Markets.

Cattle are usually sold at all three markets under competition, although not much scope for competition prevails.

Scope for Up-gradation: There is no scope for upgradation observed at forward market actors.

<sup>7</sup>

[http://heiferbangladesh.org/images/resources/study\\_report/beef\\_value\\_chain\\_study\\_in\\_bangladesh.pdf](http://heiferbangladesh.org/images/resources/study_report/beef_value_chain_study_in_bangladesh.pdf)

<sup>8</sup>

[http://heiferbangladesh.org/images/resources/study\\_report/beef\\_value\\_chain\\_study\\_in\\_bangladesh.pdf](http://heiferbangladesh.org/images/resources/study_report/beef_value_chain_study_in_bangladesh.pdf)

<sup>9</sup>

<https://ageconsearch.umn.edu/bitstream/209908/2/21402-76698-1-PB.pdf>

<sup>10</sup>

[https://www.researchgate.net/publication/26561139\\_Beef\\_Cattle\\_Production\\_in\\_Bangladesh\\_-\\_A\\_Review](https://www.researchgate.net/publication/26561139_Beef_Cattle_Production_in_Bangladesh_-_A_Review)

### 2.3.3 Description of Value Chain

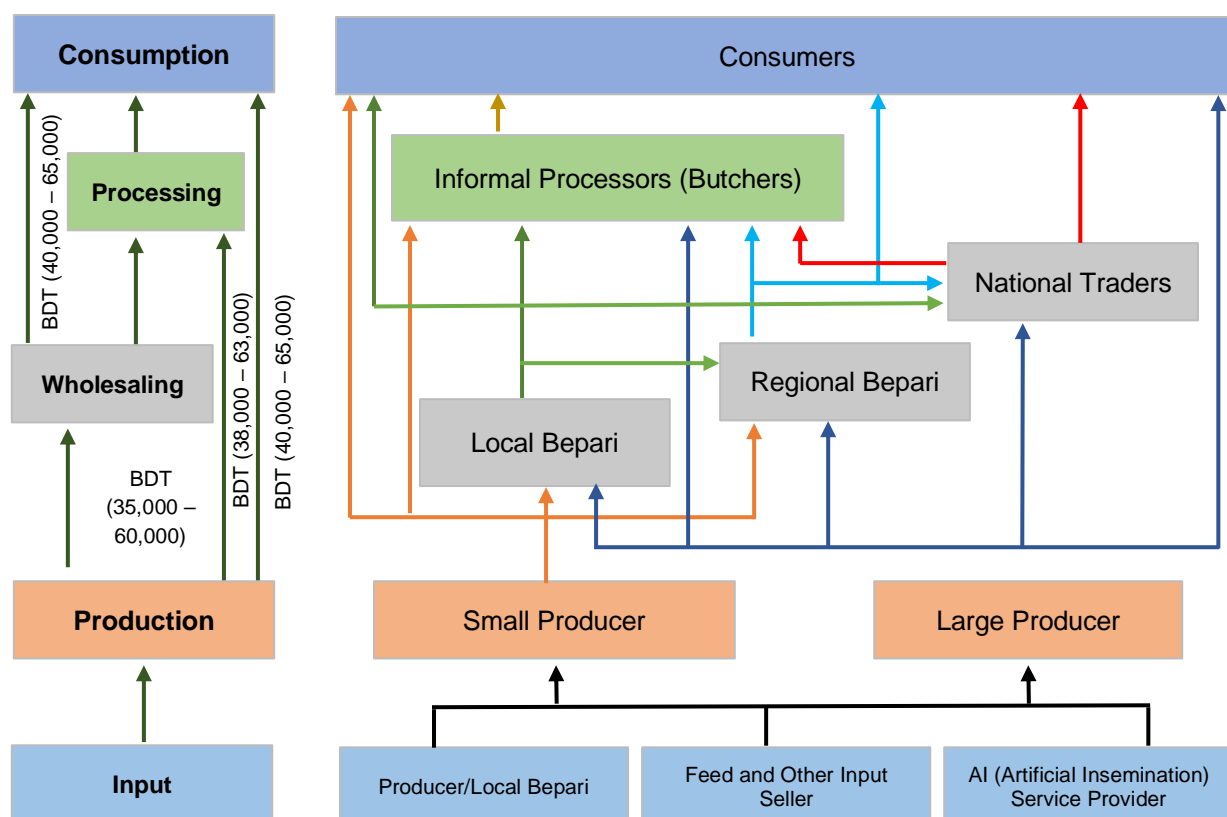


Figure 4: Beef Fattening Value Chain

### 2.3.4 Performance of the Value Chains and Scope for Upgrading

#### 2.3.4.1 Input Suppliers

For beef fattening, the three main input suppliers are: Beparis/Farmers, Artificial Insemination (AI) Service Providers, and feed sellers.

**Beparis/Farmers:** Smallholder farmers usually purchase their bulls from two sources: Local haats and farmers whom they usually know personally. Sellers of cows they know personally could be neighbours, family members and local acquaintances. Farmers usually prefer to buy cows from sellers they know personally as they are able to obtain accurate information about cow breed and health status of cow. Farmers who do not know sellers of cows personally go to local haats in order to purchase cows. When

the farmers buy from the local market, they do not have any idea about the breed and health of the cow and they have to rely on the seller for this information. Often this leads to selection of improper bull for fattening and the farmer loses out as the bull does not gain enough weight if the bull is sick.

**Scope of upgrading:** There was no scope of upgrading observed at the bepari/farmer level.

**AI Service Providers:** In majority of the cases, AI service is not required for beef fattening as the farmers usually buy the calf and fatten it. However, for farmers who have dairy cows, they utilize the AI service to improve the breed of the calf. If a male calf is born as a result of AI, it is usually reared for 6-8 months and sold off in the market. Some of the dairy farmers keep the calf for 1.5-2 years, fatten it and then sell it off.

There are two types of AI Services providers, which are Government and Private service providers. Government AI services are usually delivered through the Department of Livestock Services, which is a base organization of the Ministry of Fisheries and Livestock. The DLS has district and upazila based offices and in some cases AI points to provide AI services. Some of the private Artificial Insemination Service providers include BRAC, American Dairy, ACL etc., who have their own production and distribution channels. Semen from improved breed bulls are usually sold in two forms, frozen and liquid. Government livestock offices usually sell frozen semen at a rate of BDT 30, and liquid semen at a rate of BDT 15. Farmers also have to pay an additional BDT 40 for an AI technician. Private AI services are usually delivered by local veterinary physicians, who purchase semen from private companies and deliver AI services at a rate of BDT 500 – 800. Local veterinary physicians also procure semen from government sources and deliver services at a rate of BDT 200-300 per dosage, if farmers are unable to go to government centres directly.

#### Scope for upgrading:

- **Marketing and Training Service Provision by the AI companies:** No marketing or training service provision by the AI service providers has been observed for the smallholder farmers. Although the government agencies have their extension program, the shortage of manpower and inadequate funding severely restricts service delivery. The large private AI service providers do not have any marketing or training service provision for the smallholder farmers.
- AP specific Findings:** The scope for up-gradation was observed for all APs.

**Feed and other Input Sellers:** Bulls which are fattened require a diet which is high in protein,

in order to ensure that the bulls are healthy and properly nourished. High protein readymade feed are usually purchased from retailers of companies such as CP, Hyprovite, Hi-Gro, Star Feed, Novo, Safe Feed, Erawan, Hogtonal, C.F., and Anvipro. During our field investigation, we have found a number of informal feed processors who sell their product in the locality. The selling price of these feed is usually based on pricing guidelines provided by the Internal Trade Department of the Ministry of Commerce. The price usually varies, depending on the production costs at different times of the year<sup>11</sup>. However, the practice of feeding bulls readymade feed is not very prevalent. This is because, farmers believe that the price of readymade feed is higher compared to the price of homemade feed, which is made from ingredients procured from local grocery shops. The price of ingredients used for homemade feed has also increased over the past few years, which has lowered the profitability of farmers who are engaged in beef fattening. For instance, the price of wheat roughage/chaff has increased from BDT 22/kg to BDT 34/kg and the price of rice straw has increased from BDT 6-8 per kg to BDT 12-16 per kg. Feed supplements and medicines which are administered to animals during the fattening program include ivermectin injection, teramycin/oxytetracycline L.A. injection, B Complex injection, multivitamin injection, vbarminth tabs and vitamix powdered sugar which are produced by a range of companies such as ACME, Reneta and ACL. These are usually purchased through local veterinary physicians. Farmers are dependent on these local veterinary physicians for information regarding medicines and feed supplements.

#### Scope of Upgrading:

- **Marketing and Training Service Provision by the input companies:** Readymade feed sellers and sellers of medicines and feed supplements usually market their products to large farmers and do not target smallholder farmers.

<sup>11</sup>

<http://www.cpbangladesh.com/index.php?skyarksoft=59>



Therefore, smallholder farmers are usually unaware of the benefits they can get from readymade feed, feed supplements and medicines. The local veterinary physicians who sell medicines and feed supplements usually lack proper training, and are not able to provide accurate information to the farmers regarding the products.

AP specific Findings: The scope for up-gradation was observed for all APs.

- **Selling of Napier and Pakchong in local market:** In many of the study locations, Napier and Pakchong are not available in the local market as feed for cattle. Such green grass is especially essential for ensuring good growth of the bull. If such green grass is sold in the market, farmers can buy the grass from the market and feed their cattle.

AP specific Findings: The scope for up-gradation was observed in all APs.

#### 2.3.4.2 Farmers/Producers

##### Small Farmers:

Traditionally, beef fattening is not a very demanded profession amongst smallholder farmers due to high cost of rearing bulls. The higher cost is associated with a greater need for quality nutritious feed with high protein content, which is more expensive compared to grass often deters smallholder farmers from beef fattening. Moreover, the import of Indian bullocks through black market traders near the border often reduces the price of domestic bulls.

Smallholder farmers with low capital, who do not own cows or bulls generally turn to relatively well-off farmers in the locality to lease bulls. They can also lease bulls from dairy farmers, whose cows have given birth to a male calf, and the calves have been raised for six to seven months during which the calves are dependent on the mother's milk.

They are usually sold under the condition that they pay 50% of the profits earned from selling the fattened bull to the original owner of the cow. The cost of feeding and rearing of the leased bulls are borne by the smallholder farmers. Some smallholder farmers also lease cows or bulls to other smallholder farmers when their cows are pregnant, and the capacity of their cow shed is expected to be exceeded. In such cases, they raise the calves for six to seven months until they are no longer dependent on their mother's milk. They lease the bulls under similar conditions stated above. However, female cows are sold under the condition that once they become pregnant and have given birth, the adult cow shall be handed back to the original owners. Farmers with higher income purchase male calves and raise them from 3 to 6 months. The cost of a male calf ranges from BDT 18,000 to BDT 40,000 depending on size and breed.

Most of the farmers prefer to raise healthy indigenous bulls due to high demand of such breeds in the markets. Indigenous cows are also reported to have a stronger immune system compared to improved breed cows, and therefore have lower chances of catching diseases. The misconception of improved breed bulls requiring more feed due to its larger size also prevents farmers from purchasing and fattening them. In most cases, they prefer to sell their reared cow before Eid ul Adha, when the price of bulls is high.

Table 15: Cost calculation of smallholder beef fattening farmers

		Single indigenous Beef fattening for 6 months	Single indigenous Beef fattening for 6 months with Napier cultivation	Note
Production cost	Cost head	Amount	Amount	
	Lease cost	N/A	N/A	Farmers usually keep their cows in own living premises.
	Cow shade Maintenance Cost (yearly)	1,000	1,000	The small hold farmers usually build the cow shade with bamboo and corrugated tin which costs around three thousand BDT. The shade's durability lasts for three to four years.
	Type of Inputs & Cost	Cow	40,000	A single indigenous cow procured for 6 months fattening.
		Feed	14,400	The feed consists of rice straw, broken rice, rice husk, maize, molasses and Napier grass.
		Medicine	500	Physician's honorarium included.
		Vaccine	250	Physician's honorarium included.
	Labor Cost	N/A	N/A	The female member of the household take care the cow as they don't need to hire labour
	Transport Cost	1,000	1,000	In case for treatment to veterinary hospital and selling to haats the transportation cost required.
	Others	1,000	1,000	Bowls, manger, bucket
	Total Cost	58,150	53,650	
Sales of production	Sales quantity of cow (Unit/year)	1	1	
	Sales price (BDT/Unit)	70,000	70,000	
	Total sales (BDT/Year)	70,000	70,000	
Profit (BDT/Year)		11,850	16,350	

As soon as the bulls are born or purchased, they are dewormed to make sure that the bulls are gastronomically healthy. This is because, the existence of ringworms and tapeworms in the stomach can greatly stem the growth and nourishment of bulls, leading to unhealthy development. A veterinary doctor is also called to assess the health of the bulls and to get them vaccinated, in order to ensure that they are suitable for fattening. The physicians are usually trained on animal health, but are not registered physicians. They often lack proper knowledge about diseases such as Torka and Antrax, and cannot provide proper healthcare in such cases. If the bulls are found to be unhealthy, they are immediately sold to local slaughter houses for beef.

These bulls are usually kept in cow sheds within the farmer's household, which are made out of bamboo and corrugated tin. The base of these sheds are usually made out of mud or concrete. Mud is more preferable due to its lower cost. These sheds usually lack proper waste removal system, where cow dung and urine accumulate on the floor. This leads to a higher vulnerability of cows to diseases. In most cases, the floor of the cow shed is uneven and lacks any form of bedding material for cows. The sheds also have a manger to store food and water for the bulls to eat. There are usually both natural and artificial air flow systems within the cow sheds.

Farmers usually let their bulls out in the morning to graze at local grazing fields. Cows are not allowed to graze in paddy fields during cultivation season, as it may be damaging for crops. As a result, cows are forced to graze in abandoned fields where the quality of grass is lower and exposes them to diseases and parasitic infections. In addition, farmers feed their bulls homemade feed made up of ingredients which they have procured from local grocery shops. Rice straw is the most common feed, which is often mixed with broken rice, wheat chaff, molasses, maize, mustard and sesame to increase the nutritional value of homemade feed. The usage of readymade feed is uncommon, due to the misconception that such feed is higher priced compared to traditional feed.

Once the bulls are fattened, smallholder farmers sell the cows off at a higher price which ranges from BDT 60,000 – 75,000, depending on the size of the cow.

#### Scope for Up-gradation:

- Promoting Proper Feed Management:**  
 Farmers are usually reliant on grazing and traditional feed as a source of nutrients for cows. Grazing on open fields can lead to nutrient deficiencies and vulnerability to diseases. Traditional feed is often made out of poor quality and adulterated ingredients, which have adverse health effects on cows. The diet also needs to be rich in protein, and are therefore more expensive compared to feed which are provided to dairy cows. It has been observed that farmers are not feeding bulls properly, and often do not include readymade feed in their diet. This is because of the misconception that readymade feed is more expensive compared to traditional feed. There are low cost alternatives such as Urea Molasses Block which can be used but are not practiced by the farmers. Including a diversified diet with more protein can improve the development of bulls and thereby increase the profitability of farmers.
  - Promotion of proper cattle management:** Most of the smallholder farmers are not aware of modern methods of beef fattening, and therefore engage in traditional methods. Bulls are often kept in unhygienic conditions with poor waste management and ventilation, leading to poor health of cows. Reliance on Traditional methods of feeding also contributes to poor health of cows.
- AP specific Findings: The scope for up-gradation was observed for all APs.

### Large Farmers:

The large farmers are farmers with more than 5 cows. These farmers are usually well off and rear the cows on a commercial basis. As the project target beneficiaries are poor and ultra-poor, we have excluded these farmers from our investigation.

**Inclusiveness of the value chain:** Women involvement is very high in beef fattening. Although the household is headed by a male member and he is in charge of buying the cow, buying inputs and selling the cow if needed, the women members are almost entirely responsible for looking after the cow. As the male members are often working out of the house, the female members are entrusted to look after the cow. They prepare the feed for the cow, clean up after the cow and bring the cow inside and outside the cowshed. The education level among the farmers is very low, majority of the farmers only have primary education.

## 2.3.5 Assessment of the regulatory environment and support services

### 2.3.5.1 Infrastructure:

Majority of the project area are reasonably well connected. There is electricity in majority of the project areas except some very rural areas.

### 2.3.5.2 Public Services:

The public services available for beef fattening are offered by Department of Livestock Services (DLS), Department of Youth Services and Ministry of Women and Children Affairs.

**Department of Livestock Services (DLS):** The Department of Livestock Services (DLS) aims to increase livestock production and productivity, maintain ecological balance, conserve biodiversity and improve public health. They provide a range of services in Bangladesh in order to achieve these goals which includes: prevention and control of diseases, analyse animal feed, increase kid and calf production,

increase breeding and extension of artificial insemination.

DLS provides healthcare (Vaccination monitoring of diseases and Artificial Insemination) to domestic livestock through upazila livestock extension offices and district veterinary hospitals. Artificial Insemination (AI) Services are provided via upazila sub-sector and Union points. Farmers are instructed bring their livestock to AI points after their livestock have reached reproductive age for registration. Once the livestock are in heat, the farmers directly call the AI technician at their home in order to get their livestock inseminated. In addition, upazila sub-sector and union points provide vaccination services for domestic livestock at government determined prices. Monitoring and surveillance of diseases, collecting disease samples, and taking appropriate measures for treatment also fall within the department's provided services.

DLS also organizes training and supports technology transfer to farmers free of cost. Moreover, the department tries to ensure expansion of improved methods of farming grass so that the higher demands for more nutritious livestock feed are met at low cost. Other services provided by the DLS include: (i) registration of livestock, (ii) license issuance and renewal of livestock feed importers and exporters, (iii) monitoring the standard of cow fattening, feed meal and veterinary medicine stores, (iv) preventing trade of livestock and testing of different imported and exported livestock through quarantine centres at the border. Furthermore, DLS help farmers directly by (i) providing emergency services via mobile call and SMS (ii) issuing and distribution of loans and ensuring loan repayment.

Observations from field research have found a linkage between people's awareness of these extension services to proximity to extension offices. The further away the community is from the extension offices, the lower is the awareness of such services. The extension of such services are further weakened by inadequate budget and shortage of government manpower.

Department of Youth Development (DYD): The Department of Youth Development (DYD) aims to increase the active participation of the youth in National Development. They provide a range of services in Bangladesh in order to involve the youth in the mainstream national development process which includes: providing skill development institutional and non-institutional training, extension of micro-credit services, organization of self-employment projects, establishment of youth organizations and provision of grants to youth organization. Amongst the department's wide range of institutional and non-institutional training, DYD provides some which are relevant to cattle fattening. The relevant training courses for the unemployed youth include:

Livestock, Poultry rearing, Fishery and Agriculture program This is a residential training program with a duration of 2.5 months, and has an admission fee of Tk. 100.

Beef Fattening training program This is a non-residential training program with a duration of seven to 28 days, and is held in a community based on local demand. The training is provided at clubs and educational institutions free of any cost.

Ministry of Women and Children Affairs: The main objective of the Ministry of Women and Children Affairs is to create equal opportunity of women in economic and activity, eliminate violence against women and children and empower them. The range of services provided by the ministry include: providing technical and vocational training to women, providing day care services for children of working women, providing allowances and grants with a view to alleviating poverty of women and children and extending micro credit services for underprivileged women to promote self-employment. The Ministry mainly provide training and micro-credit to women who are interested in investing in cattle fattening. The micro credit program provides credit to rural destitute women ranging from Tk. 10,000 to Tk. 15,000 with a 5 percent service charge, which can be used to buy livestock for cattle fattening.

### 2.3.5.3 Health, Labour Rights and Environmental Safety Issues:

- No major health effects were found in beef fattening.
- Labour rights are not applicable for beef fattening as most of them are small scale businesses, often run by members of the family.
- Environmental impact: Waste disposal is an important issue in terms of environmental safety. Cow sheds usually lack proper drainage for waste disposal. There wastes accumulate in the sheds, and causes a number of issue. Firstly, accumulated cow dung and urine usually cause malodor, which affects the neighborhood and surrounding areas, especially if there is a lack of proper ventilation. Secondly, accumulated waste can create health hazards for both cows and humans, as it attracts parasites, flies, fleece worms, etc. In most households, cow dung is usually removed on a regular basis, and kept in a pile. This cow dung is utilized as fertilizer for agricultural lands. Composting of cow dung was not observed. In some areas, households make fuel sticks using cow dung and sell them in the local market. These fuel sticks can lead to environmental pollution. Urine in most cases are not properly disposed of, and poses serious threats to the environment.

### 2.3.5.4 Financial Services:

- Micro Credit organisation: Microcredit organizations are actively working in these regions such as BRAC, ASA, TMSS, BRAC, Grammen Bank and RDRS. To avail any service from these MFIs, one needs to become a member of the institute. These MFIs usually have a branch office and several centres/groups under each branch office. The first loan limit for new members is usually around BDT 5,000

to 10,000 for almost all the MFIs which is increased every year with the repayment of the previous loan. The payback period usually is 1 year with 44 instalments (weekly payment). The interest charged by the MFIs range from 20-26.5% per annum. It has been observed that many of the beneficiaries have been observed who availed micro credit however they are not using the money for beef fattening.

- **Banks:** Banks active in the project area are primarily state-owned commercial banks such as Sonali bank and Agrani bank. The non-state owned commercial banks are established at the upazila level. Some of the major banks are BRAC Bank, Ansar VDP Bank, Islami Bank and Farmers Bank. To take out an SME loan from these banks, the borrower must have an already established business of two to three years. To avail the loan, the

borrowers must submit trade license, Tax Identification Number, Environmental, sanitary and fire-fighting certificate picture of the store front, list of inventory. However, none of the smallholder farmers have been observed availing these products.

- **Value chain financing/ suppliers credit** is usually provided by the different value chain actors such as input retailers. Such financing has been observed for medicine or feed supplement whereas the owner of the input retail shop gives credit to well-known customers.

#### 2.3.5.5 Business Membership Organizations:

No Business membership organization have been observed in the field.

## 2.3.6 SWOT Analysis

Table 16 SWOT Analysis of Beef Fattening

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>▪ Almost all households have dairy cows, who can give birth to male calves suitable for beef fattening via AI</li> <li>▪ There is a strong interest among the beneficiaries to improve their rearing practice.</li> </ul>	<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>▪ With the increasing population, the demand for beef is ever increasing</li> <li>▪ Significant scope for women and youth involvement</li> </ul>
<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>▪ Majority of the cows are of indigenous variety, which are difficult to fatten</li> <li>▪ The price of high protein feed is expensive</li> <li>▪ Farmers are not aware of modern rearing practices</li> <li>▪ Reliance on traditional feed decreases the profitability</li> <li>▪ Low access to information channels</li> <li>▪ The bulls are often not provided vaccination in due time, which leads to death of bulls</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>▪ Increasing feed cost reduces the profitability of the farmers</li> <li>▪ Natural calamities such as flash floods often kill the bulls and destroys sources of cattle feed</li> </ul>

## 2.3.7 Constraints Analysis

Table 17 Constraints Analysis of Beef Fattening

	Actors	Functions	Constraints	Root Cause	APs where the constraint was observed
Core Function	AI Service Providers	Providing AI service	No marketing or training service provision by the AI service providers has been observed for the smallholder farmers.	Smallholder farmers are not targeted as potential customers by the AI service providers.	All APs
	Feed and other input seller	Selling different inputs	No marketing or training service provision by the feed and other input sellers has been observed for the smallholder farmers.	Smallholder farmers are not targeted as potential customers by the input sellers.	All APs
			No linkage between farmers and input companies Selling of Napier is absent in many regions.	Napier has not been promoted in many regions. Farmers are not aware of the profitability of Napier Cultivation	All APs
	Smallholder Beef fattening Farmers	Fattening Cows	Preference for indigenous varieties over high meat producing breeds reduces profitability of the farmers	Farmers are not aware of the benefits of rearing improved breed cows and they do not know the rearing practice of improved breed cows Poor farmers do not have the capital to maintain the high cost of improved breed cows.	All APs
			Farmers are not cultivating green grass for cow feed and thus are reliant on buying grass from markets	Farmers are not aware of the benefits of cultivating green grass In some areas, high yielding green grass is yet not popular	All APs
			Farmers do not build proper cowshed	Smallholder farmers do not have the financial capacity to build proper cowshed	All APs
			Farmers do not feed their cow nutritious food	Farmers are not aware of the benefits feeding and process of making nutritious food	All APs



			Farmers do not know about modern rearing practice of beef fattening	There is a lack of information channels	All APs
	Marketing Actors	Selling the cows	NONE	NONE	NONE
Support Functions	Public services	Providing information and implementation of different activities	The public extension service is not enough	Lack of manpower and budget of government agencies hampers the information dissemination	All APs
	Infrastructure	Roads and communication for transportation	NONE	NONE	NONE
Enabling Environment	NGO	Providing micro finance	Smallholder beef fattening farmers do not utilize micro finance for operations	The product offering (duration, interest rate and repayments schedule) of the NGOs is not suitable for smallholder farmers NGOs do not target the smallholder farmers as prospective clients	All APs

## 2.3.8 Recommendations

The opportunities for working on these constraints can be analysed to develop intervention plans that can be used as the basis to plan project activities:

Table 18 Intervention Plans for Beef Fattening

Constraint	Intervention	Areas (Suitable APs)	Output	Outcome	Impact
No marketing or training service provision by the AI service providers has been observed for the smallholder farmers.	Facilitate Linkage between AI service providers and smallholder farmers	All APs	AI service providers provide training and embedded service to farmers	Farmers are aware of improved breeds and use AI to improve their breed	Smallholder farmers enjoy higher meat production and increased income
Preference for indigenous varieties over high meat producing breeds reduces profitability of the farmers					
No marketing or training service provision by the feed and other input sellers has been observed for the smallholder farmers.	Facilitate linkage between input companies and small holder farmers	All APs	Input companies provide training and embedded service to farmers	Farmers are aware about and use improved quality inputs and practice modern beef fattening techniques	Smallholder farmers enjoy higher meat production and increased income
Farmers do not build proper cowshed					
Farmers do not feed their cow nutritious food					
Farmers do not know about modern rearing practice of beef fattening. The public extension service is not enough					
Selling of Napier/Pakchong is absent in many regions.	Promotion of commercial cultivation of Napier/Pakchong to be sold in the market	All APs	Farmers are aware and knowledgeable about commercial cultivation of Napier and Pakchong	Napier/Pakchong is sold in the local market as feed	Napier farmers enjoy higher income  Smallholder farmers enjoy higher meat production and increased income

Farmers are not cultivating green grass for cow feed and thus are reliant on buying grass from markets	Promotion of Napier/Pakchong at smallholder beef fattening farmer level	All APs	Farmers are aware and knowledgeable about cultivation of Napier and Pakchong	Farmers cultivate Napier/Pakchong	Smallholder farmers enjoy higher meat production and reduced input cost
Smallholders beef fattening farmers do not utilize micro finance for beef fattening operations	Development and promotion of specific micro finance product for beef fattening farmers	All APs	MFIs develop and promote specific micro credit programs for smallholder beef fattening farmers	Farmers utilize the microfinance products	Farmers have access to finance

### 2.3.9 Intervention details

**Intervention 1: Facilitate Linkage between AI service providers and smallholder farmers**

**Potential Partners:** BRAC, American Dairy, ACI

**Intervention Details:**

WVB can partner with leading AI service providers such as BRAC, American dairy or ACI. These companies can promote their AI services to the beneficiaries of WVB and provide a range of embedded services such as training provision. These trainings can focus on both benefits of rearing improved-quality breeds, the process of breeding and modern rearing practices.

WVB can also partner with these providers to bring new technologies such as AI Shield in Bangladesh which will ensure longer hold times for extended-term storage of semen at cryogenic temperatures, durability and optimum performance even in the most rugged conditions and absolute protection of the semen samples it holds. Such improved technology for AI technology can contribute to higher conception rate, increased semen viability and increased productivity.

**Intervention 2: Facilitate linkage between input companies and small holder farmers**

**Potential Partners:** Renata, ACME, Popular

**Intervention Details:**

WVB can partner with leading input providers such as Renata, ACME or Popular. These companies can promote their products to the beneficiaries of WVB and provide a range of embedded services such as training provision. These trainings can focus on benefits of using better quality inputs, the right usage of inputs and modern rearing techniques. By learning about modern rearing techniques, the farmers can be aware about proper feed management (preparing nutritious feed), vaccination and overall cattle management.

**Intervention 3: Promotion of commercial cultivation of Napier/Pakchong to be sold in the market**

**Potential Partners:** DLS

WVB can partner with the local DLS office to promote commercial cultivation of Napier/Pakchong. WVB can select one or two interested farmers in each union under an AP to organize demonstration plots of commercial Napier/Pakchong cultivation. The local DLS office can provide cuttings of Napier or Pakchong and provide training on proper cultivation methods of such grasses. WVB can promote the produced Napier to other beneficiaries. Such commercial cultivation can lead to availability of Napier/Pakchong in the local which the farmers can use to feed their cow.

**Intervention 4: Promotion of Napier/Pakchong at smallholder beef fattening farmer level**

**Potential Partners:** DLS

WVB can partner with the local DLS office to promote cultivation of Napier/Pakchong at smallholder farmer level. WVB can select one or two interested farmers in each union under an AP to organize demonstration plots of Napier/Pakchong cultivation. The local DLS office can provide cuttings of Napier or Pakchong and provide training on proper cultivation methods of such grasses. Such cultivation of Napier/Pakchong can lead to reduced input cost for farmers. The farmers can utilize the fallow land beside their homestead to cultivate the Napier/Pakchong.

**Intervention 5: Development and promotion of specific micro finance product for beef fattening farmers**

**Potential Partners:** BRAC, ASA, TMSS, FIVDB

WVB can partner with microfinance institutions to develop and promote specific micro finance products. The terms and conditions of the micro finance products (high interest rate, repayment terms) are not suitable for the ultra-poor beneficiaries of WVB. Thus WVB can develop specific micro-finance products which will suit the need of their beneficiaries and promote such products to their beneficiaries.

**Intervention 6: Promotion of contract farming with formal meat processors**

**Potential Partners:** Bengal Meat, Pabna Meat

WVB can partner with formal meat processors such as Bengal Meet and Pabna meat to

promote contract farming. The formal meat producers can train the beneficiaries on proper cattle rearing methods and also support the beneficiaries in getting better bred cows. WVB can link the beneficiaries in getting micro finance. After the production, the formal meat processors will buy the cows at a predetermined rate.

**Intervention 7: Promotion of hydroponics technology**

**Potential Partners: DAE and DLS**

Hydroponics, the method of growing plants without soil, using mineral nutrient solutions in a water solvent, can be promoted through DAE and DLS. This intervention can be especially suitable for ultra-poor households and poor women as there is no requirement of soil. Women and ultra poor households can produce and sell animal feed through this technology. WVB can provide the infrastructure through its graduation approach or link their members with MFIs to provide micro finance for them. Through this technology, the households can produce animal feed during floods and earn money by selling them in the market place.

**Intervention 8: Promotion of animal feed preparation (Silage) from crop residue (maize stalk and leaves, green fodder)**

**Potential Partners: DLS**

WVB can partner with DLS to promote preparation of animal feed from crop residue (maize stalk and leaves). Although the farmers usually feed the crop residue to their livestock, they do not know that they can preserve these feed for 4-6 months. The process also improves the nutritional value of the crop residue. This process can be suitable for preserving crop residue and feeding the animal during the dry season. The producer can also sell the silage in the market.

## Chapter 2.4: Assessment of Duck Value Chain

### 2.4.1 Overview of duck farming:

Duck farming in Bangladesh is mostly practices under traditional rearing methods in the rural areas, mainly for meat and egg. Following chicken, duck comprises a substantial proportion of total poultry production. Compared to other poultry farming, duck farming has several advantages in terms of disease tolerance, as well as low cost management. Smallholder farmers in Bangladesh rear ducks at subsistence management level, earning cash income and employment opportunities, particularly in case of small and landless farmers. Ducks are cheaper to farm, compared to broiler, as they are often kept in association with chickens inside households. However, in case of large scale farming, large water bodies are required for the ducks to flock around.

According to the Department of Livestock Services, there has been a positive trend in the overall production of duck in Bangladesh over the past few years. Total national demand for duck eggs was around 153.92 million in 2010, whereas national supply was only 73.03 million, out of which 58 million is from the Haor districts alone; and there are two major hubs for duck trading in Bangladesh, centred in Dhaka – Kawran Bazar and Kaptan Bazar<sup>12</sup>.

Two of the most important duck growing regions in Bangladesh are Netrokona and Gaibandha<sup>13</sup>. Duck rearing plays a vital role in socioeconomic development, particularly in the rural regions. They are generally reared by members of the family in small scale, as it requires low inputs and gives quick returns in terms of eggs and meat. It generates both income and is also a good source of domestic consumption as the eggs are consumed by the household members.

APs analysed under regional areas for duck rearing are:

Region	AP
NBR	Tanore
SBR	Assasuni, Kachua, Barisal, Bhandaria, Kotalipara, Debhata
CER	Tahirpur

The APs assessed for duck rearing are Tanore, Asashuni, Kachua, Barisal, Tahirpur, Bhandaria and Kotalipara.

### 2.4.2 End Market Analysis

#### 2.4.2.1 Main Market, Buyers & Competition

The trading of duck meat and eggs is generally informal where the duck farmers sell their duck and egg in local markets. Smallholder duck farmers in rural areas sell ducks and eggs either

in their neighbourhood or in the local markets. In the local markets, they sell either to local individuals or local small traders, who then supply to various restaurants, local poultry retailers or to the large traders. Small local traders also directly purchase ducks and eggs from individual households around the villages.

<sup>12</sup>

[https://asia.ifad.org/en\\_GB/web/bangladesh/resources?p\\_p\\_id=1\\_WAR\\_resource\\_libraryportlet&p\\_p\\_lifecycle=2&p\\_p\\_state=normal&p\\_p\\_mode=view&p\\_p\\_resource\\_id=download-entry&p\\_p\\_cacheability=cacheLevelPage&p\\_p\\_col\\_id=column-](https://asia.ifad.org/en_GB/web/bangladesh/resources?p_p_id=1_WAR_resource_libraryportlet&p_p_lifecycle=2&p_p_state=normal&p_p_mode=view&p_p_resource_id=download-entry&p_p_cacheability=cacheLevelPage&p_p_col_id=column-)

[1&p\\_p\\_col\\_pos=1&p\\_p\\_col\\_count=2&\\_1\\_WAR\\_resource\\_libraryportlet\\_entryId=7623&\\_1\\_WAR\\_resource\\_libraryportlet\\_entryId=7623&\\_1\\_WAR\\_resource\\_libraryportlet\\_jspPage=%2Fhtml%2Fresource\\_library%2Fentry\\_detail.jsp&](http://www.lrrd.org/lrrd17/10/khan17113.htm)

<sup>13</sup> <http://www.lrrd.org/lrrd17/10/khan17113.htm>

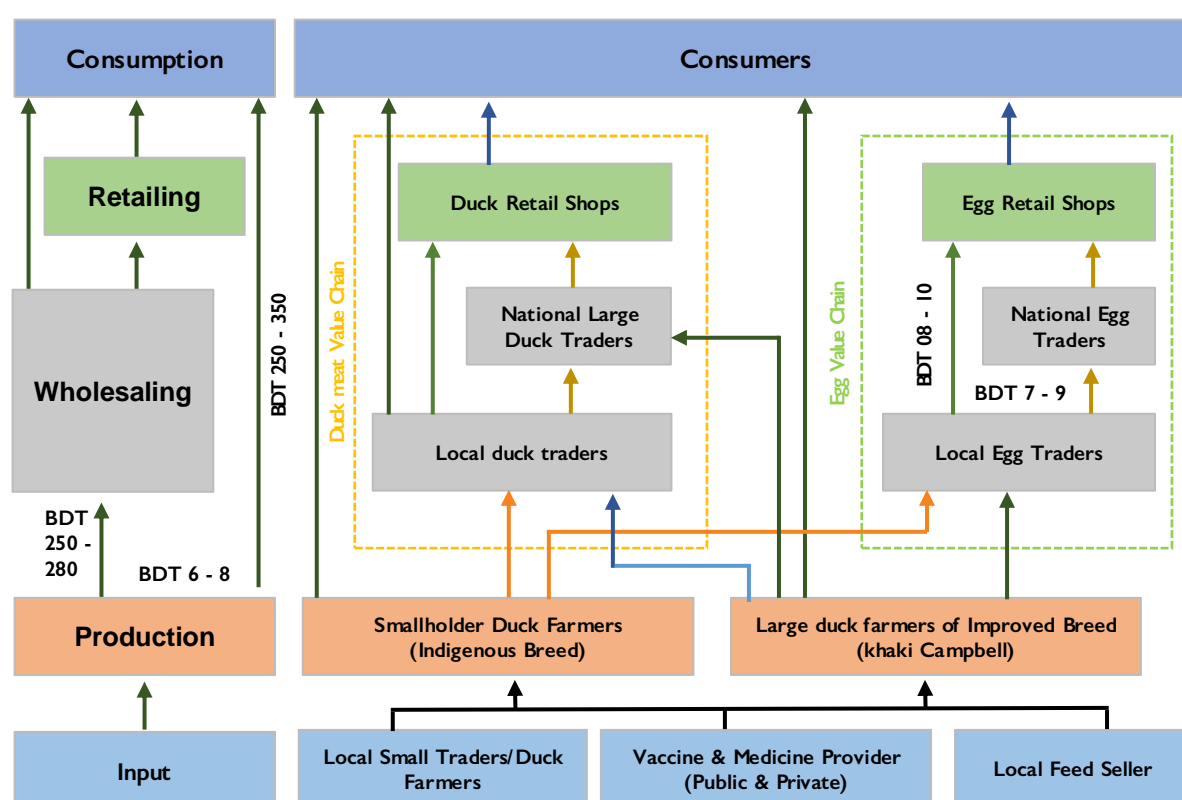
Large traders usually purchase ducks in bulk from small traders or local markets (Haats) and supply to the large urban markets located in the major districts and sub-districts. They also supply to the national markets.

There are two types of duck sold in the market: Indigenous and improved breed. Indigenous

ducks are sold at a price of BDT 200-250 per piece in the local market, compared to improved breed such as Khaki Campbell, which is priced at around BDT 250-300 per piece.

Scope for upgrading: There is no scope for up-gradation in the end market for all APs.

## 2.4.3 Description of Value Chain



## 2.4.4 Performance of Value Chains and Scope for Upgrading

### 2.4.4.1 Input Suppliers

Local duck farmers/duckling traders: Smallholder duck farmers usually procure their ducks from three sources: 1) raising their own ducks from eggs, 2) purchasing from duckling traders, or 3) purchasing adult duck or duckling from the local markets. Farmers who raise their own ducks retain eggs laid by their existing ducks, and traditionally hatch the eggs. This is normally done by farmers who are already engaged in duck rearing. Those who just started

rearing ducks usually purchase their ducks from local duckling traders or farmers in the neighbourhood. The duckling traders buy the duckling from government or private sources and sell it directly to the farmers by going door to door. Farmers usually prefer to purchase their ducks from acquaintances such as neighbours or known sellers, as they can get proper information regarding duck health and egg laying capabilities.

Scope for upgrading: There was no scope of upgrading observed at smallholder duck farmers/local small traders.

Vaccine and Medicine provider: Poultry medicine and vaccines are either provided by the public sector (DLS) and private sector companies such as Renata, ACI, ACME etc. These companies generally market through the local veterinary physicians who have their own pharmacies as well as the regular pharmacies in the upazilla level market or large local markets. However, the farmers generally do not buy the vaccine and medicine directly from the input sellers rather they rely on the local poultry physicians to buy the products for them.

Scope for upgrading:

- Marketing and Training Service Provision by the vaccine and medicine companies: No marketing or training service provision by the Vaccine and Medicine providers has been observed for the smallholder farmers. Although the government agencies have their extension program, the shortage of manpower and inadequate funding severely restricts service delivery. The large private Vaccine and Medicine providers do not have any marketing or training service provision for the smallholder farmers.

AP specific Findings: The scope for up-gradation was observed for all Aps

Local Feed seller: Farmers for duck rearing usually purchase feed from local feed sellers/grocery shops. Local feed sellers usually keep rice paddy, maize, broken rice, wheat, etc. which smallholder farmers procure and prepare homemade feed.

Scope of upgrading: There was no scope of upgrading observed at local feed seller.

#### 2.4.4.2 Duck Farmers

Smallholder Duck Farmers: Majority of the duck farmers observed in the APs are smallholder

duck farmers. These smallholder duck farmers usually rear around 5 to 20 ducks, which they keep in simple, non-elaborate housing facilities made out of corrugated tin/bamboo/hay shade. Most of the farmers raise improved breed ducks as because these ducks lay more eggs compared to indigenous breeds. However, the improved breed ducks do not sit on the eggs and the farmers usually use indigenous breed ducks or chicken to hatch the eggs.

Generally, Smallholder duck farmers of rely on the traditional method following the 'low input, low return' policy: they hatch the retained eggs incubated by hens, providing little feed and almost no vaccination. Farmers take their ducks to local ponds or backyards in the morning, where they are allowed to scavenge their food freely. In addition, some farmers also feed their ducks homemade feed. In the evening, they bring the ducks back to their household. Improved breed ducks typically lay between 120-160 eggs per year. Ducks generally start laying eggs at the age of 16 weeks. To rear ducks, one must have access to water bodies. Often this presents a challenge for farmers who do not have own ponds or nearby water bodies. Sometimes the farmers use the ponds of neighbours.

Based on the field investigation in the selected APs, use of vaccines, medicines or feed supplements are almost non-existent among duck rearing farmers. Only in case of any disease outbreak, the farmers who reside in nearby upazillas approach the Department of Livestock Services (DLS), who provides vaccination, medicines and treatment services from their offices in the upazila levels. However, they are recommended by the Livestock office to provide vaccine every 3 months. The most common diseases observed among ducks are plague and cholera.

Lack of proper rearing management, lack of vaccination and usage of proper feed causes ducks to be severely malnourished and highly vulnerable to diseases. This also lowers the quality of eggs that ducks produce.



Table 19: Cost Benefit Analysis of Duck Farming

Cost benefit of smallholder Duck farmers		Method 1_Indigenous 10 duck and 2 drake rearing for 1 year (2 duck for hatching)	Method 2_ Improved variety (khaki Campbell/Jinding) 10 duck and 2 drake rearing for 1 year with proper vaccination and rearing management (4 duck for hatching)	Note	
Production cost	Cost head	Amount	Amount	Method_1	Method_2
	Lease cost	N/A	N/A	Farmers usually keep their ducks at night in own living premises	
	Coop Maintenance Cost (yearly)	1,000	2,400	The small hold farmers usually build the coop with bamboo and wood which costs around BDT 3,000. The shade's durability lasts for three to four years.	Each duck requires 3 sq feet space for rearing. Therefore, rearing 125 ducks in a 375 sq. ft. space costs around BDT 12,000. The coops are made of corrugated tin and net, which lasts for five to six years.
	Type of Inputs & Cost	Duck	4,300	Each indigenous duck and each drake is procured at BDT 300 and BDT 350 respectively	
		Feed	15,020	The feed consists of rice bran, broken rice, rice husk, maize mash, food left-over and molasses	The feed consists of 40% commercial feed and 60% homemade feed such as rice bran, broken rice, rice husk, maize mash, molasses etc.
		Medication	100	Physician's honorarium included.	Ensuring proper vaccination reduces the chances of medication
		Vaccine	50	Farmers provide vaccination in case of any disease outbreak.	Increasing number of duck reduces the overall cost of vaccination for each duck.
	Labor Cost	N/A	N/A	Female members of the households look after the ducks, hence hiring labour is not required.	
	Transport Cost	100	200	Transportation costs are incurred while selling ducks in the haats and taking them to the veterinary hospital.	
	Others	100	300	Bowls, pots, etc. for feeding	
	Operational cost	16,370	63,970	Egg-producing ducks are not sold as they are kept for further production of eggs.	
	Total Cost	20,670	68,870	The investment required for traditional indigenous duck rearing is BDT 20,670/year	The investment required for improved methods of indigenous duck rearing is BDT 68,670/Year
Production	Total egg produced	900	2,800	Mostly hens are used to hatch duckling in spite of using ducks for hatching. In traditional production 2-3 hens are used to hatch duck eggs	Mostly hens are used to hatch duckling in spite of using ducks for hatching. In method 2 ; 4 hens are used to hatch duck eggs
Sales of Egg production	Sales quantity of eggs (Unit/Year)	675	2,350	All produced eggs are sorted based on candle light testing in order to identify the fertile eggs, while rest are sold or consumed by farmers' family.	All produced eggs are sorted based on the hatching capacity of the 4 hens, space required for rearing, and candle light testing to identify fertile eggs. The fertile eggs are kept for further production, while the rest are sold/ consumed by farmers' family.
	Sales price of egg (BDT/Egg)	8	8		
	Total sales of eggs (BDT/Year)	5,400	18,800		
Sales of duckling production	Sales quantity of Duckling (Unit/year)	43	224	Indigenous ducks have a hatching rate of 77 % to 80%, while the traditional rearing method has a mortality rate of 60% to 70%. This implies that only 63 ducklings out of 225 eggs survive. 43 out of 63 are sold as duckling and rest 20 are kept for future rearing	High egg producing ducks have a hatching rate of 77 % to 80%, while the modern rearing method has a mortality rate of 5% to 10%, if vaccinated properly. In method 2; 450 are kept for hatching and from these 324 hatched successfully. 224 out

					of 324 are sold as duckling and rest 100 are kept for future rearing
	Sales price of duckling (BDT/Unit)	35	35		
	Total sales of Duckling (BDT/Year)	1,505	7,840		
Sales of duckling production	Sales quantity of Duck (Unit/year)	20	100		
	Average sales price of Ducks (BDT/Unit)	350	350	The price can vary from BDT 300 to BDT 400	
	Total sales of Duck (BDT/Year)	7,000	35,000		
Total sales (BDT/Year)		13,905	61,640		
Profit (BDT/Year)		2,935	16,470		
Return on investment/Year		18%	26%		

Scope for upgrading:

- **Promoting Proper Feed Management:** It has been observed that farmers do not feed their ducks properly. They usually let their ducks scavenge food in nearby ponds or fields, which does not always ensure proper nutrition. Therefore, there is scope for promoting proper feed management at farmer level.

AP specific Findings: The scope for up-gradation was observed for all APs

- **Promotion of proper duck management methods:** As majority of the farmers are still following traditional cultivation methods, they are not aware of modern rearing practices. The improper feed management of ducks makes the ducks malnourished and vulnerable to diseases, lowering their market value. It also causes the quantity of eggs produced to fall. Promotion of improved duck management methods (Nutritious feed preparation, feeding, housing, proper hygiene practice etc.) can significantly increase the incomes of smallholder farmers.

AP specific Findings: The scope for up-gradation was observed for all APs

- **Facilitating access to extension services:** As majority of the farmers do not have any access to extension services, be it government and private, they rely on the local poultry physicians for disease identification and management. Often the local poultry physicians cannot accurately diagnose the diseases. For APs such as Tahirpur in Sunamganj, the poor connectivity especially during the rainy season makes it difficult for the farmers to get help or advice from government extension offices.

- **Promotion of Incubators for hatching eggs:** When ducks lay eggs, they have a tendency to stay within the households in order to hatch the eggs. This can be unhealthy for ducks, as they are not

willing to go out to scavenge for food for 28 days until the eggs are hatched. This also causes the number of eggs ducks can lay to become lower. In order to prevent ducks from becoming unhealthy, farmers use country chickens to hatch duck's eggs. Moreover, improved varieties of ducks provide higher number of eggs compared to indigenous ducks. However, hatching duck eggs with hens requires more hens and space, which farmers may not have. As a result, modern incubators for hatching duck eggs can be promoted, which may cost around BDT 4,000 to BDT 6,000. The ducklings which are hatching in this way can be sold off in the market for BDT 30 – 40.

AP specific Findings: The scope for up-gradation was observed for all APs

**Large Duck Farmers:** Large farmers of improved breed such as Khaki Campbell, which have a much higher production and typically weigh around 1.5 to 2 KG within two months of age, and lay around 180 to 200 eggs per year. Campbell breed is preferred by some farmers as the egg producing duck breed. These farmers are usually well off and rear the ducks and eggs on a commercial basis. As the project target beneficiaries are poor and ultra-poor, we have excluded these farmers from our investigation.

## 2.4.5 Assessment of the regulatory environment and support services

### 2.4.5.1 Infrastructure

Some of the project area are reasonably not well connected such as Tahirpur upazilla of Sunamganj district. There is electricity in majority of the project areas except some very rural areas.

### 2.4.5.2 Public Services

**Department of Livestock Services (DLS):** The Department of Livestock Services (DLS) aims to

increase livestock production and productivity, maintain ecological balance, conserve biodiversity and improve public health. They provide a range of services in Bangladesh in order to achieve these goals which include: prevention and control of diseases, analyse animal feed, increase kid and calf production, increase breeding and extension of artificial insemination.

DLS is entitled to provide vaccination for poultry, training on improved practices on poultry rearing etc. All the necessary vaccines are provided either free of charge or at a minimal cost. Through training, farmers are introduced to improved breeds of poultry and their rearing techniques, building hygienic coops, feeding techniques, symptoms and remedies for different diseases, etc. However, based on the field investigation, it has been found that public veterinarians who visit farmers to their households charge a certain amount of money to cover transportation costs, depending on the distance travelled. As previously mentioned, smallholder duck farmers practice indigenous duck rearing following the low input-low return technique, therefore they are often unable to take livestock department's services, especially those in the remote villages.

**Department of Youth Development (DYD):** The Department of Youth Development (DYD) aims to increase the active participation of the youth in National Development. They provide a range of services in Bangladesh in order to involve the youth in the mainstream national development process which includes: providing skill development institutional and non-institutional training, extension of micro-credit services, organization of self-employment projects, establishment of youth organizations and provision of grants to youth organization.

Amongst the department's wide range of institutional and non-institutional training, DYD provides some which are relevant to poultry rearing. The relevant training courses for the unemployed youth includes the Livestock, Poultry rearing, Fishery and Agriculture program, which is a residential training program

with a duration of 2.5 months, and has an admission fee of Tk. 100.

#### 2.4.5.3 Health, Labour Rights and Environmental Safety Issues

- No major health effects were found from duck rearing. Even though we have excluded large duck farmers from our scope of work, there are chances of flu-like symptoms in humans and also neighbouring ducks due to lack of management of duck waste. Lack of proper ventilation system and inadequate management of wastage causes the wastes to attract parasites, flies, fleece worms, etc. in the coop.
- Labour rights are not applicable for duck farming as most of them are small scale businesses, often run by members of the family.
- Environment: The housing facilities made for ducks lack proper waste management facilities and ventilation. Accumulated waste within coops can attract flies, mosquitos, rodents and other pests which carry diseases like dengue and malaria. Ducks who die because of old age or disease are not disposed properly. These carcasses can lead to absorption of organic materials like blood, fat and wastes into the soil or ground, which can have detrimental effects on the environment.

#### 2.4.5.4 Financial Services

**Microcredit organization:** Microcredit organizations are actively working in the studied regions such as ASA, BRAC, Uttaran, Heed Bangladesh, Grameen Bank etc. To avail any service from these MFIs, farmers need to become a member of the groups formed and mobilized by MFIs. These MFIs usually have a branch office and several centers/ groups under each branch office. Microfinance institutes generally offer two types of credit program: The Micro Credit and the Micro Enterprise Loan. For example, Uttaran offers Micro credit to the poor and ranges from BDT 5,000 to 49,000. The

first loan limit for new members is usually around BDT 5,000 to 10,000 which is increased every year with the repayment of the previous loan.

On the other hand, the Micro Enterprise loan is offered to the micro enterprises with physical business establishment such as large farmers rearing poultry in farm level (the scope of the study excluded large farming thus not assessed). Micro Enterprise loan ranges from BDT 50,000 to 300,000. The payback period usually is 1 year with 44 installments (weekly payment). The interest charged by the MFIs range from 20-26.5% per annum. However, the field investigation found no smallholder duck farmers receiving microcredit for rearing indigenous ducks. The reason behind such behavior of farmers is the practice of farmers of rearing ducks on a low-input and low-return basis.

Paying back a microcredit with minimal return from traditional duck farming is not feasible.

**Banks:** Banks active in the project area are primarily state-owned commercial banks such as Sonali bank and Agrani bank. The non-state owned commercial banks are established at the upazila level. Some of the major banks are BRAC Bank, Ansar VDP Bank, Islami Bank and Farmers Bank. However, we found no smallholder duck farmers have taken bank loans for rearing of ducks.

#### 2.4.5.5 Business Membership Organizations

From the field investigation in the APs visited no business membership organizations have been found for duck rearing producers/farmers.

## 2.4.6 SWOT Analysis

Table 20 SWOT Analysis of Duck Rearing

Strengths	Opportunities
<ul style="list-style-type: none"> <li>▪ Almost all smallholder farmers who have access to water body own ducks</li> </ul>	<ul style="list-style-type: none"> <li>▪ With the increasing population, the demand for duck meat and duck egg is ever increasing</li> <li>▪ Significant scope for women and youth involvement</li> <li>▪ Modern incubators can increase the income of farmers by improving the hatching rate.</li> </ul>
Weaknesses	Threats
<ul style="list-style-type: none"> <li>▪ Farmers do not feed their duck proper feed</li> <li>▪ Farmers are not aware of modern rearing practices.</li> <li>▪ Most of the Farmers do not vaccinate the ducks</li> <li>▪ Most of the Farmers do not accurately follow vaccination schedule</li> <li>▪ Farmers use hens to incubate duck eggs</li> <li>▪ Low access to information channels.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increasing feed cost reduces the profitability of the farmers</li> <li>▪ Natural calamities such as flash floods often kill the ducks</li> </ul>

## 2.4.7 Constraints Analysis

Table 21: Constraints Analysis of Duck farming

	Actors	Functions	APs where the constraint was observed	Constraints	Root Cause
Core Function	Feed and other input providers	Selling different Inputs	All the APs	No marketing or training service provision by the feed and other input providers have been observed for the smallholder farmers.	Smallholder duck farmers are not targeted as potential customers by the input providers.
	Smallholder Duck Farmers	Rearing indigenous duck	All APs	Farmers do not feed their duck proper feed	Farmers are not aware of the benefits of feeding proper food and the process for making nutritious feed.
				Most of the Farmers do not vaccinate the ducks	Farmers do not practice duck cultivation on a commercial basis
				Farmers who vaccinate their ducks, do not accurately follow vaccination schedule	
				Farmers do not know about modern rearing practice of ducks	There is a lack of information channels
Support Functions	Public services	Providing information and implementation of different activities	All Aps	The public extension service is not adequate	Lack of manpower and budget of government agencies hampers the information dissemination
	Infrastructure	Roads and communication for transportation	Tahirpur	Most of the villages of Tahirpur have no road connectivity.	Most of the villages of Tahirpur are surrounded by water bodies
Enabling Environment	NGO	Providing micro finance	All APs	Smallholder' s duck farmers do not utilize micro finance for duck rearing.	The product offering (duration, interest rate and repayments schedule) of the NGOs is not suitable for smallholder duck farmers NGOs do not target the smallholder duck farmers as prospective clients

## 2.4.8 Recommendations

Table 22: Intervention Plans for Duck Rearing

Constraint	Intervention	Areas (Suitable APs)	Output	Outcome	Impact
<p>No marketing or training service provision by input sellers/providers observed for smallholder farmers.</p> <p>Farmers do not feed their duck proper feed</p> <p>Most of the Farmers do not vaccinate the ducks</p> <p>Farmers who vaccinate their ducks, do not accurately follow vaccination schedule</p> <p>Farmers do not know about modern rearing practice of ducks</p> <p>Farmers incubate duck eggs using hens</p>	Facilitate linkage between input sellers and smallholder farmers.	All APs	Input sellers provide training and embedded services to farmers	<p>Farmers are aware of improved rearing practices</p> <p>Farmers can increase the production of duck eggs, and simultaneously maintain the health of ducks</p>	Smallholder farmers enjoy higher production and increased income
<p>Most of the Farmers do not vaccinate the ducks</p> <p>Farmers who vaccinate their ducks, do not accurately follow vaccination schedule</p>	Formation of farmers groups and promoting vaccination	All Aps	Farmer groups are formed	Farmer group members follow proper vaccination schedule	Mortality rate of ducks is reduced
Smallholders duck farmers do not utilize micro finance for duck operations	Development and promotion of specific micro finance product for duck farmers	All Aps	MFIs develop and promote specific micro credit programs for smallholder duck farmers	Farmers utilize the microfinance products	Farmers have access to finance
Lack of manpower and budget of government agencies hampers the information dissemination	Creating Linkage between DLS and input sellers	All Aps	DLS conduct training program in partnership with input sellers	Farmers are knowledgeable about service provision and improved rearing practice	Smallholder farmers enjoy higher production and increased income

## 2.4.9 Intervention Details

Intervention 1: Facilitate linkage between input sellers and smallholder farmers.

Potential Partners: Renata, ACME, Popular

Intervention Details:

WVB can partner with leading input providers such as Renata, ACME or Popular. These companies can promote their products to the beneficiaries of WVB and provide a range of embedded services such as training provision. These trainings can focus on benefits of using better quality inputs, the right usage of inputs and modern rearing techniques. By learning about modern rearing techniques, the farmers can be aware about proper feed management (preparing nutritious feed), vaccination and overall duck management.

Intervention 2: Formation of farmers groups and promoting vaccination

Potential Partners: DLS

WVB can support the formation of farmer group with the support of DLS. Such formation of farmer groups is especially important for duck farmers as often the farmers do not vaccinate their duck as a result of higher vaccination cost. The local poultry physicians tell the farmers that they need to gather at least 100 ducks together or the vaccination cost will be much higher than the charged BDT 5/duckling. However, majority of the vaccines can be purchased from the DLS office at a rate of BDT 15-200/100 dosage. If WVB can facilitate the formation of farmer groups, they can support their members in gathering their ducks and vaccination can be administered. The local DLS can play a string role as they can motivate and influence the other duck farmers in the same locality to vaccinate their duck during the same period.

Such herd immunity is key in ensuing proper vaccination of ducks.

Intervention 3: Development and promotion of specific micro finance product for duck farmers

Potential Partners: BRAC, ASA, TMSS, FIVDB

WVB can partner with microfinance institutions to develop and promote specific micro finance products. The terms and conditions of the micro finance products (high interest rate, repayment terms) are not suitable for the ultra-poor beneficiaries of WVB. Thus WVB can develop specific micro-finance products which will suit the need of their beneficiaries and promote such products to their beneficiaries.

Intervention 4: Creating Linkage between DLS and input sellers

Potential Partners: Renata, ACME, Popular and DLS

To address the low information dissemination of DLS, WVB can partner with both DLS and input sellers where both parties will share resources to dissemination information regarding duck farming. The input sellers in partnership with WVB can organize training programs for the duck farmers where DLS can provide technical support. The formation of duck farmer groups will also support this intervention as the input companies can reach a large number of potential customers.

Intervention 5: Creating farmers groups and facilitate linkage with Incubator Sellers

Potential Partners: Incubator Sellers

WVB can support the formation of farmer groups who can purchase incubators together and use them to hatch eggs. WVB may identify lead/potential members among the group who can also be trained to operate incubators through exposure visits.



## Chapter 2.5: Assessment of Goat Value Chain

### 2.5.1 Overview of Goat Rearing

There has been a positive trend in production of goat rearing in Bangladesh, along with high demand for goat for meat and skin. In 2015, number of goats in Bangladesh was estimated to be around 25.44 million (DLS, 2015). Goat rearing generally requires less working capital compared to other cattle such as cows, and require less feed as the goats mainly live on road side grass, tree leaves and vegetable by-products of the household kitchen.

63% of the rural households in Bangladesh rear goats of different breeds – local breeds include the Black Bengal, Boer and Sirohi; and other breeds such as Saanen and Jamunapari (Heifer International, 2015). The Black Bengal is the most common breed amongst small livestock in Bangladesh and has high demand in both local and international market.

Goat rearing was observed in Mithapukur, Birganj and Dhamoirhat APs located in Northern Bangladesh Region.

The beparis buy both from the farmers at household level and from farmers at the haats and sell the goat to other larger haats. The farmers are generally aware of the market price and some prefer to sell directly at the household as they don't have to pay the transport fee to bring their goat to the haats. Larger beparis generally operate in larger haats and generally deal with around 50-100 goats. Individual consumers also buy from these markets in small quantities.

No significant competition among the buyers has been observed in the APs.

**Scope for Up-gradation:** There is no scope for upgradation observed for forward market actors.

### 2.5.2 End Market Analysis

#### 2.5.2.1 Main Market, Buyers & Competition

In general, the market for goat is mostly informal, where the smallholder farmers sell their goat in the local haats. These haats are usually small local markets which sits once or twice per week. These local haats are usually a large open area near a major market where the smallholder farmers bring their goat and sell it. Such haats can be typically divided into three categories: local market (haats), regional market (haats) and national market in major cities. In these haats, various types of buyers exist such as beparis (brokers), butchers and other farmers.

## 2.5.3 Description of Value Chain

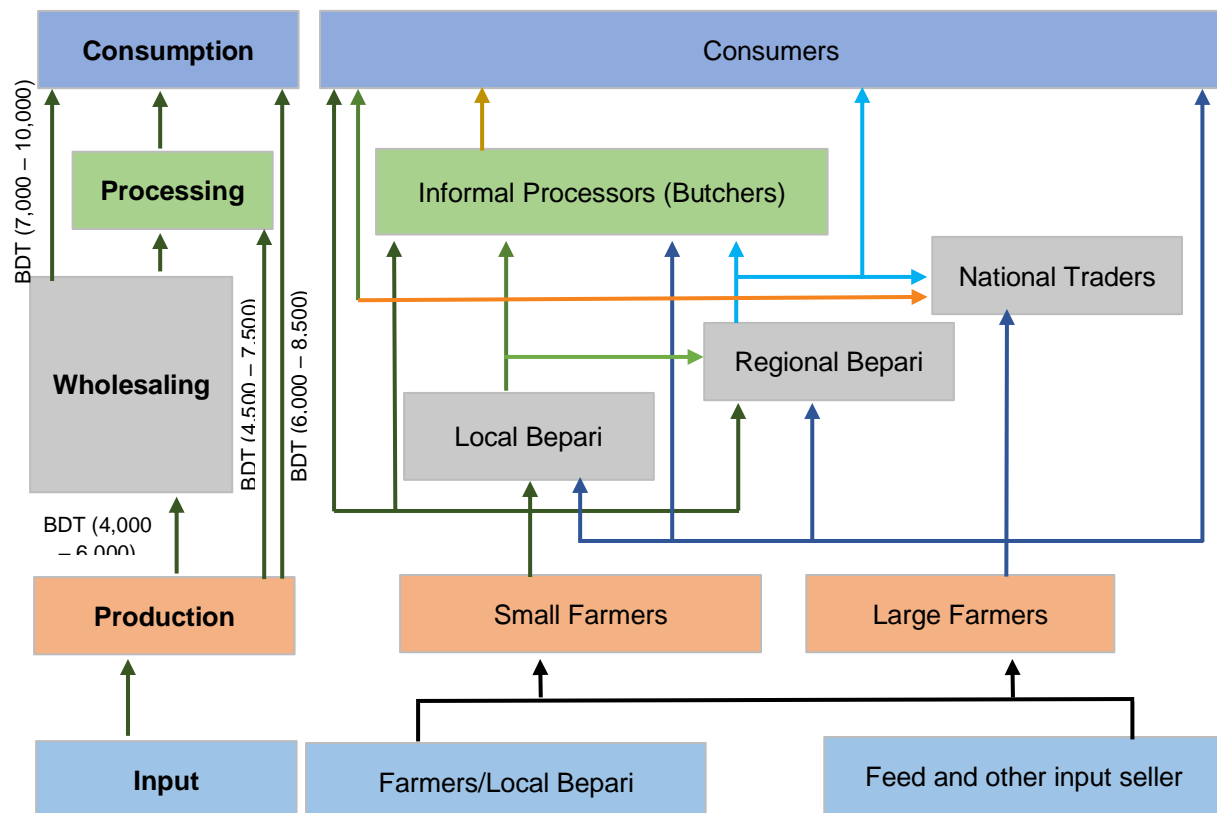


Figure 6: Goat Rearing Value Chain

## 2.5.4 Performance of the Value Chains and Scope for Upgrading

### 2.5.4.1 Input Suppliers:

**Farmer/local bepari:** Smallholder farmers buy goats from local markets and individual households in the local neighborhood. Those who do not have access to good quality goats, buy from local markets, where both beparis and other farmers sell their goats to buy smaller ones for rearing.

**Feed and other input seller:** For goat rearing, farmers generally use only homemade feed. Homemade feed includes food made with broken rice, rice bran, pulse and salt. Green grass, plant leaves, etc. are locally available and

the goat are generally grazed on fallow land. Usually the farmers tie their goat near roadside or fallow land and bring in the goat during evening. During evening, sometimes the goats are fed mango tree leaves or broken rice. The mango leaves and the ingredients of the homemade feed can be bought in local markets.

Other inputs include medicines and vaccines which are bought from local pharmacies.

Scope for upgrading:

- Marketing and Training Service Provision by the input companies: No

marketing or training service provision by the input sellers has been observed for the smallholder farmers. As the farmers are reliant on the local veterinary physicians, they are not linked with the input companies. Thus the input companies can target these smallholder farmers and increase their presence in the locality.

AP specific Findings: The scope for up-gradation was observed for all APs.

#### 2.5.4.2 Goat Farmers

##### Small farmers

Small farmers who have up to ten goats generally purchase pregnant female goats or small goats from local markets or directly from individual households. After kidding, the females are often kept for reproduction purposes and the male goats are sold in the local markets after reaching a certain age (generally 5 months).

For feeding, small farmers often leave the goats in nearby grazing fields where they feed on plants and leaves of bushes and trees. Homemade foods such as rice are also fed to the local goats. Certain leaves and grasses which are not always available are purchased from local crop producers. Jackfruit leaf is the most common feed for goats, which are often available at the local market. Grainy feed include pulse, wheat, maize, rice, and other agricultural by-products are used but only in small quantity.

In case of pharmacies and veterinary services, there are local veterinary physician who are consulted by the farmers for regular vaccines to prevent diseases, de-worming and other medicines. Feed supplements have been found to be almost non-existent among the goat farmers.

Only a small proportion of goat farmers buy directly from the pharmacies, as they rely more on the local veterinary services for medicines, vaccines, etc. as well as information regarding

diseases, feed and overall management. These local physicians are generally trained on animal health but not registered.

Small farmers who have only a few goats have limited space for goat housing, as these goats generally stay outdoors grazing in the fields, streets, near ponds, etc. during the day. They raise goats in a small scale and keep them in sheds made of bamboo, tin or straw, with other livestock animals like sheep or cattle. The shed usually has earthen floors, with a very small proportion having pucca (cemented) floor. In case of one or two goats, they are kept inside the households. The goats are usually tied somewhere outside the house during daytime, where they have access to food, and brought back to their shed in the evening.

##### Scope for up-gradation:

- Proper feed management: It has been observed that the goats are not fed properly. The feed that they are given do not contain enough nutrition because farmers are not aware of the nutrition requirement of the goats. In most areas, farmers are not aware or motivated enough to cultivate green grass such as Napier. Thus there is scope for promoting proper feed management at the farmer level.
- Promotion of proper rearing practice: As majority of the farmers are still following traditional rearing methods, they are not aware of modern rearing practices. The unhygienic living condition of the goat and the improper feed management lead to poor health of goats. Often the goats are kept in rooms without windows which does not let sunlight come through and suffers from poor ventilation which results in damp living conditions. Such damp living conditions often leads to death of the goat especially during winter. Inadequate vaccination also contributes to high mortality of goats.

Table 23: Cost Benefit Analysis

		Single indigenous Goat rearing for 1 year	Single indigenous Goat rearing 1 year with Napier cultivation	Note
Production cost	Cost head	Amount	Amount	
	Lease cost	N/A	N/A	Farmers usually keep their Goats in own living premises.
	Goat shade Maintenance Cost (yearly)	1,000	1,500	The small hold farmers usually build the Goat shade with bamboo and corrugated tin which costs around three thousand BDT. The shade's durability lasts for three to four years.
	Type of Inputs & Cost	Goat	8,000	A single indigenous Goat procured for 1 year rearing.
		Feed	17,700	The feed consists of broken rice, rice husk, maize, molasses and Napier grass.
		Medicine	500	Proper vaccination reduces the chances of medication
		Vaccine	250	Physician's honorarium included.
	Labour Cost	N/A	N/A	The female member of the household take care the Goat as they don't need to hire labour
	Transport Cost	200	200	In case for treatment to veterinary hospital and selling to haats the transportation cost required.
	Others	200	200	Bowls, manger, bucket
	Total Cost	27,850	25,100	
Sales of production	Sales quantity of Goat (Unit/year)	5	5	
	Sales price (BDT/Unit)	6,200	6,200	
	Total sales (BDT/Year)	31,000	31,000	
Profit (BDT/Year)		3,150	5,900	
Return on investment		11%	24%	

**Large Goat Farmers:**

The large goat farmers are farmers with more than 10 goats. These farmers are usually well off

and rear the goats on a commercial basis. As the project target beneficiaries are poor and ultra-

poor, we have excluded these farmers from our investigation.

#### 2.5.4.3 Wholesalers

**Local bepari:** Local beparis collect goats from individual households and small holder farmers and sell them in the local market in the rural areas.

**Regional bepari:** Regional beparis buy goats from the local rural markets where local beparis sell, transport them to the nearby markets (haats) in districts and sell them.

**National traders:** National traders buy goats from the regional markets (haats) and transport them to the major cities to sell in large markets, where both formal and informal meat processors and individual consumers buy from.

**Scope for Upgrading:** No scope for up-gradation was observed

#### 2.5.4.4 Processors

**Informal processors (butchers):** Butchers who own small shops in the rural areas purchase either directly from the farmers, local beparis or from the local markets. Butcher shops that are situated in the cities buy from the large markets or directly from the national traders.

Small butcher shops that are situated in the urban areas or cities buy from national traders, directly from the large farmers, regional beparis in the national market.

**Scope for Upgrading:** No scope for up-gradation was observed

**Inclusiveness of the value chain:** Women involvement has been found to be quite high in goat farming. Even though the households are headed by males who are in charge of trading the goats, women are almost entirely responsible for looking after the goats – starting from preparation of feed to cleaning, maintaining and bringing them into the sheds at the end of the day. The education level among

the farmers are very low, majority of the farmers only have primary education.

### 2.5.5 Assessment of the regulatory environment and support services

**Infrastructure:** Majority of the project area are reasonably well connected. There is electricity in majority of the project areas except some very rural areas.

#### 2.5.5.1 Public services:

The public services available for goat rearing are offered by Department of Livestock Services (DLS), Department of Youth Services and Ministry of Women and Children Affairs.

**Department of Livestock Services (DLS):** The Department of Livestock Services (DLS) aims to increase livestock production and productivity, maintain ecological balance, conserve biodiversity and improve public health. They provide a range of services in Bangladesh in order to achieve these goals which include: prevention and control of diseases, analyse animal feed, increase kid and calf production, increase breeding and extension of artificial insemination.

DLS provides healthcare (Vaccination monitoring of diseases) to domestic livestock through upazila livestock extension offices and district veterinary hospitals. In addition, upazila sub-sector and union points provide vaccination services for domestic livestock at government determined prices. Monitoring and surveillance of diseases, collecting disease samples, and taking appropriate measures for treatment also fall within the department's provided services.

DLS also organizes training and supports technology transfer to farmers free of cost. Other services provided by the DLS include: (i) registration of livestock, (ii) license issuance and renewal of livestock feed importers and exporters, (iii) monitoring the standard of feed meal and veterinary medicine stores, (iv)

preventing trade of livestock and testing of different imported and exported livestock through quarantine centres at the border. Furthermore, DSL help farmers directly by (i) providing emergency services via mobile call and SMS (ii) issuing and distribution of loans and ensuring loan repayment.

Observations from field research have found a linkage between people's awareness of these extension services to proximity to extension offices. The further away the community is from the extension offices, the lower is the awareness of such services. The extension of such services is further weakened by inadequate budget and shortage of government manpower.

**Department of Youth Development (DYD):** The Department of Youth Development (DYD) aims to increase the active participation of the youth in National Development. They provide a range of services in Bangladesh in order to involve the youth in the mainstream national development process which includes: providing skill development institutional and non-institutional training, extension of micro-credit services, organization of self-employment projects, establishment of youth organizations and provision of grants to youth organization.

Amongst the department's wide range of institutional and non-institutional training, DYD provides some which are relevant to cattle fattening. The relevant training courses for the unemployed youth include:

(i) Livestock, Poultry rearing, Fishery and Agriculture program This is a residential training program with a duration of 2.5 months, and has an admission fee of Tk. 100.

**Ministry of Women and Children Affairs:** The main objective of the Ministry of Women and Children Affairs is to create equal opportunity of women in economic and activity, eliminate violence against women and children and empower them. The range of services provided by the ministry include: providing technical and vocational training to women, providing day care services for children of working women, providing allowances and grants with a view to alleviating poverty of women and children and

extending micro credit services for underprivileged women to promote self-employment. The Ministry mainly provide training and micro-credit to women who are interested in investing in cattle fattening. The micro credit program provides credit to rural destitute women ranging from Tk. 10,000 to Tk. 15,000 with a 5 percent service charge, which can be used to buy livestock for cattle fattening.

#### 2.5.5.2 Health, labour rights and environmental safety issues

No major health effects found from goat rearing. However, in case of advanced farmers with a larger number of goats, there are chances of flu-like symptoms in humans due to infectious disease of goats.

Labour rights are not applicable for goat rearing as most of them are small scale businesses, often run by members of the family.

**Environmental impact:** In areas where there are relatively larger sizes of cattle, waste disposal of goats is an important issue in terms of cost and environmental safety. Wastage generated from goat farming causes malodor which affects the neighbourhood and surrounding areas. Lack of proper ventilation system and inadequate management of wastage causes the wastes to attract parasites, flies, fleece worms, etc. in the shelter. More specifically, places where the goats give birth contain high risk of diseases, which can also spread to the water supply.

#### 2.5.5.3 Financial services:

**Micro-credit organization:** Microcredit organizations are actively working in these regions. Some farmers have received micro finance from these institutes such as BRAC, ASA, TMSS, BRAC, Grameen Bank and RDRS. To avail any service from these MFIs, one needs to become a member of the institute. These MFIs usually have a branch office and several centres/groups under each branch office. The first loan limit for new members is usually around BDT 5,000 to 10,000 for almost all the MFIs which is increased every year with the repayment of the previous loan. The payback

period usually is 1 year with 44 instalments (weekly payment). The interest charged by the MFIs range from 20-26.5% per annum. It has been observed that many of the beneficiaries have been observed who availed micro credit however they are not using the money for goat farming.

**Banks:** Banks active in the project area are primarily state-owned commercial banks such as Sonali bank and Agrani bank. The non-state owned commercial banks are established at the upazila level. Some of the major banks are BRAC Bank, Ansar VDP Bank, Islami Bank and Farmers Bank. To take out an SME loan from these banks, the borrower must have an already established business of two to three years. To avail the loan, the borrowers must submit trade license, Tax Identification Number, Environmental, sanitary and fire-fighting certificate picture of the store front, list of inventory. However, none of the goat farmers have been observed availing these products.

Value chain financing or suppliers credit is usually provided by the different value chain actors such as input retailers. Such financing has been observed for medicine or feed supplement, whereas, the owner of the input retail shop gives credit to well-known customers only.

#### 2.5.5.4 Business membership organizations:

From the field investigation in the APs visited, no business membership organizations have been found for goat rearing producers/farmers.

#### 2.5.5.5 Other development programs:

- National Agricultural Technology Programme – Phase II (NATP-II)

### 2.5.6 SWOT Analysis

Table 24: SWOT Analysis of Goat Rearing

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NATP aims to increase income levels, fight poverty and hunger through development of climate-smart technologies in the agriculture, fisheries and livestock sector. The goal of the second phase of the project is to achieve improvement in market linkages in these sectors in 57 districts in Bangladesh, which is expected to have direct impact on over one million households of marginal and smallholder farmers and their access to markets. It will support formation of farmer's groups, 35 percent of which would be women.<sup>14</sup>

The project particularly includes the following components: crop development, fisheries development, agricultural technology generation, livestock development and project management.

- Integrated Farm Management Component (IFMC)

IFMC is a five-year programme (July 2013 – June 2018), funded by the Government of Denmark and 30 percent funded by the Government of Bangladesh. The project is implemented by Department of Agricultural Extension (DAE) and is the largest component of the Agricultural Growth and Employment Programme (AGEP). The development objectives of IFMC include pro-poor, inclusive and sustainable growth and employment creation through empowerment of farmers, increasing farm activities, linkage to service providers, market actors and micro-finance organizations through creation of Farmer Organizations (FOs); and diversification adopting Integrated Farm Management (IFM) technologies and management practices.

<sup>14</sup>

<https://nl4worldbank.org/2015/08/11/banglade>

[sh-national-agricultural-technology-program-phase-ii-project/](https://nl4worldbank.org/2015/08/11/banglade)

<p style="text-align: center;"><b>Strengths</b></p> <ul style="list-style-type: none"> <li>▪ Majority of the households own at least one goat</li> </ul>	<p style="text-align: center;"><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>▪ With the increasing population, the demand for meat is increasing</li> <li>▪ Significant scope for women and youth involvement</li> </ul>
<p style="text-align: center;"><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>▪ Farmers are not aware of modern rearing practices</li> <li>▪ Low access to information channels</li> <li>▪ Improper vaccination and rearing practice often leads to death of goats</li> </ul>	<p style="text-align: center;"><b>Threats</b></p> <ul style="list-style-type: none"> <li>▪ Natural calamities such as flash floods often increase the mortality of the goats</li> </ul>



## 2.5.7 Constraints Analysis

Table 25: Constraints Analysis of Goat Rearing

	Actors	Functions	Constraints	Root Cause	APs where the constraint was observed
Core Function	Feed and other input seller	Selling different Inputs	No marketing or training service provision by the feed and other input sellers has been observed for the smallholder farmers.	Smallholder goat farmers are not targeted as potential customers by the input sellers.	All the APs
	Smallholder Goat Farmers	Rearing Goats	Farmers are not cultivating green grass for feed	Farmers are not aware of the benefits and cultivation techniques of cultivating green grass	All the APs
			Farmers do not build proper goat pen	Smallholders farmers are not motivated to build proper goat pen	All the APs
			Farmers do not feed their goat nutritious food	Farmers are not aware of the benefits feeding and process of making nutritious food	All the APs
			Farmers do not know about modern rearing practice of goats	There is a lack of information channels	All the APs
	Marketing Actors	Selling the milk	NONE	NONE	NONE
Support Functions	Public services	Providing information and implementation of different activities	The public extension service is not enough	Lack of manpower and budget of government agencies hampers the information dissemination	All the APs
	Infrastructure	Roads and communication for transportation	None		
Enabling Environment	NGO	Providing micro finance	Smallholders goat farmers do not utilize micro finance for goat rearing	The product offering (duration, interest rate and repayments schedule) of the NGOs is not suitable for smallholder goat farmers NGOs do not target the smallholder goat farmers as prospective clients	All the APs

## 2.5.8 Recommendations

The opportunities for working on these constraints can be analysed to develop intervention plans that can be used as the basis to plan project activities:

Table 26: Intervention Plans for Goat Rearing

Constraint	Intervention	Areas (Suitable APs)	Output	Outcome	Impact
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<p>No marketing or training service provision by input sellers/providers observed for smallholder farmers.</p> <p>Farmers are not cultivating green grass</p> <p>Farmers do not build proper goat pen</p> <p>Farmers do not feed their goat nutritious food</p> <p>Farmers do not know about modern rearing practice of goats</p> <p>Farmers do not build proper sheds for goats</p>	<p>Facilitate linkage between input sellers and smallholder farmers.</p>	<p>All APs</p>	<p>Input sellers provide training and embedded services to farmers</p>	<p>Farmers are aware of improved rearing practices</p>	<p>Smallholder farmers enjoy higher production and increased income</p>
<p>Smallholders goat farmers do not utilize micro finance for goat operations</p>	<p>Development and promotion of specific micro finance product for goat farmers</p>	<p>All Aps</p>	<p>MFIs develop and promote specific micro credit programs for smallholder goat farmers</p>	<p>Farmers utilize the microfinance products</p>	<p>Farmers have access to finance</p>
<p>Lack of manpower and budget of government agencies hampers the information dissemination</p>	<p>Creating Linkage between DLS and input sellers</p>	<p>All Aps</p>	<p>DLS conduct training program in partnership with input sellers</p>	<p>Farmers are knowledgeable about service provision and improved rearing practice</p>	<p>Smallholder farmers enjoy higher production and increased income</p>

## 2.5.9 Intervention Details

**Intervention 1: Facilitate linkage between input sellers and smallholder farmers.**

**Potential Partners:** Renata, ACME, Popular

**Intervention Details:**

WVB can partner with leading input providers such as Renata, ACME or Popular. These companies can promote their products to the beneficiaries of WVB and provide a range of embedded services such as training provision. These trainings can focus on benefits of using improved quality inputs, the right usage of inputs and modern rearing techniques. By learning about modern rearing techniques, the farmers can be aware about proper feed management (preparing nutritious feed), vaccination and overall goat management.

WVB can create goat farmer groups and link them with input sellers. These groups will provide a unique opportunity for the input sellers to promote their products. The farmers in the groups can also buy different inputs at bulk rate.

**Intervention 2: Development and promotion of specific micro finance product for goat farmers**

**Potential Partners:** BRAC, ASA, TMSS, FIVDB

WVB can partner with microfinance institutions to develop and promote specific micro finance products. The terms and conditions of the micro finance products (high interest rate, repayment terms) are not suitable for the ultra-poor beneficiaries of WVB. Thus WVB can develop specific micro-finance products which will suit the need of their beneficiaries and promote such products to their beneficiaries.

**Intervention 3: Creating Linkage between DLS and input sellers**

**Potential Partners:** Renata, ACME, Popular and DLS

To address the low information dissemination of DLS, WVB can partner with both DLS and input sellers where both parties will share resources to dissemination information regarding goat rearing. The input sellers in partnership with WVB can organize training programs for the goat farmers where DLS can provide technical support.

**Intervention 4: Promotion of contract farming with formal meat processors**

**Potential Partners:** Bengal Meat, Pabna Meat

WVB can partner with formal meat processors such as Bengal Meat and Pabna meat to promote contract farming. The formal meat producers can train the beneficiaries on proper goat rearing methods and also support the beneficiaries in getting better bred goats. WVB can link the beneficiaries in getting micro finance. After the production, the formal meat processors will buy the goats at a predetermined rate.

**Intervention 5: Promotion of commercial cultivation of Napier/Pakchong to be sold in the market**

**Potential Partners:** DLS

WVB can partner with the local DLS office to promote commercial cultivation of Napier/Pakchong. WVB can select one or two interested farmers in each union under an AP to organize demonstration plots of commercial Napier/Pakchong cultivation. The local DLS office can provide cuttings of Napier or Pakchong and provide training on proper cultivation methods of such grasses. WVB can promote the produced Napier to other beneficiaries. Such commercial cultivation can lead to availability of Napier/Pakchong in the local which the farmers can use to feed their goats.

**Intervention 6: Promotion of Napier/Pakchong at smallholder goat rearing farmer level**

**Potential Partners:** DLS

WVB can partner with the local DLS office to promote cultivation of Napier/Pakchong at smallholder farmer level. WVB can select one or two interested farmers in each union under an AP to organize demonstration plots of Napier/Pakchong cultivation. The local DLS office can provide cuttings of Napier or Pakchong and provide training on proper cultivation methods of such grasses. Such cultivation of Napier/Pakchong can lead to reduced input cost for farmers. The farmers can utilize the fallow land beside their homestead to cultivate the Napier/Pakchong.

**Intervention 7: Promotion of hydroponics technology**

**Potential Partners: DAE and DLS**

Hydroponics, the method of growing plants without soil, using mineral nutrient solutions in a water solvent, can be promoted through DAE and DLS. This intervention can be especially suitable for ultra-poor households and poor women as there is no requirement of soil. Women and ultra poor households can produce and sell animal feed through this technology. WVB can provide the infrastructure through its graduation approach or link their members with MFIs to provide micro finance for them. Through this technology, the households can produce animal feed during floods and earn money by selling them in the market place.

**Intervention 8: Promotion of animal feed preparation (Silage) from crop residue (maize stalk and leaves, green fodder)**

**Potential Partners: DLS**

WVB can partner with DLS to promote preparation of animal feed from crop residue (maize stalk and leaves). Although the farmers usually feed the crop residue to their livestock, they do not know that they can preserve these feed for 4-6 months. The process also improves the nutritional value of the crop residue. This process can be suitable for preserving crop residue and feeding the animal during the dry season. The producer can also sell the silage in the market.

## Chapter 2.6: Assessment of Maize Value Chain

### 2.6.1 Overview of Maize:

Maize is a major staple food grain throughout the world, particularly in developing countries such as Africa, Latin America and Asia<sup>15</sup>. However, maize is not very popular amongst the people of Bangladesh as a consumer food, and therefore has not been extensively cultivated in Bangladesh<sup>16</sup>. Corn has been facing an increase in demand over the past decade as it is being increasingly used as a source of animal feed. Therefore, it has been observed that farmers have started cultivating maize, particularly in higher areas of North Bengal. Maize is being cultivated in these areas as a substitute of potato. Although maize can be cultivated throughout the year, it is usually cultivated in the Kharif season (October to March) when farmers are not engaged in paddy cultivation as an additional source of income.

Maize is a high yielding grain crop with multiple uses. The main demand for maize comes from the animal feed market, where maize is fed to livestock as a source of energy. Maize is also very palatable and suitable for most livestock<sup>17</sup>. It can also be used as a substitute for rice and wheat in the consumer food market. However, maize could not be habituated as a staple food in Bangladesh, as people prefer to consume rice over maize. Only the tribal people living in Chittagong Hill Tracts (CHTs) consume maize as a vegetable. There is also a small quantity of demand from urban areas as an ingredient of popcorn and corn flour.

Amongst all 38 APs observed, maize cultivation was only observed in one AP, which was Kishoreganj. Most of all the maize produced in this AP are sold to animal feed companies. Nilsagor Agro Industries Limited is the major buyer of maize in this AP, who purchase maize from farmers through different channels.

### 2.6.2 End Market Analysis

#### 2.6.2.1 Main Market, Buyers & Competition

There are generally two types of markets for Maize: Formal markets and Informal Markets. The formal market for maize is large institutional animal feed processors who purchase maize from local farmers through different channels. The purchased maize is then transported to their factories, where the maize is processed with other ingredients and packaged for selling. Most of the maize produced by farmers go to formal animal feed processors.

The remaining maize are sold in the informal market. Farmers of maize usually carry their produce to local markets, which are located at a distance of 5 to 10 km from their villages. They can also sell to *Farias*, who directly visit their household to collect maize, if the farmer's house is far away from the local market. *Farias* sell their products to regional Baparis or Arottdars in upazila markets. Arottdars sell the maize at National Markets or to animal feed processors.

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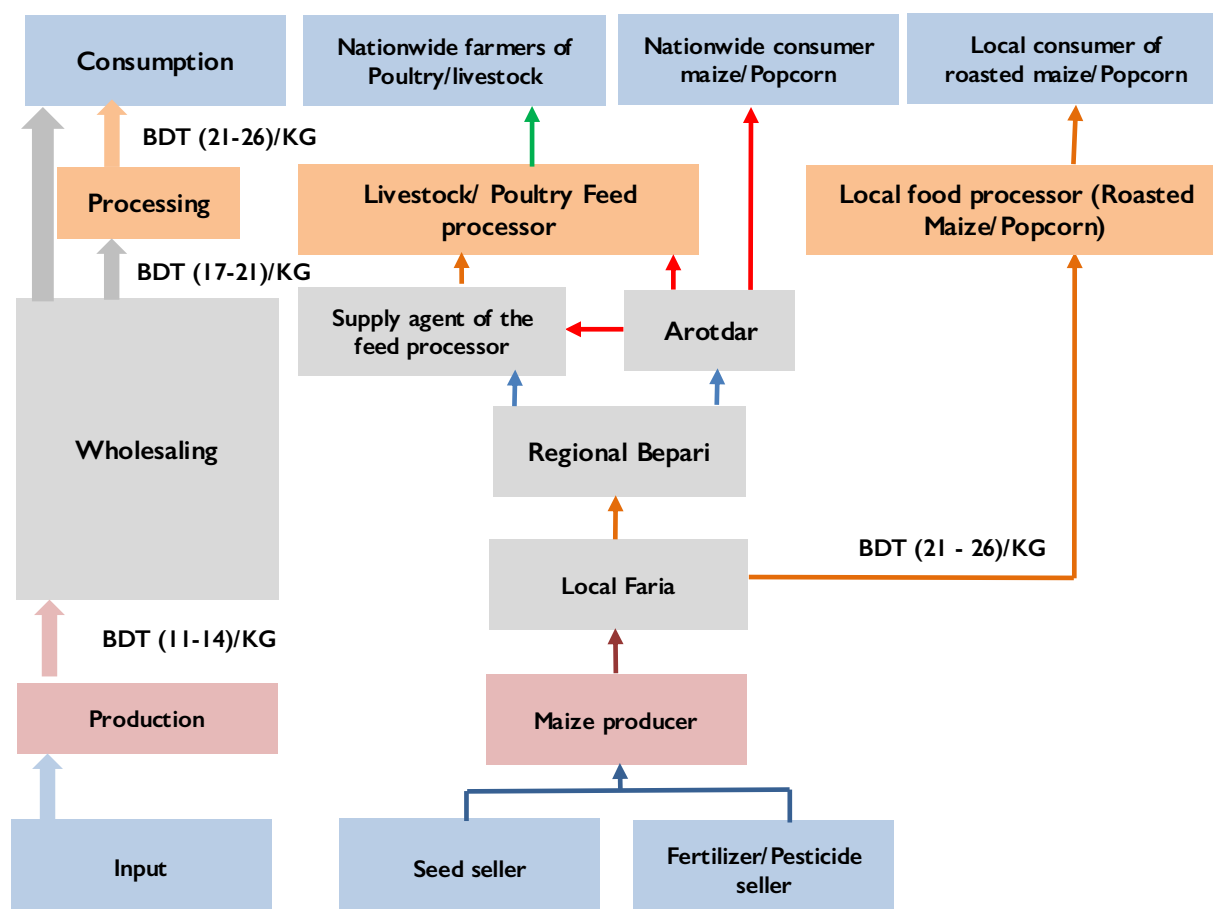
<sup>15</sup> <https://www.feedipedia.org/node/556>

<sup>16</sup>

<http://en.banglapedia.org/index.php?title=Maize>

<sup>17</sup> <https://www.feedipedia.org/node/556>

## 2.6.3 Description of Value Chain



## 2.6.4 Performance of the Value Chains and Scope for Upgrading

### 2.6.4.1 Input Suppliers:

**Seed seller:** Farmers of maize buy seed from local agricultural input retailers. These retailers usually purchase seeds from companies such as Supreme Seed Company, BRAC, ACI, Syngenta, etc. Most of the seeds are hybrid seeds, such as Kabli 50, NK 40 and 984 Konok. Farmers are also dependant on these retailers for information regarding seeds. However, these retailers have limited knowledge regarding quality of seeds, and are often not able to provide accurate information to maize farmers. Retail stores in rural areas also do not keep a variety of seeds required for maize cultivation.

**Scope of Upgrading:** Retailers can be provided with training so that they provide the correct information to farmers. The retailers could be educated on the seeds and linked with companies which markets original seeds, this initiative will ensure that farmers have a constant supply of high quality seeds which in turn will improve productivity for farmers.

### Fertilizer and Pesticide Seller

Farmers purchase fertilizers and pesticides from local fertilizer and pesticide sellers. Fertilizers used include Urea, TSP, Potash, Zinc etc., which retailers purchase from companies such as ACI, Syngenta and Intefa. Pesticides which are used for regular paddy cultivation are used in maize production as well. These sellers also do not have information regarding the type and quantity of fertilizers which is required to be

Figure 7: Maize Cultivation Value Chain

used in Maize production. Therefore, they are not able to accurately disseminate information to farmers. There is also a tendency amongst farmers to overuse pesticides and fertilizers, due to the misconception that using more pesticides and fertilizers will increase the production of healthier maize crops.

**Scope of Upgrading:** Fertilizers and Pesticide sellers could be trained on the type of fertilizers and pesticides that can be used for maize production. In this way, they can properly disseminate information to maize farmers.

#### 2.6.4.2 Maize Farmers:

**Smallholder Farmer:**

The smallholder farmers usually cultivate maize in 20-100 decimals land. Maize Farmers start by ploughing the land. Simultaneously, fertilizers are added to the land in order to increase the fertility of soil, and to ensure that pH levels of soil is suitable for maize cultivation. Farmers commonly use cow dung as fertilizer as it is abundant in rural areas. Farmers also use

commercial fertilizers like urea, TSP and MOP, which are procured from local feed sellers.

As maize is highly susceptible to pests and diseases, pesticides and insecticides have to be added regularly to ensure that the maize crops are healthy. However, government specifies a limited amount to be administered on maize crops. These pesticides are also purchased from local pesticide sellers. Pesticides used include Advantage (manufactured by FMC) for seed treatment/purification and Chloropyriphos 48 EC for earthworms.

The land also needs to be de-weeded regularly, as grass and weeds can absorb the nutrients from soil required for maize crop growth. Pesticides are administered a total of three-four times throughout the production cycle: once when the land is ploughed, once when the seed sprouts, once when the flowers bloom, and once when the branches of crops grow. The maize is ready to be harvested 60 – 72 days after ploughing the land.

Table 27: Cost Benefit Analysis

Cost calculation of maize production		
Production cost	Cost head	Amount (BDT/Acre)
	Lease cost	9,000
	Land Preparation Cost (If applicable)	1,500
Type of Inputs & Cost	Seed	2,670
	Urea	1,400
	TSP	700
	Irrigation	1,300
	Pesticides	700
	Labour Cost	7,500
	Post-Harvest Cost (Cleaning, sorting, packaging, storing)	2,500
	Transport Cost	700
	Others	
	Total Cost	27,970
Sales of production	Total sales volume/ quantity(Kg/Acre)	3,200

	Average sales price (per Unit)	13
	Total sales price of maize (BDT/Acre)	41,600
	Total sales price of Maize leaf (BDT/Acre)	3,300
	Total sales	44,900
	Profit (BDT)	16,930
	Return on investment	61%

**Scope of Upgrading:** Farmers are dependent on local pesticide and seed sellers for information. Often seed sellers and pesticide sellers themselves do not have adequate training and information which they can disseminate to the maize farmers. As a result, farmers are unable to get accurate information about how to purify seeds and when to use pesticides. These seed and pesticide sellers can be trained in order to ensure the proper dissemination of information.

## 2.6.5 Assessment of the regulatory environment and support services

### 2.6.5.1 Infrastructure:

The project area is reasonably well connected and has proper electric supply.

### 2.6.5.2 Public Services:

**Department of Agriculture Extension (DAE):** Department of Agriculture Extension (DAE) is the frontier department of the Ministry of Agriculture which provides extension services to the farmers. This has large country wide network and operational staff to provide extension services to the farmers. Government provides support to farmers in Training and Visit (T&V) format. The system envisioned a rise in agriculture production through continuous dissemination of extension messages. It gave emphasis on improving farm and agriculture management practices, improved land preparation, improved seed bed and nursery maintenance, use of good and quality seeds, need and use for seed treatment,

timely field operation, proper space of plants, etc. The T & V system followed top down approach in order to introduce modern variety to the farmers.

Observations from field research have found a linkage between people's awareness of these extension services to proximity to extension offices. The further away the community is from the extension offices, the lower is the awareness of such services. The extension of such services are further weakened by inadequate budget and shortage of government manpower.

However, the Government support system has human resource limitation. One of the solutions which the Government agencies tried to adopt was to train an ideal farmer, who was from the elite class from rural Bangladesh. However, these well-off farmers were unable or reluctant to effectively transfer knowledge to the poor and marginal farmers. Also, farmers were considered homogenous. As a result, the need of the poor and marginal farmers is often overlooked. The linkages between research and development is not established properly. Therefore, it takes a long time to reach an innovation from research institution to the farmers at the field.

**Scope for upgradation:** One of the primary constraints of the Sub-Assistant Agriculture Officer (SAAO) is time. There could be interventions where producer groups can have group meetings with SAAO to discuss their problems and since the producers will be operating in groups their problems and challenges would be homogenous in nature.



### 2.6.5.3 Health, Labour Rights and Environmental Safety Issues:

- No major health effects were found in maize cultivation. However, farmers do not use masks while using pesticides, which may have adverse effects on their health.
- The farmers who are engaged in maize cultivation usually employ around four to five people. These labour are usually paid low wages, and made to work long working hours.
- Environmental impact: The pesticides and insecticides used in maize cultivation cause air pollution. These chemicals can also seep into ground water, which can kill aquatic life when this water ultimately flows into rivers and other water bodies.

### 2.6.5.4 Financial Services:

- Micro Credit organisation: Microcredit organizations are actively working in these regions. Many of the maize farmers have received micro finance from these institutes such as BRAC, ASA, TMSS, BRAC, Grameen Bank and RDRS. To avail any service from these MFIs, one needs to become a member of the institute. These MFIs usually have a branch office and several centres/groups under each branch office. The first loan limit for new members is usually around BDT 5,000 to 10,000 for almost all the MFIs which is increased every year with the repayment of the previous loan. The

payback period usually is 1 year with 45 instalments (weekly payment). The interest charged by the MFIs range from 20-26.5% per annum. It has been observed that many of the beneficiaries have been observed who availed micro credit however they are not using the money for maize cultivation.

- Banks: Banks active in the project area are primarily state-owned commercial banks such as Sonali bank and Agrani bank. The non-state owned commercial banks are established at the upazila level. Some of the major banks are BRAC Bank, Ansar VDP Bank, Islami Bank and Farmers Bank. To take out an SME loan from these banks, the borrower must have an already established business of two to three years. To avail the loan, the borrowers must submit trade license, Tax Identification Number, Environmental, sanitary and fire-fighting certificate, list of inventory. However, none of the smallholder farmers have been observed availing these products.
- Value chain financing/ suppliers credit is usually provided by the different value chain actors such as input retailers. Such financing has been observed for medicine or feed supplement whereas the owner of the input retail shop gives credit to well-known customers.

**Business Membership Organizations:** No Business membership organization have been observed in the field.

## 2.6.6 SWOT Analysis

Table 28: SWOT Analysis of Maize Cultivation

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>▪ Lower labour and high returns</li> <li>▪ Interest in maize cultivation is increasing</li> </ul>	<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>▪ With the increasing population, the demand for maize is ever increasing</li> <li>▪ Significant scope for youth involvement</li> <li>▪ As the numbers of livestock and poultry farms are increasing, the demand for animal feed is also increasing. Maize and maize leafs can be used as inputs for animal feed.</li> <li>▪ Maize has a number of diversified uses</li> </ul>
<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>▪ Farmers are not aware of safe cultivation practices, due to overuse of fertilizers and pesticides</li> <li>▪ Modern restoration techniques are not used by farmers after harvesting maize</li> <li>▪ Farmers are not aware of restoration techniques for maize leaves for future use as homemade animal feeds due to low access to information channels</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>▪ Natural calamities like floods can destroy maize crops</li> <li>▪ Maize is highly susceptible to diseases</li> </ul>

## 2.6.7 Constraints Analysis

Table 29: Constraints Analysis of Maize

	Actors	Functions	Constraints	Root Cause	APs where the constraint was observed
Core Function	Agricultural input suppliers	Supply seed, fertilizer and pesticide to farmers	No formal training is given to agricultural input suppliers who can advise farmers on how to identify quality seeds and dose of fertilizers/pesticides.	Farmers are not targeted as potential customers by the input companies.	Observed for the AP
	Farmers	Production of Maize Crops	Preference for traditional farming technique over high yielding modern farming techniques	Farmers are not aware of the benefits of modern farming techniques.	Observed for the AP
			Farmers have limited idea on how to identify quality seeds and inputs	Farmers lack access to quality seeds and often overuse agricultural inputs.	Observed for the AP
			Farmers are not aware of proper seed purification techniques	Farmers lack access to information channels regarding seed purification techniques	Observed for the AP
Support Functions	Public services	Provide training on safe cultivation techniques and modern methods of cultivation for higher yield	The public extension service is not enough	Lack of manpower and budget of government agencies hampers the information dissemination  Longer distance from public extension offices makes availing services difficult	Observed for the AP
	Infrastructure	Roads and communication for transportation	None		
Enabling Environment	NGO	Providing micro finance	Farmers do not utilize micro finance for cultivation	The product offering (duration, interest rate and repayments schedule) of the NGOs is not suitable for farmers. This is because, maize is cultivated seasonally, and they do not have the incentive to take loans where they have to pay instalments weekly. NGOs do not target the farmers as prospective clients.	Observed for the AP

## 2.6.8 Recommendations

The opportunities for working on these constraints can be analysed to develop intervention plans that can be used as the basis to plan project activities:

Table 30: Intervention Plans for Maize Cultivation

Constraint	Intervention	Areas (Suitable APs)	Output	Outcome	Impact
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Preference for traditional farming technique rather than usage of modern cultivation techniques	Facilitate linkage between input sellers and maize farmers.	Observed for the AP	Provide training on quality specifications sought by buyers.	Farmers are aware how to cultivate more and improved quality maize	Farmers can increase production of maize
Lack of information channels					
No formal training is given to agricultural input suppliers who can advise farmers on how to identify quality seeds and dose of fertilizers/pesticides.	Facilitate linkage between government extension services and maize input sellers	Observed for the AP	Provide training on identifying quality seeds and dose of fertilizers/pesticides	Input sellers are aware of quality seed and the standard dose of fertilizer/pesticide	Input sellers can provide accurate information about quality seeds and dose of fertilizer/pesticides to farmers
Farmers are not aware of safe cultivation practices, due to overuse of fertilizers and pesticides	Facilitate linkage between government extension services and maize farmers	Observed for the AP	Provide training on safe cultivation practices and modern restoration techniques	Farmers are aware about the standard levels of fertilizers and pesticides which are to be used on their land	The fertility of soil is maintained
Farmers are not aware of modern restoration techniques for maize and maize leaf				Farmers are aware of modern restoration techniques of maize and maize leaf	The maize produced are not harmful for consumers
Preference for traditional farming technique rather than usage of modern cultivation techniques					
Farmers do not utilize micro finance for maize production	Development and promotion of specific micro finance product for maize farmers	Observed for the AP	MFIs develop and promote specific micro credit programs for farmers	Farmers utilize the microfinance products	Farmers have access to finance

## 2.6.9 Intervention details

**Intervention 1: Facilitate group formation of farmers**

**Potential Partners: DAE, DYD**

**Intervention Details:**

WVB can organize farmers group with help from DAE and DYD and train groups to develop expertise in identifying quality seeds, purification of seeds, fertilizer and pesticides. Additionally, farmers will decide in groups the quantity of maize each farmer should grow. This intervention will improve bargaining power of farmers and will ensure farmers are getting correct price for their crops.

**Intervention 2: Facilitate linkage between input companies and maize farmers/maize input sellers**

**Potential Partners: Syngenta, ACI and Intefa**

**Intervention Details:**

WVB can partner with leading input providers such as Syngenta, ACI and Intefa. These companies can promote their products to the beneficiaries of WVB and provide a range of embedded services such as training provision. These trainings can focus on benefits of using better quality inputs, the right usage of inputs and modern cultivation techniques.

**Intervention 3: Development and promotion of specific micro finance product for maize farmers**

**Potential Partners: BRAC, ASA, TMSS**

WVB can partner with microfinance institutions to develop and promote specific micro finance products. The terms and conditions of the micro finance products (high interest rate, repayment terms) are not suitable for the poor beneficiaries of WVB. Thus WVB can develop specific micro-finance products which will suit the need of their beneficiaries and promote such products to their beneficiaries.

**Intervention 4: Promotion of animal feed preparation (Silage) from maize stalk and leaves**

**Potential Partners: DLS**

WVB can partner with DLS to promote preparation of animal feed from maize stalk and leaves. Although the maize farmers feed their cows the maize stalk and leaves, they do not know that they can preserve these feed for 4-6 months. The process also improves the nutritional value of the maize stalk. This process can be suitable for preserving maize stalk and feeding the animal during the dry season. The producer can also sell the silage in the market.

## Chapter 2.7: Assessment of Vegetable Value Chain

### 2.7.1 Overview Vegetable Value Chain

Vegetables sub-sector plays an important role for development of Bangladesh. Vegetables are an herbaceous plant whose fruits, seeds, roots, tubers, leaves etc., are used as food. Nearly 100 different types of vegetables comprising both of local and foreign origins are grown in Bangladesh. Vegetable is important for nutrition, economy and food security. Vegetables can be identified as a significant one for this economy for its noteworthy contribution in raising the foreign exchange earnings and occupies an important position among the items exported from Bangladesh. Vegetables contribute 3.2% of the agricultural Gross Domestic Product (BBS, 2009).<sup>18</sup>

As a developing country, Bangladesh is adequately suffering from the problems of poverty, unemployment and malnutrition. Vegetable cultivation can play important role to solve these problems in the shortest possible

time. The importance of vegetable can be realized from two stand points such as, economic point of view and nutritional point of view. It creates a great opportunity of employment for the large number of unemployed women of Bangladesh. Vegetables compared to other food items provide low cost nutrition source. It can be produced even small amount of land and also in homestead area. It can be grown within a short time period and more than one crop can be grown within a crop season. There are a large number of vegetables having different varieties, which can be grown throughout the year. However, the largest numbers of vegetables are grown in the winter season. Vegetables are generally labour intensive crops and thus offer a considerable promise for generating increased rural employment opportunities. Climate and soil of Bangladesh is very much suitable for growing vegetables round the year.

We have selected vegetable as potential subsector for the following APs:

Table 31: Region wise AP (Vegetables)

Region	AP
GMR	Sribordhi, Sherpur, Jhenaigati, Muktagacha, Muktagacha south
NBR	Ghoraghat, Godagari, Paba
SBR	Assasuni, Rampal, Pirojpur, Bhandaria, Debhata

### 2.7.2 End Market Analysis

#### 2.7.2.1 Market Intermediaries: Main Market, Buyers & Competition

Three types of traders can be distinguished in the sub-sector. Paikars buy vegetables directly from farmers and/or act as a commissioning agent for big farias/ baparis, who buy vegetables in bulk. If beparis do not buy from paikars then they buy from Aratdars. Aratdars usually keep space in the market where farmers/paikars can

store their products for some time before selling products to the beparis and in some cases aratdar and bepari could be the same person.

**Local Market:** These are the market which are usually 5-10 km away from vegetable producers. Small and marginal producers carry their goods to local markets either to sell them to local retailers or to sell to paikars. In some areas, depending on the crop the paikars also visit household of producer to collect crops.

<sup>18</sup> Publications of Bangladesh Bureau of Statistics (BBS), Statistics and Informatics Division, Ministry of Planning. [online] Available at:

[http://bbs.portal.gov.bd/sites/default/files/files/bbs.portal.gov.bd/page/303f0460\\_e79c\\_40d2\\_8157\\_acfcf64845a8/BBS\\_Publication.pdf](http://bbs.portal.gov.bd/sites/default/files/files/bbs.portal.gov.bd/page/303f0460_e79c_40d2_8157_acfcf64845a8/BBS_Publication.pdf)

Upazila Market: Paikars usually sell their products to other retailers or to Aratdars. Aratdars and medium to large farmers take their products to Upazila Market using small

pick up or trucks. where they sell their products to Bepari s The Bepari s transfer the products to national markets which are usually growth centres at a distance of 200-300 km

### 2.7.3 Description of Value Chain

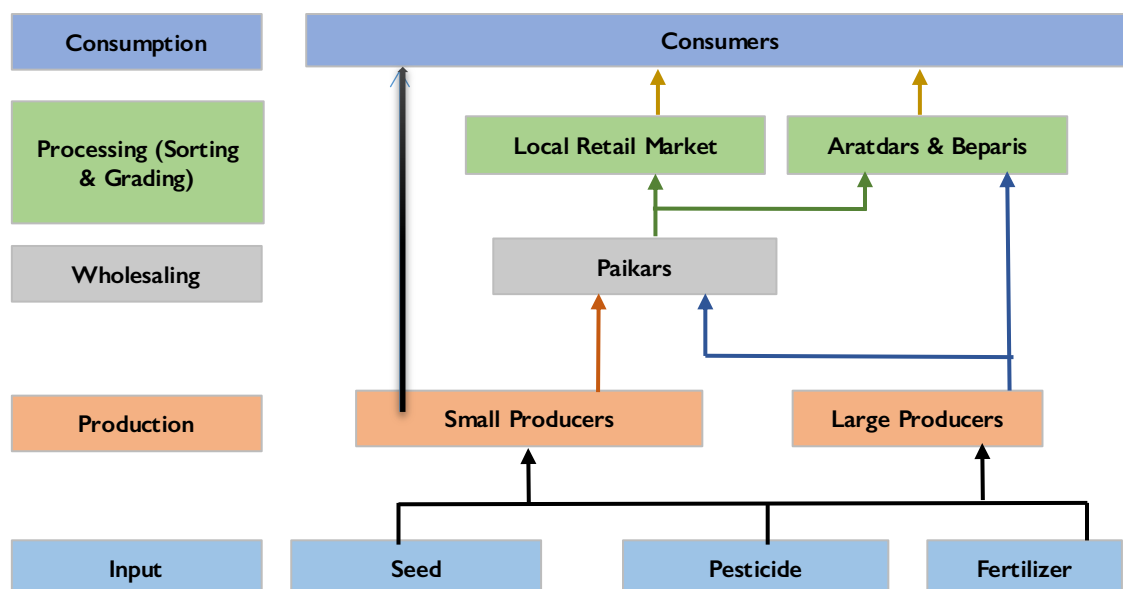


Figure 8: Vegetable Value Chain

### 2.7.4 Performance and scope for upgrading:

#### 2.7.4.1 Input Suppliers:

Input suppliers provide seeds and agro-chemical products, such as fertilizer and pesticide, to farmers. The percentage of retained seed usage for vegetable is high in Bangladesh. Farmers who do not use retained seeds purchase seeds from the seed sellers, who also sell other inputs. Input sellers sell products mostly for cash but occasionally on credit and provide some embedded services to producers, such as extension advice.

Competition and cooperation does exist among the agro-input sellers; occasionally, input sellers help one another with inventories and short-term loans.

Inputs like seed, fertilizer, and pesticides have become quite accessible, there is a dealer or retailer available close to all the farmers. Major seed companies are now marketing seeds in the region, and farmers are more aware of the advantages of growing hybrid seeds. The government is taking an active role in making fertilizer more available in the region, and development projects including World Vision are educating farmers on balanced fertilizer usage.

However, uptake of new farming practices and use of quality inputs is still low, and traceability is an issue, as very often farmers receive adulterated seeds in seed packets. Overall, there is a low level of “downstream” capacity, as farmers typically use rudimentary farming methods and still have limited access to information on new farming technology or methods.

### Scope for Upgrading:

Training services should be provided to agro-input retailers. There should be training of agro-input retailers so that they can provide the correct advice to the farmers, often wrong diagnosis by the retailer may lead to wrong usage of pesticide by farmer which in turn damages the harvest of farmer. Each retailer has access to around 100-200 farmer groups, thus they have the capacity to influence large number of farmers and improve overall productivity.

### 2.7.4.2 Farmers

**Farmer:** Farmers are the producer of the vegetable. Small and medium-holder farmers alike collect necessary inputs for production and are directly involved in production in field, along with family members and hired labourers. They reap the harvest, manage post-harvest, and sell the produce to local faria (small traders). Farmers usually keep a small portion of the produce for family consumption, and then sell the remainder for cash. Farmers share farming knowledge and sometimes exchange seeds. The amount and types of vegetables differ from season to season. The farmer sells 90% of their product to the local wholesaler and the remaining 10% in the local retail market

### Scope for Upgradation:

- **Training Service:** Farmers need training on advanced farming technique as well as identification of quality seeds. Farmers suffer from season to season due to selection of poor quality seeds and inputs. Additionally, farmers need extensive training on grading and sorting.
- **Contract Farming:** Forward market actors like Agora, Swapno collect/buy vegetable from NGO/suppliers using contract farming model. In this model farmers have to get enlisted by the supplier and farmers work directly for the supplier or agent. An upstream actor (processor or end market actor) provides required inputs and technical support, through a company supplier, directly to farmers for a specified amount of produce. In return, farmers are contractually obliged to sell their full harvest to the company at a price mutually agreed to before the crop is cultivated.

Table 32: Cost Benefit Analysis of different Vegetable Farming

		Cucumber / Bigha	Tomato/ Bigha	Okra/ Bigha	Papaya/ Bigha	Pumpkin/ Bigha	Cauliflowe r/ Bigha	
Producti on cost	Cost head	Amount BDT	Amount BDT	Amount BDT	Amount BDT	Amount BDT	Amount BDT	Note
	Lease cost	17,500	24,000	16000	16000	16000	15000	Farmers usually take field as lease.
	Land Preparation + Organic fertilizer + Fertilizer	2400 (1,200 + 1200 + 1500)	2000	2000	1000	2000	2000	The smallholder farmers usually use some organic fertilizer to prepare land
	Type of Inputs & Cost							
	Seed	2800	400	400	300	400	7000	In most cases farmers try to use recurring seed.
	Chemical Fertilizer	3800	1500	1500	450	400	1550	
	Fertilizer: Organic Fertilizer, TSP	N.A	N.A		800		550	
	Water	800					600	



	Pesticide (2-3 Types)	1500	500	200	300	800	1000	
	Labour Cost	800	1500	1500	800	1200	2000	The female member of the household usually work as labour
	Post-Harvest Processing (Grading & Sorting)				400	400	400	
	Transport Cost	20	400	400	1000	500	1500	
	Others	1,000			0			
	Total costs	29,900	30,300	30000	20,750	21,700	31600	.
Sales of producti on	Total sales volume of vegetable (kg/bigha)	3600	2400	3200	5000	1800	3000	
	Average sales price (BDT/kg)	20	30	20	20	30	25	
	Total sales (BDT/Season)	72,000	72000	64000	100000	54000	75000	
Profit (BDT/Year)		42,100	41,700	34000	79,250	32300	43400	

### 2.7.4.3 Traders:

**Small Traders (Faria/Paikar):** Faria are small scale traders who purchase vegetables directly from farmers and sell in local markets or to local arathdar and large traders.

Faria prefer cash transactions but in some cases provide one-week credit to farmers or other traders.

Faria mainly purchase goods from farmers individually and sometimes in bulk as a group. Faria usually share transportation costs with other Farias by jointly transporting their crops.

**Local wholesaler:** Local wholesaler purchases their product from the faria as well as large farmers. Basically, they fix the price paid to the farmer. They deal with the divisional wholesaler. Local wholesaler sends their product lot to the different division, according to the market demand and market price. They also sell their product to the local market, but a little amount.

They make a market margin of 15% to 25%, (AV<sup>19</sup>C, 2014).

**Divisional wholesaler:** Divisional wholesaler collects their product from local wholesalers. They deal with a large amount of vegetable. Actually, they act like a divisional distributor. They sell their product to the regional wholesaler. They serve as a fixed commission agent. They also sell their product to the local retailer. They make a margin about 5% to 10%. **Regional wholesaler:** Regional wholesaler collect product from the divisional wholesaler. Sometimes they collect their product from local wholesalers. They make a market margin about 5% to 10%.

**Retailer:** Retailer is an end connector to market. They are directly linked to the consumer. They purchase their product from the wholesaler and sell to the consumer and make a market margin about 5% to 15%.

<sup>19</sup> AGRICULTURAL VALUE CHAINS (AVC) PROJECT BANGLADESH: VALUE CHAIN SELECTION REPORT, END MARKET AND VALUE

CHAIN ANALYSIS. 2014. *United States Agency for International Development (USAID)*. Available at: [http://pdf.usaid.gov/pdf\\_docs/PA00KMXZ.pdf](http://pdf.usaid.gov/pdf_docs/PA00KMXZ.pdf)

Intermediaries	Value Adding Activities
Activities between farmer and Paikar	Collecting vegetable Cleaning and grading Transportation to local market
Activities between local wholesalers to divisional wholesaler	Intermediate holding Grading & Sorting Loading Truck
Activities between Divisional wholesalers to Regional wholesale market	Transportation
Activities between Regional wholesaler to retailer/supper shop	Intermediate holding Transportation
Activities between Retailers to customer	Holding stock at retail point Cleaning

Price is negotiated between the farmer and the paikar. Product and cost flow start from the farmer. The farmer is the ultimate producer of vegetable. He invests his capital, land, and labour to produce vegetable. So he added value and price in the vegetable. The farmer passes his vegetable to a local wholesaler at a cost; negotiate between him and the local wholesaler. Local wholesaler passes it to divisional wholesalers at a price higher than his cost. He takes margin from his exchange. The divisional wholesaler sells it to the regional wholesaler. The regional wholesaler passes it to the retailer and retailer sells it to the consumer. Due to the variation of time, cost, amount and activities involve in the process, this price addition may be different.

#### Constraints:

- The more there are a number of intermediaries the more there is a number of non-value added activities which are of no use rather increases the price of the product. The huge numbers of intermediaries added the extra cost. These are inventory cost, labour cost, packaging cost at the different stages of the stocking and loading- unloading options in the local market and thus increases the total cost of the produce. So the price is increased consequently. As it is an inefficient and long chain of market intermediary cause s price increase dramatically from farmer to consumer. Sometimes price is two to three times of farmer s selling price. For

example, a producer sells cauliflower at BDT 15/piece whereas a consumer buys it for BDT 25-30/piece.

- Because the value or quality of vegetable decrease rapidly once they are harvested and keep decaying when being delivered, the revenue of the supplier depend on the condition of the product when they are received. Thus, the timely production and delivery of perishable foods significantly affect the supplier s revenue. So suppliers often struggle in terms of collecting crops from various places and loading full truck to supply goods to the divisional market. For example, if a paikar goes to an area with a 4 MT truck he tries to collect vegetable of 4 MT because he will have to pay the same amount of money to truck service provider if he collects less vegetable.

No significant competition among the buyers have been observed in the APs. Rather the forward market actors have expressed that they often do not get their desired volume of products from the AP.

#### Scope for Up-gradation:

- Market Linkage: It has been observed in majority of the APs that the producer lack access to market. The producers are not linked with any institutional buyers and thus they do not receive a fair price for their crop especially in

locations which are at a distance from large urban centres.

- Producers: Bangladesh has a unique climate year for vegetable production. The year is divided into three distinct seasons; Kharip-1: (Mid March to mid July), Kharip-2: (Mid July to mid November), Rabi (Mid November to mid March). Rabi season has a relatively low temperature, humidity, and rainfall so it is suitable for most of the vegetable crops. But the irrigation problem with this season hinders production. At the peak harvest time, the farmers do not even recoup production costs by selling their product. During the Kharif season, only a few vegetables can be successfully grown. The high temperatures and high rainfall of the Kharif season are not conducive for most other vegetables.

As a result, there is always a serious scarcity of vegetables during the Kharif-1 and Kharip-2 seasons. The price of vegetables at that time is very high; so much so that vegetable prices often exceed the regular price. To improve vegetable production and supply, there should be proper planning of producing varieties suitable for growing in the adverse weather condition of the Kharif season and drought resistant varieties of the Rabi season.

#### Constraints:

- Farmers are bound to sell to a local wholesaler/paikars syndicate: As a reason of socioeconomic conditions of Bangladesh, most of the vegetable market is located mainly in the towns and cities. The transportation system in rural areas is very poor, so the marketing of growing vegetables from the rural areas to urban towns is expensive. As a result, growers have to pay extra money for the transportation. Due to market information not available to producers and also a lack of accessibility to a high value market,

producers are always in confusion about whom to sell their product in time and as a result, they are often bound to sell their product to local wholesaler syndicate at a very cheap price. Some farmers also expressed that there is a power play because of which even if they take their produce to the high value market they don't get the appropriate price because they often fail to meet the high quantity of product desired by Beparis.

- Lack of knowledge in identifying appropriate inputs such as seeds and fertilizer: Bangladesh imports many exotic vegetable seeds almost all of which are hybrids and therefore, the import of this seed is recurrent processed. Therefore, farmers often fail to understand which seeds will be suitable for their location and also which seed will provide efficient output, thus they often harvest crops using wrong seeds and fertilizers and incur loss.

Scope for upgradation: There should be training for producers on seed selection process, usage & dosage of agro inputs and also on modern farming techniques using agro machineries. Additional training on grading, packaging and sorting could be provided to help producers get better value of their produce. Training can be provided to farmers by forming groups. If farmers are organized in a group they can make decision on which seed to use, the quantity of agro inputs they will need and thus they can buy in bulk. Additionally, if farmers sell their products in bulk they will have more leverage on the price.

- Agro-input sellers: Agro input sellers are the contact point for a large number of producers. Field visit to AP reveals that each retailer has at least 150-200 farmers in his circle. In most cases farmers seek advice from retailers regarding which seeds, fertilizer or pesticides to use but retailers have limited knowledge or do not always

provide the right information to farmers. Also retail store in remote areas has limited variety of seeds and fertilizer available thus farmers in those areas have no choice but to use the seeds stocked by the retailers in the vicinity.

## **2.7.5 Assessment of the regulatory environment and support services**

### **2.7.5.1 Infrastructure:**

Majority of the project area are reasonably well connected with few exceptions where there is lack of concrete roads example Pirojpur, Muktagacha. There is electricity in majority of the project areas except some very rural areas.

### **2.7.5.2 Government Support Services:**

The Department of Agriculture Extension (DAE) is the frontier department of the Ministry of Agriculture which provides extension services to the farmers. This has large country wide network and operational staff to provide extension services to the farmers. Government provides support to farmers in Training and Visit (T&V) format. The system envisioned a rise in agriculture production through continuous dissemination of extension messages. It gave emphasis on improving farm and agriculture management practices, better land preparation, improved seed bed and nursery maintenance, use of good and quality seeds, need and use for seed treatment, timely field operation, proper space of plants, etc. The T & V system followed top down approach in order to introduce modern variety to the farmers. However, the Government support system has human resource limitation and one of the solutions which the Government agencies tried to adopt was to train an ideal farmer, these are farmers who come from elite class of the rural Bangladesh. These well off farmers could not or reluctant to effectively transfer knowledge to the poor and marginal farmers.

Scope for upgradation: Retailers can be provided with training so that they provide the correct information to farmers. The retailers could be educated on the seeds and linked with companies which markets original seeds, this initiative will ensure that farmers have a constant supply of high quality seeds which in turn will improve productivity for farmers.

Also farmers were considered homogenous, as a result the need of the poor and marginal farmers is often overlooked. The linkages between research and development is not established properly. It takes long time to reach an innovation from research institution to the farmers at the field.

Scope for upgradation: One of the primary constraints of the Sub-Assistant Agriculture Officer (SAAO) is time. There could be interventions where producer groups can have group meetings with SAAO to discuss their problems and since the producers will be operating in groups their problems and challenges would be homogenous in nature.

Department of Youth Development (DYD): The Department of Youth Development (DYD) aims to increase the active participation of the youth in National Development. They provide a range of services in Bangladesh in order to involve the youth in the mainstream national development process which includes: providing skill development institutional and non-institutional training, extension of micro-credit services, organization of self-employment projects, establishment of youth organizations and provision of grants to youth organization.

Amongst the department's wide range of institutional and non-institutional training, DYD provides some which are relevant to cattle fattening. The relevant training courses for the unemployed youth include:

(i) Livestock, Poultry rearing, Fishery and Agriculture program: This is a residential training program with a duration of 2.5 months, and has an admission fee of Tk. 100.

Department of Youth Development provides financing to youngsters who have developed a project after obtaining training from DYD. A

trainee is eligible for credit if he/she has a viable project, the slabs for getting credit are as follow:

	First Disbursement	Second Disbursement	Third Disbursement	Interest	Duration
Formal Training	BDT 60,000	BDT 80,000	BDT 100,000	5% per annum	24 months with a grace period of three months
Informal Training	BDT 40,000	BDT 50,000	BDT 75,000		

### 2.7.5.3 Access to Finance

**Credit Union:** In certain APs producers have a credit union of their own where they save money and borrow money from the group. The amount of savings by farmers differ from group to group and the range is usually between BDT 10-50. Since these are groups by farmers, therefore the terms and conditions are quite liberal. The interest rate charged by the farmers are on average around 10% and they take monthly instalments but in some cases they also align the date of repayment with cash inflow of farmers from the sales of crop.

**Micro Credit organisation:** Microcredit organizations are actively working in these regions such as BRAC, ASA, TMSS, BRAC, Grameen Bank and RDRS. To avail any service from these MFIs, one needs to become a member of the institute. These MFIs usually have a branch office and several centres/groups under each branch office. The first loan limit for new members is usually around BDT 5,000 to 10,000 for almost all the MFIs which is increased

every year with the repayment of the previous loan. The payback period usually is 1 year with 44 instalments (weekly payment). The interest charged by the MFIs range from 20-26.5% per annum. It has been observed that many of the beneficiaries have been observed who availed micro credit however they are not using the money for vegetable cultivation.

**Banks:** Banks active in the project area are primarily state-owned commercial banks such as Sonali bank and Agrani bank. The non-state owned commercial banks are established at the upazila level. Some of the major banks are BRAC Bank, Ansar VDP Bank, Islami Bank and Farmers Bank. To take out an SME loan from these banks, the borrower must have an already established business of two to three years. To avail the loan, the borrowers must submit trade license, Tax Identification Number, Environmental, sanitary and fire-fighting certificate picture of the store front, list of inventories. However, none of the vegetable farmers have been observed availing these products.

### 2.7.6 SWOT Analysis

Table 33: SWOT Analysis of Vegetable Farming

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>▪ Almost all households farm few decimals for vegetable</li> <li>▪ There is a strong interest among the beneficiaries to improve their farming technique and add value to their products.</li> </ul>	<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>▪ With the increasing population, the demand for vegetable is ever increasing</li> <li>▪ There is scope for value addition in terms of grading and sorting</li> <li>▪ Significant scope for women and youth involvement</li> </ul>
<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>▪ Farmers are not aware of modern farming practices</li> <li>▪ Reliance on traditional farming and seed restoration process decreases the profitability</li> <li>▪ Low access to information channels</li> <li>▪ Lack of access to formal market</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>▪ Climate is a challenge, in some AP unfavourable weather has reduced production affecting farmers economically</li> <li>▪ Low quality input often reduces the production and income of the farmers.</li> </ul>

## 2.7.7 Constraints Analysis

Table 34 Constraints Analysis of Vegetable

	Actors	Functions	Constraints	Root Cause	APs where the constraint was observed
Core Function	Agro input suppliers	Providing seed, fertilizer and pesticide supply to farmers	No marketing or training of agro-input suppliers who can advise farmers on how to identify quality seeds and other inputs. Also agro-input suppliers can guide farmers on usage and application of pesticide and fertilizer.	Smallholder farmers are not targeted as potential customers by the Input companies.	All the Aps for vegetable
	Smallholder Farmers	Production of Vegetable	Preference for indigenous farming technique over high yielding modern farming techniques	Farmers are not aware of the benefits of modern farming techniques.	All the Aps for vegetable
			Farmers have limited idea on how to identify quality seeds and input	Farmers lack access to quality seeds and often use over dose of agro inputs.	All the Aps for vegetable
			Farmers do not have access to market	Smallholder farmers do not have the financial capacity to take their products to a distant market and thus often get less price for their produce. Farmers often face a syndicate and encounter problems in selling their products. Farmers are not motivated to sell their produce as a group and therefore they cannot leverage economies of scale.	All the Aps for vegetable
			Farmers have limited idea about packaging, grading and sorting.	Farmers never received any training on grading and sorting and thus they fail to charge premium	All the Aps for vegetable
	Marketing Actors	Selling the produce	Information asymmetry about the volume of crops they can buy. Sudden increase and demand in supply of products often cause price to fluctuate.	Buyers never have a forecast of the amount of products which they will find at the market.	All the Aps for vegetable
Support Functions	Public services	Providing information and implementation of different activities	The public extension service is not enough	Lack of manpower and budget of government agencies hampers the information dissemination	All the Aps for vegetable
	Infrastructure	Roads and communication for transportation	None		

Enabling Environment	NGO	Providing micro finance	Smallholder farmers do not utilize micro finance for cultivation	The product offering (duration, interest rate and repayments schedule) of the NGOs is not suitable for smallholder farmers NGOs do not target the smallholder farmers as prospective clients	All the Aps for vegetable
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## 2.7.8 Recommendations

The opportunities for working on these constraints can be analysed to develop intervention plans that can be used as the basis to plan project activities:

Table 35: Intervention Plans for Vegetable

Constraint	Intervention	Areas (Suitable APs)	Output	Outcome	Impact
No training service provision on packaging, grading and sorting of vegetables has been observed for the smallholder farmers.  Preference for indigenous farming technique rather than usage of modern technology.	Facilitate Linkage between DAE/DYD/Demand Aggregator for super shops and smallholder farmers	All Aps	Provide training on quality specifications sought by buyers.	Farmers are aware how to cultivate to charge premium	Smallholder farmers enjoy premium price.
Farmers sell their product individually	Promotion of commercial cultivation by forming groups.	ALL Aps	Farmers decide which crops to cultivate, buy inputs in bulk and sell in bulk. Thus they can leverage economies of scale.	Farmers save cost and get better price, thus overall profitability of farmer increases.	Smallholder farmers enjoy lower cost of production, premium price and increased income
No collection point for farmers	Promotion & establishment of collection point	All Aps	Farmers are aware and knowledgeable about quality, price and volume demanded by buyer	Farmers get better price	Smallholder farmers enjoy lower cost of production, premium price and increased income
Farmers often select poor quality inputs example seeds	Promotion of good quality seeds specific to crops identified in the AP.	All Aps	Farmers will use good quality inputs	Farmers productivity improves and thus generates more revenue	Smallholder farmers enjoy lower cost of production, premium price and increased income
Smallholders vegetable farmers do not utilize micro finance for vegetable production	Development and promotion of specific micro finance product for small holder farmers	All Aps	MFIs develop and promote specific micro credit programs for smallholder vegetable farmers	Farmers utilize the microfinance products	Farmers have access to finance

## 2.7.9 Intervention details

**Intervention 1: Facilitate group formation of farmers**

**Potential Partners: DAE, DYD**

**Intervention Details:**

WVB can organize farmers group with help from DAE and DYD and train groups to develop expertise in identifying quality seeds, fertilizer and pesticides. Additionally, farmers will decide in groups which crops and what in what quantity they should grow. This intervention will improve bargaining power of farmers and will ensure farmers are getting correct price for their crops.

**Intervention 2: Facilitate linkage between input companies and small holder farmers**

**Potential Partners: Syngenta, Bayer, Lal Teer, ACI**

**Intervention Details:**

WVB can partner with leading input providers such as Syngenta, Bayer, Lal Teer, ACI. These companies can promote their products to the beneficiaries of WVB and provide a range of embedded services such as training provision. These trainings can focus on benefits of using better quality inputs, the right usage of inputs and modern cultivation techniques. WVB can also partner with local input companies however as these companies often do not adhere to strict quality control compared to

national companies thus WVB needs to be cautious in enagaging with such local level companies.

**Intervention 3: Facilitate linkage with forward buyers**

**Potential Partners: Agora, Swapno, MeenaBazaar**

To ensure proper price of the farmer's crops of the beneficiaries, WVB can partner with forward buyers to ensure market access of the vegetables. One of the key constraints in linking smallholder farmers with the forward buyers is the limited amount of vegetable production by individual farmers. WVB can form producer groups and link the farmer groups with the forward buyer. The superstores or their demand aggregators can also train the farmers on proper cultivation techniques.

**Intervention 4: Development and promotion of specific micro finance product for vegetable farmers**

**Potential Partners: BRAC, ASA, TMSS, FIVDB**  
WVB can partner with microfinance institutions to develop and promote specific micro finance products. The terms and conditions of the micro finance products (high interest rate, repayment terms) are not suitable for the ultra-poor beneficiaries of WVB. Thus WVB can develop specific micro-finance products which will suit the need of their beneficiaries and promote such products to their beneficiaries.

## Chapter 2.8: Assessment of Carp Fish Value Chain

### 2.8.1 Overview of Carp Fish Value Chain

A huge proportion of the Bangladeshi population is either directly or indirectly involved with the production of fish, as it has the third largest and most suitable aquatic biodiversity in Asia, following China and India.<sup>20</sup> Total production of fish was around 3.9 million MT in 2015-16, out of which 27.03 percent is contributed by capture or fishing and 56.82 percent of the total production consists of culture.<sup>21</sup> Moreover, Bangladesh has been ranked as the fifth largest aquaculture producing country in the world, with an average growth rate of 5.4 percent in fisheries production, according to FAO.<sup>22</sup> Inland cultures include ponds, seasonal cultured water bodies, baor, shrimp/prawn farms, crabs, pen culture and cage culture. In 2015-16, around 44.34 percent of the total fish production (aquaculture) was from ponds, whereas 5.35 percent was from seasonal cultured water bodies.

There are around 260 freshwater, 475 marine fish species in Bangladesh and 12 exotic species currently being cultured in Bangladesh.<sup>23</sup> Aquaculture can be classified into two types: freshwater aquaculture and coastal aquaculture. Coastal aquaculture mainly comprises of prawn and shrimp cultivation, whereas, freshwater aquaculture consists of poly culture of different carp and indigenous species usually in ponds. Indigenous freshwater carps and exotic carps contribute the largest proportion of total fish production, as carp cultivation is comparatively more efficient and profitable.<sup>24</sup> Moreover,

numbers of high yielding varieties such as Tilapia, Koi, Pangus is being cultured currently in Bangladesh. The production of aquaculture depends on the method of culture used. Poly culture systems have been found to yield higher revenue margins compared to monoculture systems. A large number of fish farmers in Bangladesh have been found to cultivate high yielding varieties of fish along with carp fish under a poly culture system. Carp species mainly include silver carp, Indian major carp and grass carp. Some farmers also harvest several times per year.

The carp fish value chain assessment has been conducted in Rampal area of Bagerhat district. Rampal is prominent for culture of shrimp and prawn as aquaculture among the farmers. The shrimp and prawn is cultured in salinity prone large Gher (modified rice field) by large farmers mainly. Relatively small and low salinity prone ponds (including backyard household ponds) in the area are suitable for cultivation of carp fish. Medium and small farmers in the area are heading towards cultivation of carp fish gradually since prawn and shrimp culture has high risk of disease outbreak. Since WVB targets poor and ultra-poor as the beneficiaries, the study assessed fish culture in smallholding backyard household pond by smallholder farmers. The study revealed that small farmers with backyard household ponds have the opportunity to avail significant return by cultivating carp, catfish, Tilapia mixed culture. Although smallholder farmers are already cultivating carp fish in the household ponds, however, the inappropriate culture method is not providing with expected return.

<sup>20</sup> Shamsuzzaman, M., Islam, M., Tania, N., Abdullah Al-Mamun, M., Barman, P. and Xu, X. 2017. *Fisheries resources of Bangladesh: Present status and future direction*. Available at:

<https://www.sciencedirect.com/science/article/pii/S2468550X16300260>

<sup>21</sup> <http://document.bdfish.org/2017/07/yearbook-of-fisheries-statistics-of-bangladesh-2015-2016-volume-33-april-2017/>

<sup>22</sup>

<http://www.fao.org/fileadmin/templates/ess/documen>

[ts/apcas26/presentations/APCAS-16-6.3.2 -  
\\_Bangladesh -  
\\_Fisheries\\_Statistics\\_in\\_Bangladesh.pdf](ts/apcas26/presentations/APCAS-16-6.3.2_-_Bangladesh_-_Fisheries_Statistics_in_Bangladesh.pdf)

<sup>23</sup> <http://www.fisheries.gov.bd/site/page/43ce3767-3981-4248-99bd-d321b6e3a7e5/%E0%A6%AA%E0%A6%9F%E0%A6%AD%E0%A7%82%E0%A6%AE%E0%A6%BF>

<sup>24</sup>

[http://www.fao.org/fishery/countrysector/naso\\_bangladesh/en](http://www.fao.org/fishery/countrysector/naso_bangladesh/en)

Region	Name of AP
Southern Bangladesh Region	Rampal

## 2.8.2 End Market Analysis

### 2.8.2.1 Main Market, Buyers & Competition

Smallholder fish farmers sell produced fish in three ways: firstly, sells fish to the local Farias (small traders) which collects fish from farm gate; secondly, direct sell to the local Arot (Large wholesale traders); and thirdly, direct sell in the local markets by farmers themselves. In majority of the cases smallholder farmers sell the produced fish to the Farias who comes to the farm gate, arranges transportation and purchase the fish. Farias then sell the fish in to the nearby local Arot. Some of the farmers, who have comparatively larger production carries the produce fish to the nearby Arot and sell the fish in bulk. Prominent Arot in the studied region are found in Foyla Bazar, Gilatola Bazar, Barakpur Bazar of Bagerhat district. Arot trades fish in auction and the trade takes in cash. Very few of the smallholder fish farmers, who have relatively smaller production, sell fish directly to the local markets by themselves. Selling in local markets result in higher price compared to the other two forms of selling. However, fish farmers stated that first two types of selling keep farmers neutral on profitability (since carrying fish to Arot requires transportation cost) unless the price offered by the two types of traders vary significantly. The third selling

option requires farmer's substantial time and opportunity cost.

National fish Paikars coming from district and urban markets purchase the fish from Arot and transport to district level and national urban markets including Dhaka, Khulna, and Barisal etc. Local retailers also purchase fish from the Arot and retail in the local market. Some of the Faria also act like a retailer in the local markets. The interview with Arot and Farias reveal that majority portion of the fish produced in the region goes to the national market (about 70%) whereas; smaller portion (about 30%) of the fish goes to the local rural market through the retailers.

No significant competition among forward market has been observed in the AP.

Scope for Up-gradation: The linkage between forward market and smallholder farmers is absent; which is established with large farmers. The reason behind is small production and isolated selling behavior by the smallholder farmers. However, the linkage could be established with smallholder fish farmer's group so that group members can avail the opportunity of bulk selling, bargain power and avail access to high price market.

## 2.8.3 Description of Value Chain

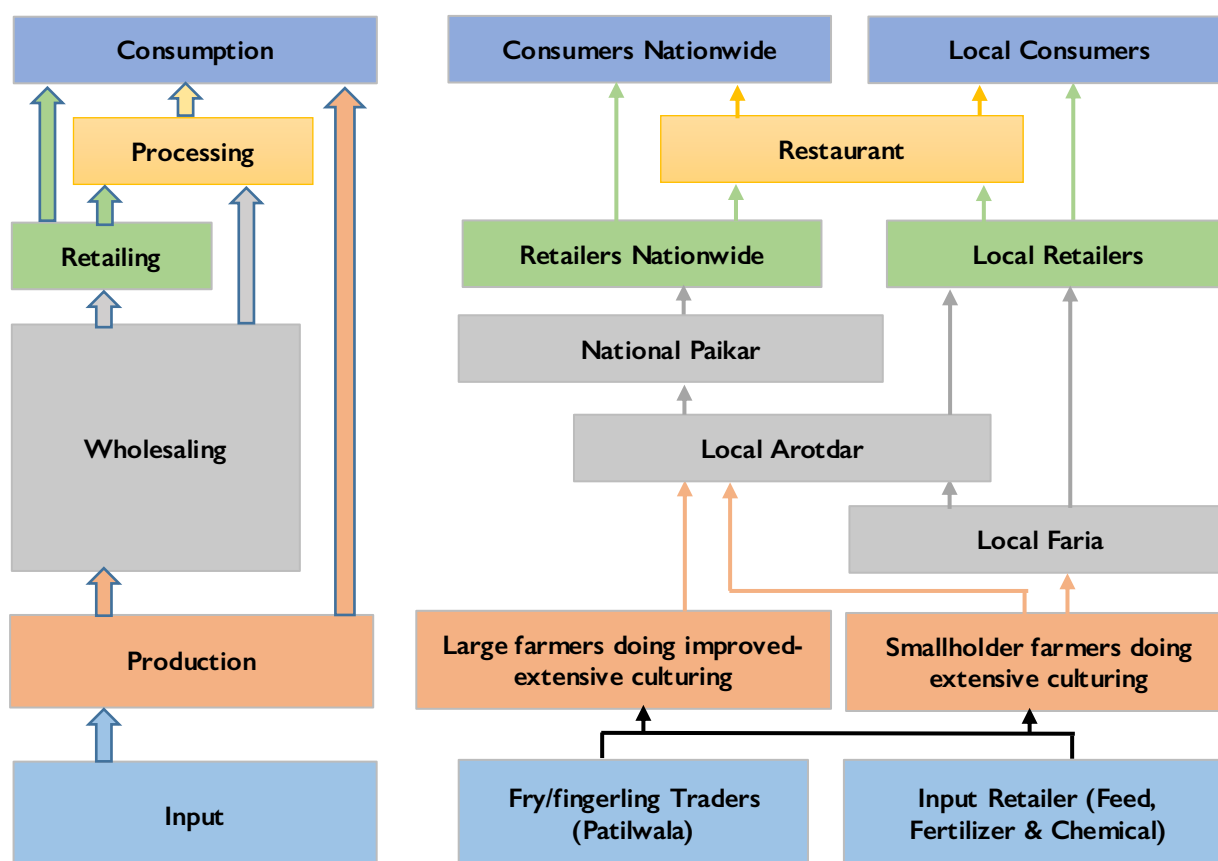


Figure 9: Carp Fish Value Chain

## 2.8.4 Performance of the Value Chains and Scope for Upgrading

### 2.8.4.1 Input

**Fry/Fingerling Traders:** Fish fry and fingerling traders are the mobile fingerling sellers who roam around village to village with fish fry/fingerling in portable vessels. These traders are locally known as Patilwala. Fry/fingerling traders supply carp fish fingerling (Ruhi, Katla, Mrigel, Silver carp, Grass carp etc.), catfish fingerling (Pangus fingerling), Tilapia fry to the smallholder farmers. These traders purchase the carp and catfish fingerling, from nurseries located in different Upazillas of Jessore district (Fultola, Lakhati), Khulna district (Daulatpur), Bagerhat district (Katakhali). Fish fry sellers sell Carp fish fingerling BDT 170/Kg (10-15 fingerling/Kg) and Tilapia fry for BDT 150/Kg (3,000-4,000 fry/Kg) and Pangus fingerling for BDT 3/piece. Generally, the fry is sold in cash.

The carp and catfish fingerlings sold by traders do not possess the required quality; thus lowers the yield in production. According to the Department of Fisheries the reasons behind this lower yield are: firstly, the fingerlings are breed from undersized fish which causes the fingerling to have sub-optimal growth and size. Secondly the fingerlings possess inbreeding problems and cross-breed (cross with other species) problem.

Fish fry/fingerling traders also sell sub-optimal quality of Tilapia fry to the fish farmers. These Tilapia fry is purchased from large Tilapia farmers (usually in *Gher*). Basically, these are not mono-sex Tilapia which lowers the productivity of fish culture. Moreover, we found that, the fry they carry in portable vessels cause death of fry during the transportation and after stocking in

the pond. The reasons are the traders do not use Oxygen bag (which is a recommended at least for Tilapia fry transportation) for long distance transportation. The large farmers selling fry do not provide with Oxygen bag. Moreover, the traders and the farmers do not have the knowledge about water temperature conditioning during stocking of fry/fingerling.

#### Scope for Upgrading:

**Linkage with Hatcheries:** The fish fry/fingerling traders should be facilitated in developing linkage with quality mono-sex Tilapia hatcheries. Hatcheries provide with Oxygen bag for transporting fry as embedded service which would lower mortality caused by transportation. They should collect carp and catfish fingerling from the hatcheries or nurseries those supply quality fry/fingerling. Hatcheries should be facilitated on developing fry/fingerling traders' knowledge about transportation, stocking and appropriate culture method so that this information can be transferred to the fish farmers.

**Input Retailers:** There are numerous feed and other input (medicine) sellers selling a range of products. These are the retailers selling feed and medicine for cattle and fish. Apart from ready feed, these retailers also sell bran, oil cake etc. Some of the input companies selling feed supplement and medicine in the studied region are Eskayef, ACI, Eon CP, Quality feed etc. These feed and medicine retailers are found in large markets named Foyla and Gilatola; are found also in road-side local small markets in Rampal. However, only large farmers culturing prawn and shrimp in the "Gher (modified rice fields used for culturing shrimp-prawn)" are the main customers of feed and medicine from these retailers. Smallholder farmers culturing fish in backyard pocket pond in extensive culture system are not targeted as customers for feed or any medicine.

**Scope for Upgrading:** Retailers led by fish-feed and medicine marketing companies should promote feed and medicine among the smallholder farmers. Smallholder farmers should be upgraded in advanced-extensive culture method doing green pond culture

producing natural food (providing fertilizer) and small amount of hand-made food. This facilitation of promotion and targeting smallholder fish farmers would build the linkage between smallholder fish farmers and input suppliers. Pulling off fish farmers from extensive to advanced-extensive culture method would create demand of feed and aqua chemical for the input suppliers. This would create business incentive for input suppliers which is not currently recognized by them.

#### 2.8.4.3 Production:

**Smallholder Farmers doing Extensive Culture:** The smallholder fish farmers are culturing carp, tilapia and catfish in extensive culture methods. These farmers generally culture fish in backyard household ponds, size of which ranges from 10 to 50 decimal. The smallholder farmers culture with a stocking of 20 Kg to 30 Kg carp fish fingerling (100-250 gram each fingerling), 1,000 pieces of Pangus fry and 20 Kg of Tilapia fry (3,000-4,000 fry/Kg) in an acre. Very few of the farmers who have relatively large pond (1 acre or more) do the mix-culture of prawn and carp with stocking density of 2,000 pieces of prawn fry.

However, the culture practices smallholder farmer is doing is not appropriate since they do not follow the methods recommended by DOF, which results in very low yield and return. These smallholder farmers do not do pond preparation before stocking fish. This deteriorates water quality and increases chances for disease outbreak. In the field investigation we found that majority of the backyard household ponds have large trees on the bank of the pond. This refrains sun-light to reach into the water and produce natural food. They do not remove predatory and unwanted fish, dry out the pond and re-excavate. They do not do the Liming in pond to neutralize acidity of the pond. They hardly spend in feeding the fish. They do not use any commercial feed rather, provide with homemade rice bran (byproduct of rice husking), cow dung and left-over of human food which do not provide with the required nutrition for the growth of fish. Moreover,

providing cow dung and poultry litter in the pond is prohibited by DOF since this contains Nitrofurans which is harmful for human body. They do not maintain the appropriate stocking density recommended by the DOF. For example, experts suggest stocking 100 to 150 of Tilapia fry per decimal which smallholder farmers in the studied area do not maintain.

With such mediocre culture practices, farmers are not getting high yield in fish farming rather are happy with whatever yield the pond gives (since the investment is low). The culturing practice can best be termed as “low investment -low return” culture practice. The below analysis shows the cost-benefit of fish culture currently practiced-

Table 36: Cost Benefit of Carp Fish

Production cost	Cost head		Amount (BDT/ Acre)
	Lease cost		30,000
	Type of Inputs & Cost	Tilapia (20 Kg)	3,000
		Rui,katla,mreegel, Paisa (30 kg)	5,100
		Pangash (1000 Pcs)	3,000
	Labor Cost		-
	Harvest Cost		3,000
	Transport Cost		1,000
	Total Cost		45,100
Sales of production	Total sales volume (KG)		400
	Average sales price (per Unit)		130
	Total sales (BDT/Year)		52,000
Profit (BDT)			6,900
Return on investment (%/Year)			15%

**Scope for Upgrading:** The scope for upgrading in the smallholder fish farmers are described below-

- Farmers should prepare pond before stocking fish. They should re-excavate pond, repair embankments, remove long trees, remove predatory and unwanted fish and do the Liming.
- Farmers should culture following “Green Pond” technology where the culture depends on naturally produced food by providing fertilizer (Urea, TSP every twice in a month). Cow-dung and poultry liter should not be used.
- Along with the green pond technology, farmers should provide with hand-made feed from rice bran, oil cake, at least once in a day (twice in a day is better).
- Farmers should maintain appropriate stocking density recommended by DOF/lead and advanced farmers/input

companies. Usually culturing green pond technology should have stocking density of 80-100 Tilapia, 5-10 carp fish, 5-10 catfish in every decimal.

- Farmers should culture mono-sex Tilapia for 4 months in a cycle. Two-three numbers of cycle in a year could be cultured depending on the water retention capacity of pond. Red-Tilapia is appropriate for high salinity prone water (20-25 PPT- Parts Per Thousands). Farmers should collect carp fingerling from trusted source which are free of inbreeding or crossbreeding problems. In this regard, farmers should be linked with hatcheries where hatcheries will provide with the quality fry, appropriate transportation (Oxygen bag) etc.

- Farmers should form smallholder farmers group and develop one or two farming pond within the group as nursery pond. Farmers would collect quality fry and do the nursing of their own. Nursing would ensure that the capacity of culture pond is fully utilized.

**Large Fish Farmers Doing Semi-Intensive Culture:** The large fish farmers are farmers culturing shrimp, prawn and carp fish in larger pond “Gher” in more than 1 acre of land. These farmers can be further divided in to two types. First type of large farmers is farming shrimp-carp or prawn-carp fish mixed culture in relatively low salinity prone ponds size of which ranges from 1 acre to 5 acres. The second type of farmers are farming shrimp and prawn in relatively high salinity prone Gher. Sizes of the Gher range from 5 acres to 20 acres. These farmers culturing shrimp targeting mainly export market. Both of these farmers are usually well off and culture in advanced-extensive and in few of the cases semi-intensive method. As the project target beneficiaries are poor and ultra-poor, we have excluded these farmers from our investigation.

## 2.8.5 Assessment of the regulatory environment and support services:

### 2.8.5.1 Infrastructure:

The project area is reasonably well connected to other major cities and areas through roads, highways and waterways. Many of the areas near the Sundarbans can only be reached by boats or motorcycles. This causes a major issue with ensuring proper transportation of both inputs and produces to and from the project regions.

It can be noted here that shallow-engine transportations like vans and human-haulers are very common in these areas, where there are mud paths available. Motorcycles and bicycles are also regular forms of transportation used in these regions. Boats and trawlers are the only means of transport in some areas, and are availed for both transporting people and also different kinds of goods and fresh produce.

### 2.8.5.2 Public Services:

- Department of Fisheries (DoF) under the Ministry of Fisheries and Livestock (MoFL): DoF is divided into two sub-departments – inland and marine. Its functions are both regulatory and development oriented, and is responsible for the overall fisheries and aquaculture development, management and conservation. DoF s responsibilities mainly include; 1) planning, 2) preparation of schemes and the coordination of national policy in respect of fisheries, 3) conservation, 4) development and management of fisheries resources/fish farms, 4) extension and training, 5) collection of information.

DoF s activities are supported by:

- Bangladesh Fisheries Development Corporation (BFDC), which supports the activities of DoF in development of the overall fishing industry. Its functions include extension of fishing units, preservation, processing, distribution and marketing of fish products.
- Bangladesh Fisheries Research Institute (BFRI), which conducts and coordinates fisheries research and also provides training.
- Department of Youth Development (DYD): The Department of Youth Development (DYD) aims to increase the active participation of the youth in National Development. They provide a range of services in Bangladesh in order to involve the youth in the mainstream national development process which includes: providing skill development institutional and non-institutional training, extension of micro-credit services, organization of self-employment projects, establishment of



youth organizations and provision of grants to youth organization.

- **Ministry of Women and Children Affairs:** The main objective of the Ministry of Women and Children Affairs is to create equal opportunity of women in economic and activity, eliminate violence against women and children and empower them. The range of services provided by the ministry include: providing technical and vocational training to women, providing day care services for children of working women, providing allowances and grants with a view to alleviating poverty of women and children and extending micro credit services for underprivileged women to promote self-employment.

#### 2.8.5.3 Health, Labor Rights and Environmental Safety Issues:

- Over-usage of antibiotics by large farmers to prevent diseases has been observed in most areas. The residues of these antibiotics remain in the fish body, which causes adverse health impacts in human.
- The components of such antibiotics remain in the water and often transfer to the cultivable lands during floods, heavy rain or during regular change of water of the aquaculture ponds.
- Labor rights are not applicable for small scale fish culturing business, often run by members of the family.

#### 2.8.5.4 Financial Services:

- **Micro Credit organization:** Microcredit organizations are actively working in these regions such as BRAC, ASA, TMSS, BRAC, Grameen Bank and RDRS. To avail any service from these MFIs, one needs to become a member of the institute. These MFIs usually have a branch office and several

centers/groups under each branch office. The first loan limit for new members is usually around BDT 5,000 to 10,000 for almost all the MFIs which is increased every year with the repayment of the previous loan. The payback period usually is 1 year with 45 installments (weekly payment). The interest charged by the MFIs range from 20-26.5% per annum.

- **Banks:** Banks active in the project area are primarily state-owned commercial banks such as Sonali bank, Krishi bank and Janata bank etc. The non-state owned commercial banks are not established at the upazila level. One agent bank of Islami Bank Bangladesh Limited (IBBL) are established at the upazilla. To take out an SME loan from these public banks, the borrower must have an already established business of two to three years. To avail the loan, the borrowers must submit trade license, Tax Identification Number, Environmental, sanitary and fire-fighting certificate picture of the store front, list of inventories.
- International organizations (DFID, Danida, NORAD, JICA, World Bank, IMF, ADB etc.) also provide grants and credits for aquaculture development.
- Many of the national and international NGO's provides credits to the fish farmers and as well as takes up projects for aquaculture extension and development.
- Value chain financing/ suppliers credit is usually provided by the different value chain actors such as input retailers.

#### 2.8.5.5 Business Membership Organizations:

No Business membership organizations have been observed in the field.

## 2.8.6 SWOT Analysis

Table 37: SWOT Analysis of Carp Fish

<p style="text-align: center;"><b>Strengths</b></p> <ul style="list-style-type: none"> <li>▪ Backyard ponds available in majority of the households.</li> <li>▪ Household ponds can be prepared and managed for profitable fish culture.</li> <li>▪ Almost all beneficiaries do fish cultivation</li> <li>▪ Well establishment of backward and forward linkages with large scale farmers in the region.</li> </ul>	<p style="text-align: center;"><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>▪ Strong linkage has already been established between large farmers and the backward markets of inputs, feeds, aqua chemicals, etc. Small farmers group can easily establish the linkage.</li> <li>▪ Traders and forward market linkages are well established due to fish market being strong in these regions. Small farmers group can easily access to the linkage.</li> <li>▪ Salinity tolerant variety “Red Tilapia” can be introduced</li> <li>▪ With the increasing population, the demand for fish is ever increasing</li> <li>▪ Significant scope for women and youth involvement</li> </ul>
<p style="text-align: center;"><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Lack of knowledge about pond preparation, management and proper techniques for advance-extensive culture of fish in small ponds</li> <li>• Misperception about the viability of commercial fish culture in small ponds</li> <li>• Habit of growing fish without investing in fish culture (minimal feed, no medicine)</li> <li>• Habit of using poor quality inputs (fry, fingerling, and aqua chemical).</li> <li>• Backward market actors do not consider small scale farmers as potential client.</li> </ul>	<p style="text-align: center;"><b>Threats</b></p> <ul style="list-style-type: none"> <li>▪ Salinity and natural calamities can impact water conditions in ponds.</li> <li>▪ Limited access to finance for small producers</li> </ul>

## 2.8.7 Constraint Analysis

Table 38: Constraints Analysis - Carp Fish

	Actors	Functions	Constraints	Root Cause	APs where the constraint was observed
Core Function	Fry/Fingerling Sellers	Selling fish fry and fingerling	Fry/fingerling traders sell sub-optimal quality of fry and fingerling	Smallholder fish farmers are not aware about quality fry and fingerling	Rampal, APs
				Fry/fingerling traders do not have linkage with hatcheries/nurseries producing quality fry/fingerling	
			Fry and fingerling dies during and after these are stocked in the pond	Fry/fingerling sellers do not use appropriate transportation materials	
	Input Retailers	Selling feed and different inputs	No marketing or promotion service provision by the feed and other input sellers has been observed for the smallholder farmers.	Smallholder fish farmers are not targeted as potential customers by the input sellers	Rampal, APs
			Input retailers do not provide with information/advice to the farmers on proper fish culture methods	Input retailers lack the knowledge about proper fish culture methods	
	Smallholder fish Farmers	Culturing fish	Smallholder farmers do not demand quality fish fry, fingerling and other inputs	Farmers are not aware of the quality of fish fry and fingerling, prefer low price fry	Rampal, APs
			Smallholder farmers do not feed the fish properly, manage pond preparation, appropriate stocking density, water quality, disease control etc.	Farmers are not aware of the benefits of proper feeding and modern improved fish culture methods	
	Marketing Actors	Selling the fish	None		
Support Functions	Public services	Providing information and implementation of different activities	The public extension service is not enough, farmers are not getting information on modern culture practice	Lack of manpower and budget of government agencies hampers the information dissemination	Rampal, APs
			Farmers do not ask for and get information on modern culture method and disease management	The linkage between public services and the farmers is missing Linkage with advanced/lead farmer	
	Infrastructure	Roads and communication for transportation	None		
Enabling Environment	NGO/MFI	Providing micro finance	Smallholder fish farmers do not utilize micro finance for fish culture	The product offering (duration, interest rate and repayments schedule) of the MFIs is not suitable for smallholder fish farmers, Farmers require seasonal loan	Rampal, APs

MFIs do not target the smallholder fish farmers as prospective clients

## 2.8.8 Recommendations

The opportunities for working on these constraints can be analysed to develop intervention plans that can be used as the basis to plan project activities:

Table 39: Recommendation - Carp Fish

Constraint	Intervention	Areas (Suitable APs)	Output	Outcome	Impact
Fry/fingerling sellers sell sub-optimal quality of fry and fingerling	Facilitate linkage among hatcheries and fry/fingerling traders and promote quality fry and fingerling (embedded appropriate transportation of fry) to the smallholder fish farmers	Rampal, Kachua APs	fry/fingerling traders promote and supply quality fry and fingerling	Smallholder farmers farmer use quality fry and fingerling	Smallholder farmers enjoy lower mortality of fry/fingerling, increased growth and higher fish production
Smallholder farmers do not demand quality fish fry, fingerling and other inputs					
Fry and fingerling dies during and after these are stocked in the pond			Fry/fingerling traders are knowledgeable and use appropriate transportation of fry/fingerling	Smallholder farmers have lower mortality rate of fry and fingerling	
No marketing or promotion service provision by the feed and other input sellers has been observed for the smallholder farmers.	Facilitate linkage between feed/input companies (through input retailers) and smallholder fish farming groups and promote quality feed and inputs	Rampal, Kachua APs	input producer/ marketing companies and retailers promote feed and input among smallholder farmers	Smallholder farmers are having access to and using feed and input in fish culture	Farmers are getting higher return from fish culture resulted from use of feed, inputs, and appropriate information
Smallholder farmers do not do pond preparation, appropriate stocking density, water quality management, disease control, feed management etc.					
Input retailers do not provide with information/advice to the farmers on proper fish culture methods			Input retailers become knowledgeable and provide information on advanced fish culture	Smallholder farmers are getting and utilizing information on improved fish culture	
Smallholder farmers do not do pond preparation, appropriate stocking density, water quality management, disease control, feed management etc.	Facilitate formation of smallholder fish farmers group and linkage among smallholder fish farmers group with input	Rampal, Kachua APs	Input suppliers, output traders and public service providers have platform to establish linkage with smallholder	Smallholder farmers are getting access to information and input and using for improved aquaculture	Farmers are getting higher return from fish culture and shifts from “ low-input low-

Smallholder farmers do not demand quality fish fry, fingerling and other inputs	companies/retailers, Public service providers, output traders etc.		farmers and provide inputs and information		return' farming to advanced-extensive fish farming
Farmers do not ask for and get information on modern culture method and disease management from public service providers					
Smallholder fish farmers do not utilize micro finance for fish culture	Facilitate development and promotion of specific micro finance product for smallholder fish farmers	Rampal, Kachua APs	MFs develop and promote specific micro credit programs for smallholder fish farmers	Farmers utilize the microfinance products	Farmers have access to finance and can do improved fish culture

*Note: Though the value chain has been assessed in Rampal AP, recommendations are applicable for Kachua AP as well.*

## 2.8.9 Intervention Details

**Intervention 1:** Facilitate linkage among hatcheries and fry/fingerling traders and promote quality fry and fingerling (embedded appropriate transportation of fry) to the smallholder fish farmers

**Potential Partners:** Hatcheries producing and marketing quality mono sex Tilapia fry and quality carp fry

**Intervention Details:**

WVB can facilitate the linkage among fry/fingerling traders and hatcheries producing and marketing quality Tilapia and carp fry. There are numbers of hatcheries located in Avaynagar (Jessore), Fultola (Khulna) and Narail Sada which can be partnered by WVB. The partnership can ensure supply of quality fry with range of services such as training of fry/fingerling traders, demonstration of mono sex Tilapia culture among smallholder farmers etc. The hatcheries will also ensure safe transportation of fry and provides with Oxygen bag as embedded service.

**Intervention 2:** Facilitate linkage between feed/input producing/marketing companies (through input retailers) and smallholder fish farming groups and promote quality feed and inputs

**Potential Partners:** Eskayef, ACI, Uttara Feed, Quality Feed and their retail chain

**Intervention Details:**

WVB can facilitate the linkage between input companies and smallholder fish farmers by partnering with input producing and marketing companies. The partnership will result in promotion of feed, inputs among smallholder farmers. The linkage will ensure provision of information about advanced culture practice in backyard household ponds. Partnered input companies could conduct range of activities including training of input retailers, demonstration of advanced culture using feed and aqua chemical, training of smallholder

farmers on improved culture practices etc. These activities will establish the linkage with farmers which will result in use of feed and aqua chemical in smallholder farming. This will also ensure flow of information on improved culture method through retailers, marketing channel of company etc.

**Intervention 3:** Facilitate formation of smallholder fish farmers group and linkage among smallholder fish farmers group with Input companies/retailers, public service providers, output traders etc.

**Potential Partners:** Input suppliers in “Intervention 1”, Input companies in “Intervention 2”, Upazilla Fisheries Office (Department of Fisheries), Local Arot

**Intervention Details:**

WVB can facilitate formation of smallholder fish farming group and establish as a platform of entry for market actor and support function. Input companies, hatcheries and public sector support service providers should be partnered and facilitated on supply of inputs and information to the farmer's group. A range of activity could be done based on farmer's group: establishing demonstration, training of farmers, group purchase of inputs, group selling of output etc. These activities would ensure smallholder farmers with access to information and access to market.

**Intervention 4:** Facilitate development and promotion of specific micro finance product for smallholder fish farmers.

**Potential Partners:** BRAC, ASA, Grameen Bank

**Intervention Details:**

WVB can partner with microfinance institutions to develop and promote specific micro finance products. The terms and conditions of the micro finance products (high interest rate, repayment terms) are not suitable for the ultra-poor beneficiaries of WVB. Thus WVB can develop specific micro-finance products which will suit the need of their beneficiaries and promote such products to their beneficiaries.

## Chapter 2.9: Assessment of Fruits Value Chain

### 2.9.1 Overview of Fruits Value Chain

The demand for fruits in Bangladesh is and the world is changing rapidly. Driven by economic growth, rising incomes and urbanization, demand is shifting away from traditional staples toward high-value fruit commodities. Malnutrition is a widespread phenomenon in Bangladesh, partly driven by people's imbalanced diets. Indeed, the per capita consumption of fruits and vegetables barely reaches half of the recommended minimum requirement of 400g per day. As a result, only about 2 percent of dietary energy comes from fruits and vegetables, compared to 78 percent stemming from cereals (FAO, 2016<sup>25</sup>).

Low level of consumption of horticulture products can be linked to inefficiencies in the value chain that are driving up the retail prices of these fruits and vegetables by manifold of farm prices. Among the main obstacles for

better performance are food losses, market distortions through intermediaries, and the absence of modern market infrastructure.

Insufficient processing capacity, the lack of cold storage facilities or a functioning cold chain, and the persistence of transport bottlenecks are significant constraints to reduce postharvest losses and adding value to selected fruits in Bangladesh. Some of the fruits of Bangladesh have limited processing potential to value addition but most of the fruits have processing or value addition opportunity.

Recently, a number of agro-processing industry have embarked on processing Bangladeshi fruits into various forms for marketing at home and to some extent to export. Most of the farmers do not have adequate knowledge on postharvest matter, value addition as well as processing facilities. In our assessment we have come across fruits in two locations: Banana in Bandarban AP and Pineapple in Jolchotro AP.

APs analysed under regional areas for fruits cultivation are:

Region	AP
GMR	Jolchotro
CER	Bandarban

### 2.9.2 End Market Analysis

#### 2.9.2.1 Market Intermediaries: Main Market, Buyers & Competition

Fruits and vegetables are produced seasonally, but the market requires products throughout the year. To solve this problem, market at present follows the following trend:

- Selling fresh products during harvest and shortly thereafter
- Processing the rest to meet demand during the rest of the year

Paikar s Paikar s visit small and marginal producers to buy their fruits. They usually negotiate with producers and aggregate products to take it to larger market. Paikar sare very few in number and they often have the capacity to form syndicate and fix price of fruits.

Beparis: Paikars usually sell their products to other retailers or to Beparis. Beparis buy from paikars at wholesale rate and carry produce on small pick up or trucks to upazila market where they sell their products to Aratdars. The Aratdar s sell products to local retailers who then make products available to consumers.

<sup>25</sup> COUNTRY FACT SHEET ON FOOD AND AGRICULTURE POLICY TRENDS. 2016. Food and Agriculture Organization (FAO) of the United

Nations. [online] Available at: <http://www.fao.org/3/a-i5890e.pdf>



## 2.9.3 Description of Value Chain

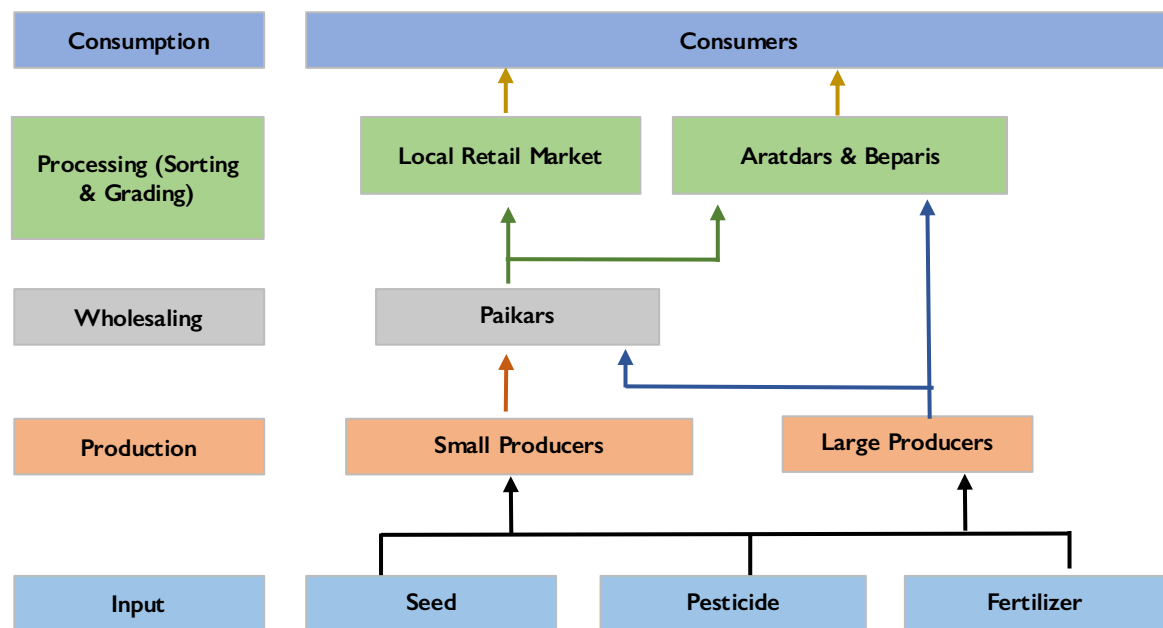


Figure 10: Fruits Value Chain

## 2.9.4 Performance and scope for upgrading:

### 2.9.4.1 Input Suppliers:

Input suppliers provide agro-chemical products, such as fertilizer and pesticide, to farmers. The percentage of retained seed usage for fruits is high in Bangladesh.

Inputs like seed, fertilizer, and pesticides have become quite accessible, there is a dealer or retailer available close to all the farmers. The government is taking an active role in making fertilizer more available in the regions, and at times DAE provides seeds to farmers through BADC.

Scope for Upgrading: Not Applicable.

reap the harvest, manage post-harvest, and sell the produce to local faria (small traders). Farmers usually keep a small portion of the produce for family consumption, and then sell the remainder for cash. Farmers share farming knowledge and sometimes exchange seeds.

### Scope for Upgradation:

**Training Service:** Farmers need training on advanced farming technique, most farmers have been found to lack training on usage of pesticide to protect fruits from various diseases. Farmers interviewed for the study never received any training on better farming and thus they are still following traditional farming techniques.

### 2.9.4.2 Farmers

**Farmer:** Farmers are the producer of the fruits, they usually retain seeds from last harvest and reuse it. Small and medium-holder farmers alike collect necessary inputs for production and are directly involved in production in field, along with family members and hired labourers. They

**Bandarban AP (Banana):** A large number of producer, even though interested to cultivate fruits are not doing so due to lack of seeds. Farmers face a problem of seed procurement, seeds are not readily available in the market and most farmers retain seeds from previous harvest. Farmers who have good seeds are

reluctant to share it with their peers. There could be a nursery or a hub from which farmers interested to cultivate fruits can buy seeds. Demand for fruits from Modhupur and Bandarban is high but due to lack of supply most faria/beparis are not being able to realize potential profit from the market.

Jolchotro (PineApple): Consumers prefer large, bright pineapples but naturally grown fruit is not so large or brightly coloured as its chemically-treated competitor. In field visit it was seen that farmers growing pineapples without chemical and hormone additives are facing mounting losses because demand for their product is proving to be weak. Madhupur pineapples of Tangail district is losing their original flavour because of the unrestricted use of growth hormones and chemicals. Many farmers spray growth boosting chemicals and hormones on pineapple flowers to produce large fruit and then apply hormones to immature fruit to early harvesting. The use of artificial agents may give more acceptable colour than naturally ripened

fruits but it increases the risk of contamination of food materials.

#### Issues observed:

- To attract the consumers, farmers/whole sellers use unauthorized hormone to get bigger size pineapple round the year
- Growers use carbide for ripening pineapple without recommended dose and formalin for preservation
- Damage of a large amount of pineapple every year due to lack of storage and transportation facilities
- The growers compelled to sell the pineapple at a low price in peak season due to lack of proper marketing facilities
- Prevalent constraints to pineapple production are shortage of high quality planting materials
- Lack of access to credit facilities.

Table 40: Cost Benefit Analysis of different fruits Farming

Production cost	Banana/ Bigha		Pineapple/ Bigha		Note
	Cost head	Amount BDT	Amount BDT		
	Lease cost		12000	4000	Farmers usually take field as lease.
	Land Preparation + Organic fertilizer + Fertilizer		7000	2000	The smallholder farmers usually use some organic fertilizer to prepare land
	Type of Inputs & Cost	Seed	2500	7500	In most cases farmers try to use recurring seed.
		Chemical Fertilizer	2000	2000	.
		Fertilizer: Organic Fertilizer, TSP	N.A	1000	
		Water	1000		.
		Pesticide (2-3 Types)	200	1700	
	Labour Cost		1200	1600	The female member of the household usually work as labour
	Post-Harvest Processing (Grading & Sorting)			0	
	Transport Cost			1200	
	Others				
	Total costs		25,900	21,000	.
Sales of production	Total sales volume of vegetable (pc/bigha)		30000	2000	

	Average sales price (BDT/kg)	2.5	15	
	Total sales (BDT/Season)	75,000	30000	
Profit (BDT/Year)		49,100	9000	

### 2.9.4.3 Traders:

Small Traders (Faria/Paikar): Faria are small scale traders who purchase fruits from farmers: in case of banana farmers transport their produce to a nearby market (Balakanada Bazaar or Bandarban Bazaar) but in case of pineapple faria visit gardens to assess quality of fruits and buy directly from farmers. Faris play the role of demand aggregator and then sell in local markets or to local arathdar and large traders.

Faria mainly purchase goods from farmers individually and sometimes in bulk as a group. Faria usually share transportation costs with other Farias by jointly transporting their crops.

Local wholesaler: Local wholesaler purchases their product from the Farias as well as large farmers. Basically, they fix the price paid to the farmer.

Divisional wholesaler: Divisional wholesaler collects their product from local wholesalers. They deal with a large amount of fruits. Actually, they act like a divisional distributor. They sell their product to the regional wholesaler. They serve as a fixed commission agent. They also sell their product to the local retailer.

Retailer: Retailer is an end connector to market. They are directly linked to the consumer. They purchase their product from the wholesaler and sell to the consumer and make a market margin about 5% to 15%.

Intermediaries	Value Adding Activities
Activities between farmer and Paikar	Collecting fruits from small farmers
Activities between local wholesalers to divisional wholesaler	Intermediate holding Grading & Sorting Loading Truck
Activities between Divisional wholesalers to Regional wholesale market	Transportation
Activities between Regional wholesaler to retailer/supper shop	Intermediate holding Transportation
Activities between Retailers to customer	Holding stock at retail point Cleaning

Price is negotiated between the farmer and the paikar. Product and cost flow start from the farmer. The farmer is the ultimate producer of fruits. He invests his capital, land, and labour to produce fruits. So he added value and price in the fruits. The farmer passes his fruits to a local wholesaler at a cost; negotiate between him and the local wholesaler. Local wholesaler passes it to divisional wholesalers at a price higher than his cost. He takes margin from his exchange. The divisional wholesaler sells it to the regional wholesaler. The regional wholesaler passes it to the retailer and retailer sells it to the consumer. Due to the variation of time, cost, amount and

activities involve in the process, this price addition may be different.

#### Constraints:

- The more there are a number of intermediaries the more there is a number of non-value added activities which are of no use rather increases the price of the product. The huge numbers of intermediaries added the extra cost.
- Because the value or quality of fruits decrease rapidly once they are harvested and keep decaying when

being delivered, the revenue of the supplier depend on the condition of the product when they are received. A KII with an official of DAE revealed that at the producer end they often use chemicals to ripen the fruit before it ripens naturally. This increases shelf life of fruit but often distorts taste of the fruits. DAE is trying to reduce usage of harmful chemicals and they are promoting safe food.

**Competition:** No significant competition among the buyers have been observed in the APs. Rather the forward market actors have expressed that they often do not get their desired volume of products from the AP.

#### Scope for Up-gradation:

- **Market Linkage:** It has been observed in majority of the APs that the producer lack access to market. The producers are not linked with any institutional buyers and thus they do not receive a fair price for their crop especially in locations which are at a distance from large urban centres.
- **Processing units:** There is a scope for linkage with agro processing units. Mango, guava, tomato, banana, and litchi are the main processed fruits. Over the last decade, the fruit processing industry has been boosted by factors such as increased demand for convenient meals, health awareness and branding. However, there are some challenges as well e.g., KII with DAE revealed that more than 35% of the fruits and vegetables are wasted due to lack of processing and storage facilities. Large agro processing companies like PRAN, Square, ACME procure some fruits for pulp and juice production, however the companies mostly procure products through a third party agent who manages the supply of fruits through contract farming. Beneficiaries of World Vision are yet to connect with

any such demand aggregator for large companies.

#### Constraints:

- **Farmers are bound to sell to a local wholesaler/paikars syndicate:** As a reason of socioeconomic conditions of Bangladesh, most of the fruit market is located mainly in the towns and cities. Some farmers also expressed that there is a power play because of which even if they take their produce to the high value market they don't get the appropriate price because they often fail to meet the high quantity of product desired by Beparis.
- **Lack of access to quality seeds and fertilizer:** Agro-input sellers sell inputs from various companies but farmers and retailers have little idea about the quality of these agro-input products. Thus farmers often do not get desired output. Additionally, seeds used by most farmers are the ones they store on their own. Therefore, farmers who have good seeds is not willing to share the seed with other farmers and therefore there is lack of quality seeds.

**Scope for upgradation:** There should be training for producers on seed selection process, usage & dosage of agro inputs and also on modern farming techniques using agro machineries. Additional training on grading and sorting could be provided to help producers get better value of their produce. Training can be provided to farmers by forming groups. If farmers are organized in a group they can make decision on which seed to use, the quantity of agro inputs they will need and thus they can buy in bulk. Additionally, if farmers sell their products in bulk they will have more leverage on the price.

- **Collection Point:** Farias visit from garden to garden to procure fruit and therefore this creates an information asymmetry in terms of price, farmer with good negotiation skills get better price whereas farmers with poor negotiation skills get less price. Therefore, if there is a collection point

where farmers can auction their products then farmers will get better price. The KII with DAE officer

suggested that they will provide technical support to establish the collection point.

## 2.9.5 Assessment of the regulatory environment and support services

### 2.9.5.1 Infrastructure:

Majority of the project area are reasonably well connected. There is electricity in all the project areas where fruits have been assessed.

group meetings with SAAO to discuss their problems and since the producers will be operating in groups their problems and challenges would be homogenous in nature.

### 2.9.5.2 Government Support Services:

The Department of Agriculture Extension (DAE) is the frontier department of the Ministry of Agriculture which provides extension services to the farmers. This has large country wide network and operational staff to provide extension services to the farmers. Government provides support to farmers in Training and Visit (T&V) format. The system envisioned a rise in agriculture production through continuous dissemination of extension messages. It gave emphasis on improving farm and agriculture management practices, better land preparation, improved seed bed and nursery maintenance, use of good and quality seeds, need and use for seed treatment, timely field operation, proper space of plants, etc. The T & V system followed top down approach in order to introduce modern variety to the farmers. However, the Government support system has human resource limitation and one of the solutions which the Government agencies tried to adopt was to train an ideal farmer, these are farmers who come from elite class of the rural Bangladesh. These well of farmers could not or reluctant to effectively transfer knowledge to the poor and marginal farmers. Also farmers were considered homogenous; as a result the need of the poor and marginal farmers is often overlooked. The linkage between research and development is not established properly. It takes long time to reach an innovation from research institution to the farmers at the field.

Scope for upgradation: One of the primary constraints of the Sub-Assistant Agriculture Officer (SAAO) is time. There could be interventions where producer groups can have

### 2.9.5.3 Access to Finance

- **Credit Union:** In certain APs producers have a credit union of their own where they save money and borrow money from the group. The amount of savings by farmers differs from group to group and the range is usually between BDT 10-50. Since these are groups by farmers, therefore the terms and conditions are quite liberal. The interest rates charged by the farmers are on average around 10% and they take monthly instalments but in some cases they also align the date of repayment with cash inflow of farmers from the sales of crop.
- **Micro Credit organisation:** Microcredit organizations are actively working in these regions such as BRAC, ASA, TMSS, BRAC, Grameen Bank and RDRS. To avail any service from these MFIs, one needs to become a member of the institute. These MFIs usually have a branch office and several centres/groups under each branch office. The first loan limit for new members is usually around BDT 5,000 to 10,000 for almost all the MFIs which is increased every year with the repayment of the previous loan. The payback period usually is 1 year with 44 instalments (weekly payment). The interest charged by the MFIs range from 20-26.5% per annum. It has been observed that many of the beneficiaries have been observed who availed micro credit however they are not using the money for fruit farming.

- **Banks:** Banks active in the project area are primarily state-owned commercial banks such as Sonali bank and Agrani bank. The non-state owned commercial banks are established at the upazila level. Some of the major banks are BRAC Bank, Ansar VDP Bank, Islami Bank and Farmers Bank. To take out an SME loan from these banks, the borrower must have an already established business of two to three years. To avail the loan, the borrowers must submit trade license, Tax Identification Number, Environmental, sanitary and fire-fighting certificate picture of the store front, list of inventories. However, none of the farmers have been observed availing these products.

## 2.9.6 SWOT Analysis

Table 4I SWOT Analysis of fruit Farming

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Almost all households are involved in fruit production in some way or the other</li> <li>• There is a strong interest among the beneficiaries to improve their farming technique and add value to their products</li> </ul>	<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• With the increasing population, awareness about safe food and purchase power, demand for fruits is increasing</li> <li>• There is scope for value addition in terms of grading, sorting &amp; processing</li> </ul>
<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Farmers are not aware of modern farming practices</li> <li>• Reliance on traditional farming and seed restoration process decreases the profitability</li> <li>• Low access to information channels</li> <li>• Lack of access to formal market</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Climate is a challenge, in some AP unfavourable weather has reduced production affecting farmers economically</li> </ul>

## 29.7 Constraints Analysis

Table 42 Constraints Analysis of Vegetable

	Actors	Functions	Constraints	Root Cause	APs where the constraint was observed
Core Function	Agro input suppliers	Providing seed, fertilizer and pesticide supply to farmers	No marketing or training of agro-input suppliers who can advise farmers on how to identify quality seeds and other inputs. Also agro-input suppliers can guide farmers on usage and application of pesticide and fertilizer.	Smallholder farmers are not targeted as potential customers by the input companies.	All the Aps for vegetable
	Smallholder Farmers	Production of Vegetable	Preference for indigenous farming technique over high yielding modern farming techniques	Farmers are not aware of the benefits of modern farming techniques.	All the Aps for vegetable
			Farmers have limited idea on how to identify quality seeds and input	Farmers lack access to quality seeds and often use over dose of agro inputs.	All the Aps for vegetable
			Farmers do not have access to market	Smallholder farmers do not have the financial capacity to take their products to a distant market and thus often get less price for their produce. Farmers often face a syndicate and encounter problems in selling their products. Farmers are not motivated to sell their produce as a group and therefore they cannot leverage economies of scale.	All the Aps for vegetable
			Farmers have limited idea about packaging, grading and sorting.	Farmers never received any training on grading and sorting and thus they fail to charge premium	All the Aps for vegetable
	Marketing Actors	Selling the produce	Information asymmetry about the volume of crops they can buy. Sudden increase and demand in supply of products often cause price to fluctuate.	Buyers never have a forecast of the amount of products which they will find at the market.	All the Aps for vegetable
Support Functions	Public services	Providing information and implementation of different activities	The public extension service is not enough	Lack of manpower and budget of government agencies hampers the information dissemination	All the Aps for vegetable
	Infrastructure	Roads and communication for transportation	None		
Enabling Environment	NGO	Providing micro finance	Smallholder farmers do not utilize micro finance for cultivation	The product offering (duration, interest rate and repayments schedule) of the NGOs is not suitable for smallholder farmers	All the Aps for vegetable

NGOs do not target the smallholder farmers as prospective clients



## 2.9.8 Recommendations

The opportunities for working on these constraints can be analysed to develop intervention plans that can be used as the basis to plan project activities:

Table 43 Intervention Plans for Vegetable

Constraint	Intervention	Areas (Suitable APs)	Output	Outcome	Impact
No training service provision on packaging, grading and sorting of vegetables has been observed for the smallholder farmers. Preference for indigenous farming technique rather than usage of modern technology.	Facilitate Linkage between DAE/DYD/Demand Aggregator for super shops and smallholder farmers	All APs	Provide training on quality specifications sought by buyers.	Farmers are aware how to cultivate to charge premium	Smallholder farmers enjoy premium price.
Farmers sell their product individually	Promotion of commercial cultivation by forming groups.	ALL APs	Farmers decide which crops to cultivate, buy inputs in bulk and sell in bulk. Thus they can leverage economies of scale.	Farmers save cost and get better price, thus overall profitability of farmer increases.	Smallholder farmers enjoy lower cost of production, premium price and increased income
No collection point for farmers	Promotion & establishment of collection point	All APs	Farmers are aware and knowledgeable about quality, price and volume demanded by buyer	Farmers get better price	Smallholder farmers enjoy lower cost of production, premium price and increased income
Farmers often select poor quality inputs example seeds	Promotion of good quality seeds specific to crops identified in the AP.	All APs	Farmers will use good quality inputs	Farmers productivity improves and thus generates more revenue	Smallholder farmers enjoy lower cost of production, premium price and increased income
Smallholders vegetable farmers do not utilize micro finance for vegetable production	Development and promotion of specific micro finance product for small holder farmers	All APs	MFIs develop and promote specific micro credit programs for smallholder vegetable farmers	Farmers utilize the microfinance products	Farmers have access to finance

## 2.9.9 Intervention details

**Intervention 1: Facilitate group formation of farmers**

**Potential Partners:** DAE, DYD

**Intervention Details:**

WVB can organize farmers group with help from DAE and DYD and train groups to develop expertise in identifying quality seeds, fertilizer and pesticides. Additionally, farmers will decide in groups which crops and what in what quantity they should grow. This intervention will improve bargaining power of farmers and will ensure farmers are getting correct price for their crops.

**Intervention 2: Facilitate linkage between input companies and small holder farmers**

**Potential Partners:** Syngenta, Bayer, Lal Teer, ACI

**Intervention Details:**

WVB can partner with leading input providers such as Syngenta, Bayer, Lal Teer, ACI. These companies can promote their products to the beneficiaries of WVB and provide a range of embedded services such as training provision. These trainings can focus on benefits of using better quality inputs, the right usage of inputs and modern cultivation techniques.

**Intervention 3: Facilitate linkage with forward buyers**

**Potential Partners:** Agora, Swapno, Meena Bazaar

To ensure proper price of the farmer's crops of the beneficiaries, WVB can partner with forward buyers to ensure market access of the vegetables. One of the key constraints in linking smallholder farmers with the forward buyers is the limited amount of vegetable production by individual farmers. WVB can form producer groups and link the farmer groups with the forward buyer. The superstores or their demand aggregators can also train the farmers on proper cultivation techniques.

**Intervention 4: Development and promotion of specific micro finance product for vegetable farmers**

**Potential Partners:** BRAC, ASA, TMSS, FIVDB

WVB can partner with microfinance institutions to develop and promote specific micro finance products. The terms and conditions of the micro finance products (high interest rate, repayment terms) are not suitable for the ultra-poor beneficiaries of WVB. Thus WVB can develop specific micro-finance products which will suit the need of their beneficiaries and promote such products to their beneficiaries.

## Chapter 2.10: Assessment of Vocational Training Value Chain

### 2.10.1 Overview of Vocational Training Value Chain

Vocational Training can be described as education and training that provides knowledge and skills needed for a specific trade, craft or job function<sup>26</sup>. These forms of training usually emphasize on improvement in practical skills of individuals willing to pursue a specific trade or craft as a profession. These are usually pursued by the relatively poorer people who are not able to afford secondary or tertiary education.

According to the World Bank, the education system of Bangladesh is split into different levels. All students are required to complete primary level study until the fifth grade, beyond which they are given a choice to either obtain a secondary level education in the general education stream, or move into vocational education.<sup>27</sup> Although it is not mandatory for students to move into vocational training, it is preferable that they do so. This is because formal sector employers have a low tendency to provide on-the-job training due to increased cost and risks associated with the training. Moreover, employers prefer to employ people who generally have an apprenticeship or training in a particular trade, which makes things easier for them.

Findings reveal that many students who are below the legal age of 15 years drop out after completing primary education and are often looking for jobs without any formal training or apprenticeship in any trade<sup>28</sup>. Without Technical and Vocational Training Programs, these people would be unable to make a living or find formal sector jobs. This would result in a high incidence of unemployment and poverty, which will have more severe consequences on the country in the long run. Therefore, such programs are crucial for the development of a country. Bangladesh has been making significant progress towards technical and vocational education and training (TVET). The Department of Youth Development (DYD) administered youth training centres are providing technical training to the youth throughout the country. There are numbers of private sector youth development and technical training academies throughout the country providing technical and vocational training. There are also numbers of Technical Training Centre (TTC) administered by the Ministry of Labour and Employment offering vocational curriculum and skill development to the students. The main forms of technical and vocational training available in Dhaka are tailoring/sewing, embroidery, carpentry, beauty parlour, small boutiques, driving and computer. The main forms of vocational trainings appropriate to the studied APs are shown below:

AP Name	Primary type of Vocational Training
Dhaka East	Tailoring, Beauty Parlour and Small Boutique
Dhaka Shishu	Driving and Tailoring
Kamalapur	Driving, Computer, Tailoring and beauty Parlour
Barisal	Tailoring

<sup>26</sup> Vocational Training HQ. 2017. *What is Vocational Training- Education, Program and Schools* [online] Available at: <http://www.vocationaltraininghq.com/what-is-vocational-training/>

<sup>27</sup> Siteresources.worldbank.org. 2006. *THE BANGLADESH VOCATIONAL EDUCATION AND TRAINING SYSTEM AN ASSESSMENT*. The World Bank. Available at: <http://siteresources.worldbank.org/BANGLADESHE>

[XTN/Resources/publications/384630-1209074736457/Bangladesh\\_Nov2006.pdf](XTN/Resources/publications/384630-1209074736457/Bangladesh_Nov2006.pdf)

<sup>28</sup>Islam, M. 2008. *Availability of Data related to Technical and Vocational Education and Training (TVET) in Bangladesh* Bureau of Manpower, Employment and Training (BMET). Available at: <http://www.bmet.gov.bd/BMET/resources/Static%20PDF%20and%20DOC/publication/Data%20on%20TVET%20available%20in%20Bangladesh.pdf>

Beauty salons comprise of an industry worth over one billion Bangladeshi taka (BDT), employing more than around 100,000 women.<sup>29</sup> These women are largely from the indigenous communities of Bangladesh – Garo, Mandis, etc. However, those who are interested to work in this field often lack the necessary training and skills due to lack of professional training institutes. Since World Vision Bangladesh is targeting the marginal and ultra-poor as beneficiaries, the study assessed the smallholder beauty parlours which are operating in the residential building (sharing one of the owner's rooms) and providing services to the lower and lower-middle income group within the community. These beauty parlours generally are providing the service by the owner themselves as technician or with one or two trainee technician.

Local tailor houses can be found in almost every area in the major cities of Bangladesh. Again the study targeted the tailors who operate in households and the owner as the technician. Some of the smallholder tailors may employ one or two trainee tailors as assistant. A chunk of their revenue comes from various occasions such as Eid, Pohela Boishakh and school admission season. Starting from kids clothing to the women's clothing, they make a wide range of clothing such as three pieces, blouses, kids shirt, pant etc. Some of the tailors produce bed sheets and pillow covers etc.

## 2.10.2 End Market Analysis:

### 2.10.2.1 Main Market, Buyers and Competition:

**Tailoring:** Tailoring service providers primarily provide their services within a small locality operated in their household. Tailors usually take orders from individual people, especially women living within neighbourhood and provide tailoring services to them. Depending on the

Bangladesh is facing a rise in the number of motorized vehicles. In 2015, a total of 0.32 million vehicles has been registered, according to Bangladesh Road Transport Authority (BRTA). In 2016, there has been an increase of registered vehicles totalling 0.42 million vehicles. Moreover, the demand for drivers for motorized vehicles has also been on the rise. Generally, youth coming from low and lower-middle income families who drop out of secondary or tertiary education are significant group of people who learn driving.

Small boutiques are home-based clothing retailing entities which sell Saree, three pieces, kids dress, bed cover, cushion cover etc. to people in low income groups within the locality such as garments worker, wage earners etc. In most cases, they sell their products from within their homes; in some of the cases they also move from household to household in order to sale their products.

Computer learners are youth studying or just finished study taking training on computer hardware engineering or different applications. The training helps them to find a job either in any service oriented companies or in computer printing shops located all over Dhaka city. Some of the youth also apply for jobs as data entry operators required by public and private sector companies. Computer learners also work as freelancer in providing online based data entry operating job.

establishment of the entity we found two types of tailoring service providers in the studied locations: individual tailors operating at their own home with one or two machines to offer tailoring services, and tailoring shops having around three to four machines and a few employees. The tailoring service providers have two Eids, Pohela Boishakh, and school admission seasons as their peak season. Besides providing

<sup>29</sup> Akter, S. 2008. The business of beauty. *The Daily Star*. [online] Available at: <http://www.thedailystar.net/news-detail-41992>

their services to people living within a locality, individual tailors also get orders from tailoring shops during the mentioned peak seasons. Individual tailors and tailoring shops are facing competition from the boutiques which sell readymade garments since demand for clothing is shifting from tailoring to the readymade clothing items due to low price. However, this competition is not that severe since demand for clothing is increasing with the increase in population. Moreover, altering and re-shaping of readymade clothing creating scope of work for household based tailors.

**Small Boutiques:** Small boutiques retails clothing such as Saree, three pieces, kids dress, bed cover, cushion cover, curtain etc. to people in low income groups within the locality. These businesses are operated by individuals selling products from respective household or moving around one household to another of potential customers. The targeted customers are low income earning people such as RMG workers, wage earners etc. During the field assessment we found that sale of these small boutiques is very low and generally ranges from 5-10 three-pieces, 2-5 Sarees, and 3-5 kids cloth, 1-2 bed cover etc. in a month. Since small boutiques target the niche market, no significant competition observed in the APs.

**Beauty Parlour:** The study assessed small sized beauty parlours which are operating within residential buildings by sharing a room of the service provider's apartment. The services provided by the small beauty parlour include eye brow shaping, manicure, pedicure, hair styling, beautification for party going individuals and bridal make-over. The small beauty parlours provide services to the lower middle and middle income earning people living within the community. These entities provide eye brow shaping, hair styling, facial etc. regularly (about 100 work in a month) which generates about BDT 50-100 per work. Number of luxury services such as bridal make-over, hair treatment and re-bonding etc. ranges from 2-4 in a month but generates higher revenue ranging from BDT 2,000 to 8,000. The services are provided in cash.

The beauty parlour industry is growing since the idea of taking beautification services, what was once the domain of the affluent social groups has now permeated to the middle and even lower income groups who have become regular clients of salons. Since, the small home-based beauty parlours are targeted to the lower-middle and middle income group of people, are not facing significant competitions in the market.

**Driving:** Drivers provide driving services to private households, commercial offices, various industries and transportation businesses. There are numbers of driving training providers observed in the studied APs providing training to individual learners. Newly trained drivers generally serve to either individual household or to office cars with light vehicles such as private cars or micro-buses. Young people working as helpers in transportation companies learn driving and gather experience of 5-6 years to become a regular driver to transport businesses such as coach services, inland cargo services etc. Drivers working in private households or offices get monthly basis salary whereas, drivers working in transportation companies usually get trip based salary. The number of cars in Bangladesh is in a rapid increasing trend so as the demand for drivers. Hence, the driving service providing sector is facing no significant competition. However, drivers face challenge when finding a job since there is no such entity responsible for job placement for the drivers. While interviewing the driving training service providers we found that, private household or offices that need a driver often place the demand to the driving training service providers. These training service providers provide the household or offices with drivers however; they do not do it in a formal way.

**Computer Training:** Computer training is provided to the individuals studying or finished or dropped out of their secondary or tertiary education. The field investigation found two types of computer training service providers: the public sector and the private sector training providers. The private sector computer training providers comprises of the Department of Youth Development (DYD) of the Government of Bangladesh providing computer training to

the youth. The private sector training service provider comprises of the vocational training institutes providing computer training with designated fees for different trade. The training provided by the public sector training providers is subsidised by the Government of Bangladesh hence require very minimal training fees whereas, the training provided by the private sector vocational training institutes require fees ranging from BDT 2,000 to 15,000 depending on the course curriculum and length of the course. The courses offered by public and private sector computer training institutions ranges from certificate course in computer office application, Diploma in computer science and Hardware Engineering, Diploma in Graphics Design, Diploma in Web Design etc. Completing the training the trainees then require enrolling for an examination administered by the Bangladesh Technical Education Board and gets a certificate. The computer trained youth opt for computer training either for getting jobs that require computer knowledge or work as freelancer professionals in data entry, processing etc. Very few of the trainees start-up computer based shop doing composing, printing and job-application fill up services. Since the demand has been increasing for computer based job in the market, computer trainee or a start-up does not face significant competition from the industry. However, computer trainees struggle to find decent job because of lack of linkage with computer based or IT based employers. Moreover, employers require advanced knowledge in computer from the trainees which pose further challenge for trainees doing basic training to get a job.

#### Scope for Upgrading:

##### Linkage with formal institutional buyers:

**Beauty parlour:** The studied beauty parlours do not operate any promotional activities except the signboards of the shop. However, currently the beautification industry has been changed since there are mobile application based portals through which individuals can order a beautician to provide the service in their household. The studied beauty parlours can reap the

opportunity by creating linkage with those portals and promote their services.

**Tailoring:** It has been observed in the APs that the tailoring service providers lack access to market. The producers are not linked with any institutional buyers and thus they do not receive consistent order from institutional buyer and fair price for their services. Especially during the lean seasons, the capacity of tailoring services provider was extremely underutilized. Thus linkage with institutional buyers such as chain boutique shops can ensure regular flow of work order, higher price, maximum utilization of capacity and also increase the expertise in the sector.

**Computer training:** Computer training has two scopes for upgrading: 1) providing professional training and 2) linkage with IT-based companies. The field investigation revealed that the computer training largely comprises of the basic trainings such as MS Office, Basic Hardware Course etc. However, advanced computer training on web design, software design, and graphics design would ensure greater scope of work and higher income. Secondly, the computer trained professionals lack the linkage with IT-based companies hence; trainees struggle to get jobs after training. Facilitating and establishing such linkage among the IT-based companies and trainees would ensure job placement for the trainees.

**Driving:** Driving training service providers found in the APs can work on job placement for the trainee drivers. It will create opportunity for trainees to get job after completion of training. Although driving training service providers can arrange driving license and financing for the trainees who cannot afford the license fee. Driving service providers can cash on by formalizing these services. Training service providers can earn a commission from the first couple of month s salaries of the drivers after arranging a job and financing for license.

**AP specific Findings:** No AP specific finding was observed during the field assessment.

## 2.10.3 Description of Value Chains

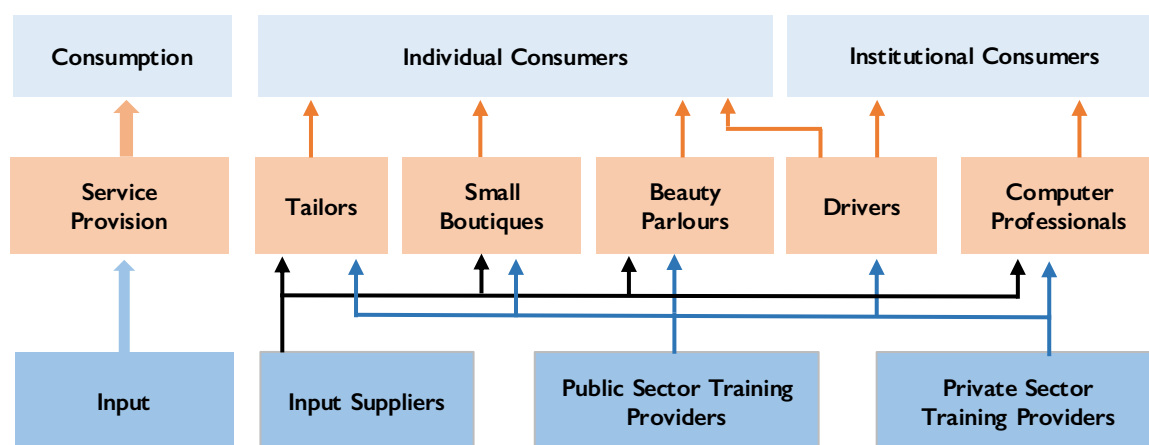


Figure 11: Vocational Training Value Chain

## 2.10.4 Performance of Value Chains and Scope for Upgrading

### 2.10.4.1 Input Suppliers:

**Tailoring:** There are three main suppliers of inputs to tailors: (i) String, Bobbin case and Needle Suppliers, (ii) Sewing Machine and Machine service providers, and (iii) Fabric Suppliers. Tailors usually buy strings, bobbin case and needles from small shops located within the locality. Wholesale shops, located in New Market, Gulistan, Islampur (old Dhaka) and Kuwet Market (Barisal) are choice for producers for supply of inputs at lower price. However, cost associated with transportation to the wholesale markets; neutralize producer's choice among wholesale shops and local input shops as these are usually located far away from their places.

Tailors purchase their sewing machines directly from showrooms, such as Butterfly and Singer. These showrooms also provide them with servicing when there are technical problems within machines.

Generally, the owner of the cloth provides with the fabric. In very few of the cases, tailors purchase fabrics from wholesale markets in New Market, Islampur (old Dhaka), Gulistan, Kuwet Market (Barisal) etc.

**Scope for Upgrading:** No significant scope for upgrading has been observed in the machinery supplier's level and other input supplier's level.

**Small Boutiques:** The only input for small boutiques is the readymade garments, which they purchase at local markets or wholesale markets. Fabrics usually include 3 pieces, Sarees and bedsheet/bedcovers, kids cloth etc. Small boutiques generally purchase inputs from the wholesale markets in New market, Islampur, Bongo Bazar etc. Very few of the small boutiques purchase inputs from local markets located in local shopping malls.

**Scope for Upgrading:** Despite the bulk purchase of inputs from wholesale market (discussed in "Service Provision" section) no significant scope for upgrading has been observed in the input suppliers to small boutiques.

**Beauty Parlours:** Beauty parlours require cosmetics as the inputs for providing beautification services which they purchase generally from local cosmetic shops. Generally, small sized beauty parlours require BDT 4,000 to 6,000 worth of inputs. Very few of the beauty parlours purchase cosmetics from the shops in wholesale markets located in New Market, or

Chawk Bazar. The wholesale cosmetics shops have both the quality and sub-optimal quality inputs; it is salon owner's discretion to choose among the quality and providing quality of services.

Scope for Upgrading: No significant scope for upgrading has been observed in the input suppliers to beauty parlour level.

Computer Learners: Computer learners need computers, accessories and servicing of computer as their input. The field investigation revealed that very few of the learners who becomes an entrepreneur and start-up computer composing and printing shops purchase the computer. Rest of the computer learners do not buy a computer rather have the institutions, where they get a job, provided with the computer. However, specialized computer and accessories markets are well established in Agargaon, Elephant Road, Suvastu Nazar Valley etc. for those who need the input.

Scope for Upgrading: No significant scope for upgrading observed in the computer inputs suppliers end in the studied APs.

#### 2.10.4.2 Public Sector Training Service Providers:

Vocational training is provided by two types of Training Service Providers (TSP): public sector training service providers and private sector training service providers. Public sector training service is provided by the Department of Youth Development (DYD) of the Government of Bangladesh. Training centres of DYD has two types of training program: Formal training program and the Informal training program. Formal training programs are organized and conducted by the DYD. Formal trainings require very minimal admission fee (usually BDT 1,000 to 2,000) for training on computer and beauty parlour.

Informal training programs are organized by local Community Based Organizations (CBO) and conducted by DYD trained trainers. The DYD has numbers of CBOs listed. CBOs are

social-work groups consisting of 30 to 100 members within the community. CBOs organize the trainees intending to receive training on specified trade (tailoring, driving, beauty parlour etc.) and request to the DYD to provide with the trainer. DYD has numbers of specialized trained trainers who conduct the training. The DYD provides with the trainer's remuneration.

Public sector training service providers provide with both the basic and advanced training services to the trainees. Basic computer training courses include MS Office application, internet browsing; tailoring training includes basics of cutting and sewing; beautification training includes basic introduction to beautification etc. Advanced training on computer includes training on graphics design, web design, hardware engineering; on tailoring include block-batik, fashion designing etc. on beautification includes advanced training on bridal make-over etc. The advanced trainings are longer in duration and ranges from 6-12 months whereas, basic trainings are short duration ranging from 2-6 months. The training fee gets higher with the duration.

The Department of Youth Development has the provision of providing with entrepreneur loan to youth received formal or informal training. However, the trainee must have a start-up or at least a business plan. The loan for formal trainees ranges from BDT 60,000 to 100,000 depending on the establishment of the start-up or the business idea. Loan to informal trainees ranges from BDT 40,000 to 75,000. This is a two-year loan with 5% diminishing rate of interest. The loan repayment is scheduled with monthly instalment with initial three months grace period.

#### 2.10.4.3 Private Sector Training Service Providers:

Private sector training services providers are providing vocational training to the youth and unemployed in different trade such as tailoring, computer, beautification, driving and many more. Private sector TSPs provide with both the basic and advanced training services to the



trainees. The advanced trainings are longer in duration and ranges from 6-12 months whereas, basic trainings are short duration ranging from 2-6 months. The training fee gets higher with the duration and ranges from BDT 1,500-4,000 for basic training and BDT 5,000-15,000 for the advanced training. Basic computer training courses include MS Office application, internet browsing; tailoring training includes basics of cutting and sewing; beautification training includes basic introduction to beautification etc. Advanced training on computer includes training on graphics design, web design, hardware engineering; on tailoring include block-batik, fashion designing etc. on beautification includes advanced training on bridal make-over, hair treatment, re-bonding etc.

**Scope for Upgrading:** Public and private sector training service providers need to be facilitated on providing specialized advanced training. Interviews with institutional buyers (chain boutique shops) and employer (computer hardware shops) revealed that they require the vendors/workers to maintain certain quality parameter of job which is not possible to maintain with the basic short duration training. Advanced training would ease the path to linkage with institutional buyers such as large

chain boutique shops (Aarong, Nagardola, Rongdhonu etc.), computer servicing shops, graphics design and printing shops etc.

#### Service Provision:

**Tailoring:** The study assessed small sized tailors who operate tailoring service provision in their respective residences. The tailoring service providers are providing services to the neighbouring community peoples with one or two sewing machines. Very few of them employ salaried employees rather the owner themselves do the tailoring. Generally, the target customers are lower and middle income community women. They usually tailor ladies dress (3 pieces, blouse etc.) kids dress (shirt, pant, school dress) etc. Our study on the selected AP found that tailors produce about 10-20 dresses in a month. However, the client provides with the fabric and the tailor provides with other inputs such as thread, button, lace etc. The price of tailoring varies along with different type of clothing and aesthetics of design such as tailoring three pieces costs more (around BDT 200-300) whereas, tailoring cushion cover costs less (BDT 50-70). The cost-benefit analysis of tailors working as an individual and tailors working with 1-2 employees is shown below-

Table 44: Cost benefit Analysis of Tailors

		Individual tailor with no salaried employee	Tailors with 1-2 salaried employees	
Production cost	Cost head	Amount BDT	Amount BDT	Note
	House/shop rent cost	N/A	N/A	Tailors usually use own living premises.
	Depreciation of Sewing machine	1,000	3,000	Each of the sewing machine cost around BDT 8,000 to 9,000 and has a longevity of 8-10 years
	Machine servicing	600	1,800	
	Depreciation of other accessories (Scissor, measurement tape, scale, pencil, iron etc.)	1,000	3,000	Approximated cost
	Type of Inputs & Cost	6,000	15,000	Requirement for the inputs depends on the order in a month. These costs are calculated on typical
	Thread			
	Bokrom			
	Bobbins			
	needle			
	Button			

					numbers of order per month.
	Employee s salary	N/A	48,000		Salary for each of the piece of cloth BDT 100 (480 cloth tailored by employees)
	Transport Cost	N/A	1,800		Tailors with 2-3 sewing machines purchase inputs from wholesale markets thus require transportation cost
	Utility cost (electricity,	N/A	2,400		
	Total Cost	8,600	75,000		
Sales of production	Total sales (tailoring order/year)	120	720		
	Average sales price (BDT/order)	150	150		
	Total sales (BDT/Year)	18,000	1,08,000		
Profit (BDT/Year)		9,400	33,000		

Scope for Upgrading: The study found no institutional orders received by the small tailors. The reason behind such is twofold: the large chain boutique shops require specific quality parameter which small tailors lack the capacity to maintain and the institutional buyers require supply of products on credit. This is because targeted tailors lack the advanced expertise and efficiency which is resulted from lack of advanced training. Secondly, large boutique shops require substantial time (2-3 months since some of the boutique shops agree to pay after realization of sale) for payment to the vendor for which tailors need to invest substantial amount of capital in inventory. However, the business prospect of tailors would increase when they get institutional orders from the large chain boutique shops such as Aarong, Nagardola, Rongdhonu etc. The scopes for upgrading in tailoring are:

- Advanced training for the tailors to maintain the quality required by institutional buyers so that they can work as the vendor to institutional buyer.
- Access to finance by the tailors to invest in inventory/accounts receivables which they would need in case of working with

institutional order need to be facilitated.

- Regarding the purchase of fabric and other inputs, bulk purchase can ensure tailors with wholesale price which they forgo currently due to cost of transportation to wholesale market. Aggregating the demand of inputs of similar tailors and purchasing from the wholesale markets would lower the cost of production.

**Small Boutiques:** Small boutiques are home-based retailing entities which sell clothing such as Saree, three pieces, kids dress, bed cover, cushion cover etc. to people in low income groups within the locality. In most cases, they sell their products from within their homes; in some of the cases they also move from household to household in order to sale their products. These small boutiques target niche customers who are low income earning people such as RMG workers, wage earners etc. From the field level value chain assessment, we found that these small boutiques generally sell around 5-10 three-pieces, 2-5 Sarees, and 3-5 kids cloth, 1-2 bed cover and cushion cover in a month. The cost benefit analysis of typical household based small boutiques has been shown below:

Table 45: Cost benefit Analysis of Small Boutiques

			Small boutique	
Production cost	Cost head		Amount BDT	Note
	Type of Inputs & Cost	Cloth	57,600	Requirement for the inputs depends on the order in a month. These costs are calculated on typical numbers of order per month.
	Transport Cost		3,000	Transportation cost for purchasing input (cloth)
	Total Cost		60,600	
Sales of production	Total Sale (Piece of cloth/year)		144	
	Average sales price (BDT/piece)		500	
	Total sales (BDT/Year)		72,000	
Profit (BDT/Year)			11,400	

**Scope for Upgrading:** Some of the small boutiques purchase inputs from local market forgoing wholesale (lower) price of inputs. Moreover, those who purchasing from wholesale markets, purchase individually that increases cost of input since trade volume is very low for small boutiques. Purchasing inputs from the wholesale markets in bulk amount would increase the profitability in small boutique send. Since trade volume of individual small boutique is low, bulk purchase can take place with aggregation of demand of inputs from similar entities and purchasing by one of two persons in the group. Wholesale markets include New Market, Chawkbazar, Islampur, Gausia, Gulistan and Bangabazar.

**Beauty Parlours:** The small sized beauty parlours are those which are operating within residential buildings where the service provider lives. There are also large beauty parlours which generally have large investments and have establishments in the commercial places

(shopping mall, avenue streets). However, the value chain assessment excluded the large beauty parlours from the scope of assessment. The small beauty parlours generally provide services with only one person to serve and usually the owners themselves as the beautician. Some of the small beauty parlours also employ one or three salaried employees. The services provided by these entities include eye brow shaping, manicure, pedicure, hair styling, beautification for party going individuals and grooming up brides. The monthly revenue for a typical small sized beauty parlour ranges from BDT 15,000 to 50,000. For providing the services beauty parlours require house rent worth of BDT 7,000 to 10,000 (beauty parlours generally share one room of the residential apartment), inputs worth of BDT 4,000 to 6,000, utilities worth of BDT 2,000 and the monthly salary of an employee BDT 3,000 to 5,000. The cost benefit analysis of typical beauty parlour has been shown below:

Table 46: Cost benefit Analysis of Beauty Parlour

		Individual beauty parlour with no salaried employee	Beauty with 1-2 salaried employees	
Production cost	Cost head	Amount BDT	Amount BDT	Note
	House/shop rent cost	5,000*12 = 60,000	7,000*12 = 84,000	Beauty parlours usually share one of the room from own living premises.

	Depreciation of salon equipment (Facial Bed, Shampoo Bed, Hair Dryer etc.)		24,000/6 = 3,000	24,000/6 = 3,000	Salon equipment set-up cost around BDT 22,000 to 26,000 and has a longevity of 7-8 years
	Type of Inputs & Cost	Facial Product Hair Product Cosmetic	3,000*12 = 36,000	4,000*12 = 48,000	Requirement for the inputs depends on the order in a month. These costs are calculated on typical numbers of order per month.
	Employee's salary		N/A	60,000	Employee salary BDT 5,000/month
	Transport Cost		3,000	3,000	Purchasing inputs from markets require transportation cost of BDT 500/month
	Utility cost (electricity,		12,000	12,000	Electricity bill BDT 1,000/month
	Total Cost		1,14,000	2,10,000	
Sales of production	Number of regular service (order/year)		(5*26*12)= 1,560	(10*26*12)= 3,120	5-10 work order per day, 26 days in a month
	Average sale price of regular service (BDT/order)		100	100	
	Number of luxury service (order/year)		(3*12)= 36	(6*12)= 72	
	Average sale price of luxury service (BDT/order)		2,000	3,000	
	Total sales of regular service (BDT/Year)		1,56,000	3,12,000	
	Total sales of luxury service (BDT/Year)		72,000	2,16,000	
	Total Yearly Sales		2,28,000	5,28,000	
Profit (BDT/Year)			1,14,000	3,18,000	

Scope for Upgrading: The beauty parlours have the demand for trained expert technicians. Technicians lack the expertise to provide sophisticated services such as bridal make over etc. Most of the technicians learn the job by working in a beauty parlour as trainee beauticians however, no institutional advanced training. Moreover, purchasing inputs from the wholesale markets results in increase in input cost and also providing sub-optimal services since the inputs found in local markets are sub-

optimal in quality. Beauty parlours currently purchase inputs from the local cosmetic shops. So the scopes for upgrading in the beauty parlours end are:

- The institutional advanced training to the technicians on sophisticated luxury services required to increase the quality of the services.
- Bulk purchase of inputs (cosmetics and other inputs) with aggregation of demand

from the similar beauty parlours is required. Wholesale markets include New Market, Chawkbazar etc.

**Computer:** Computer learners are youth studying or just finished study. The vocational training on computer makes them able to find a job either in any service oriented companies or in computer printing shops located all over Dhaka city. Some of the youth also apply for jobs as data entry operators required by public and private sector companies. Computer learners also work as freelancer in providing online based data entry operating job. The Department of Youth Development as the public sector training service provider is providing training on computer. There are numbers of private sector training service providers in studied location

providing computer trainings. Getting a basic training from these public or private sector training service providers, computer learners are in the market to find a job mentioned above, however, the field assessment on employers such as graphics design and printing shops, computer hardware engineering and servicing shops revealed that they require advanced skill in computer which the computer learners still lack. This is because computer learners currently target only the basic training but not advanced training since advanced training requires substantial amount of fees by TSPs or investment on learning from computer based shops. The cost benefit analysis of computer learning professionals working in different applications has been shown below:

Table 47: Cost benefit Analysis of Computer Training

		Computer professionals working with Office Application	Computer professionals working in Graphics Design & Hardware Engineering	Computer professionals working in Web Design	Notes
Production cost	Cost head	Amount BDT	Amount BDT	Amount BDT	
	Amortization of computer learning cost	500	1,000	2,000	Computer learning fee for Office Application is BDT 2,000; Graphics Design and Hardware Engineering is BDT 5,000 and Web Design 15,000
	Depreciation of Equipment (Computer)	N/A	N/A	3,000	Generally computer professionals working on web design purchase personal computer (Cost BDT 30,000 with life of 10 years)
	Total Cost	500	1,000	5,000	
Sales of production	Total Service/year (Working month/year)	12	12	12	
	Average salary (BDT/ month)	8,000	12,000	18,000	
	Total salary (BDT/Year)	96,000	1,44,000	2,16,000	
Net Income (BDT/Year)		93,000	1,43,000	2,11,000	

**Scope for Upgrading:** Computer learners need to be development on advanced technical skills

such as graphics design (Photoshop, Illustrator, Quark etc.), computer hardware (hardware

engineering, Operating System setup etc.), web design (different programming languages such as Html, Java Script, PHP etc.). Public and private sector training service providers need to be facilitated with advanced training on specialized technical skills development.

**Driving:** Generally low and lower middle income family youth learn driving to build career as a driver. Youth who drop out after secondary education also are significant group of people who learn driving. The Department of Youth Development as the public sector training

service provider is providing training driving. There are numbers of private sector training service providers in studied location providing driving trainings. However, the driving learners face difficulties with paying the fees for driving license. The field investigation revealed that driving learners require bearing additional brokerage fees and hush money cost over government fees of license. The government fee for license cost around BDT 3,000 and brokerage fee and speed money cost is around BDT 5,000-6,000. Cost-benefit analysis of a driving learner has been shown below:

Table 48: Cost benefit Analysis of Driving Training

Production cost	Driving		Notes
	Cost head	Amount BDT	
	Amortization of driving learning cost	1,000	Driving learning fee ranges from BDT 8,000 to 10,000 and is a perpetual capital expenditure (amortized in 10 years)
	Amortization of permit (License)	2,000	Driving license fee is BDT 8,000-10,000 (including speed money and others) with validity of 5 years
	<b>Total Cost</b>	<b>3,000</b>	
Sales of production	Total (Working month /year)	12	
	Average salary (BDT/month)	10,000	
	<b>Total salary (BDT/Year)</b>	<b>1,20,000</b>	
<b>Net Income (BDT/Year)</b>		<b>1,17,000</b>	

**Scope for Upgrading:** As discussed in the end market analysis that public and private sector training service providers need to provide with advanced long duration training to ensure quality of potential service providing. Along with that driving training service providers can work as the job placement facilitator so that drivers are ensured with job after completion of

training. TSPs can also facilitate and finance the licensing procedure and fees for drivers as drivers lack the finance for providing with the license fees. For providing these services TSPs can earn a commission over their invested amount. TSPs can charge commission in the first couple of months salary of the drivers when the driver gets a job.

## 2.10.5 Assessment of the regulatory environment and support services:

### 2.10.5.1 Infrastructure:

Majority of the assessed project area falls under Dhaka and Barisal Metropolitan city (except Dakkhinkhan, Uttarkhan and Barua Union under Dhaka East AP) and is reasonably well connected to input and output market. Most of

the project areas have access to proper electricity and adequate infrastructure facilities.

### 2.10.5.2 Public Services:

Department of Youth Development (DYD): The Department of Youth Development (DYD) aims to increase the active participation of the

youth in National Development. They provide a range of services in Bangladesh in order to involve the youth in the mainstream national development process which includes: providing skill development institutional and non-institutional training, extension of micro-credit services, organization of self-employment projects, establishment of youth organizations and provision of grants to youth organization.

Amongst the department's wide range of institutional and non-institutional training which are relevant to vocational training, include 2 to 6 month courses on spoken English, AUTOCAD (2D/3D), cutting/sewing, beauty parlour, fashion design, electrical house wiring, block printing and cooking, cost of which range from BDT 1,200 up to BDT 8,000. For training courses administered by the DYD and private sector vocational training academies on tailoring, beautification etc., the trainees have to enrol for an examination and get certificate awarded by the Ministry of Youth and Sports.

TVET Reform Project by the GoB and ILO: The TVET Reform Project initiated by the Government of Bangladesh in 2006, with support from International Labour Organization (ILO) has produced a National Skills Development Policy and National Qualifications Framework. The program has adopted the National Vocational Qualification Framework (NVQF), as well as five Industry Skills Councils (Transport, Leather, Tourism & Hospitality, Agro-food and IT) to enable international recognition of the training centres and qualification of the graduates and develop a linkage between training and employment through partnering of the training institutes with the institute. Technical staffs from various businesses work as part-time instructors in the training institutes, to provide enterprise-based

training.<sup>30</sup> The trainings provided are need-based, on specific competencies such as, air conditioning maintenance, medical technology, motorcycle servicing, etc.<sup>31</sup>

Bangladesh Technical Education Board (BTEB): BTEB provides competency-based training and assessment under the TVET system. Half of the technical training service providers in Bangladesh are registered with BTEB. Government institutions are offering training during the second shift of each day and continuing learning option at night.<sup>32</sup> Trainees attending computer training courses offered by both DYD and technical training service providers have to enrol for examinations and achieve certificates provided by BTEB.

Ministry of Women and Children Affairs: The main objective of the Ministry of Women and Children Affairs is to create equal opportunity of women in economic and activity, eliminate violence against women and children and empower them. The range of services provided by the ministry include: providing technical and vocational training to women, providing day care services for children of working women, providing allowances and grants with a view to alleviating poverty of women and children and extending micro credit services for underprivileged women to promote self-employment.

### 2.10.5.3 Health, Labour Rights and Environmental Safety Issues:

- No major health and environmental effects are associated with the vocational training on targeted trades and practice of those trade

<sup>30</sup> Shears, A. n.d. SETTING THE FOUNDATION FOR A SKILLED BANGLADESH. [online] Ilo.org. Available at: [http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-dhaka/documents/presentation/wcms\\_461653.pdf](http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-dhaka/documents/presentation/wcms_461653.pdf)

<sup>31</sup> Gobbi, D. 2014. *TVET Reform Promotes Social Inclusion and Skills for Bangladesh*.

[online] Available at: <https://europa.eu/capacity4dev/article/tvet-reform-promotes-social-inclusion-and-skills-bangladesh>

<sup>32</sup> Bangladesh Skills Vision 2016. International Labor Organization (ILO). [online] Available at: [http://www.ilo.org/dhaka/Whatwedo/Projects/WCMS\\_176772/lang-en/index.htm](http://www.ilo.org/dhaka/Whatwedo/Projects/WCMS_176772/lang-en/index.htm)

- Labour rights are not applicable for tailors, beauty parlours and small boutiques because they are mostly owned by individual entities in their households. However, those which employs salaried employee have been found to have underage workers (below the age of 18), at a wage rate which is below the minimum wage rate of Bangladesh (for example Beauty parlours are found to employ technicians for BDT 1,500 salary per month).

#### 2.10.5.4 Financial Services:

- **Micro Credit organization:** Microcredit organizations are actively working in these regions such as BRAC, ASA, Grameen Bank etc. To avail any service from these MFIs, one needs to become a member of the institute. These MFIs usually have a branch office and several centres/groups under each branch office. The first loan limit for new members is usually around BDT 5,000 to 10,000 for almost all the MFIs which is increased every year with the repayment of the previous loan. The payback period usually is 1 year with 44 instalments (weekly payment). The interest charged by the MFIs range from 20-26.5% per annum. It has been observed that very few of the beneficiaries who have participated in

the training programs and practicing as entrepreneur have availed micro-credit from various micro-finance organizations as well as DYD.

- **Banks:** Banks active in the project area are both state-owned commercial banks such as Sonali bank and Agrani bank and private commercial banks such as BRAC Bank, Ansar VDP Bank, Islami Bank and Farmers Bank etc. To take out an SME loan from these banks, the borrower must have an already established business of two to three years. To avail the loan, the borrowers must submit trade license, Tax Identification Number, Environmental, sanitary and fire-fighting certificate picture of the store front, list of inventories etc. None of the beneficiaries have been found to avail bank loans.
- **Value chain financing/ suppliers credit** is usually provided by the different value chain actors such as input retailers and output traders. In few of the cases value chain financing has been observed in beauty parlours that can purchase cosmetics on credit from their suppliers.

**Business Membership Organizations:** No Business membership organizations have been observed in the field.

#### 2.10.6 SWOT Analysis



Table 49: SWOT Analysis of Vocational Training

<p style="text-align: center;"><b>Strengths</b></p> <ul style="list-style-type: none"> <li>▪ Vocational trainees start realizing revenue immediately after receiving training</li> <li>▪ Vocational training on assessed trades such as driving, computer, beauty parlour, tailoring requires little amount of input cost.</li> </ul>	<p style="text-align: center;"><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>▪ With the increasing population, the demand for services provided by tailors, drivers, beauty parlour is ever increasing</li> <li>▪ With the growing IT industry, the demand for computer professionals is increasing</li> <li>▪ Significant scope for women and youth involvement</li> </ul>
<p style="text-align: center;"><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>▪ Service providers are lack specialized expertise to supply to institutional buyers (tailors, computer professionals)</li> <li>▪ Beauty parlours lack the specialized expertise to provide better service. Lack of expert technicians.</li> <li>▪ Lack of linkage among institutional buyers and tailors, computer professionals.</li> </ul>	<p style="text-align: center;"><b>Threats</b></p> <ul style="list-style-type: none"> <li>▪ Shift in taste of wearing readymade garments lowering demand for tailored cloth</li> </ul>

## 2.10.7 Constraints Analysis

	Actors	Functions	Constraints	Root Cause	APs where the constraint was observed
Core Function	Input Suppliers	Providing inputs	None		
	Public and Private sector TSP	Providing vocational training	Public and Private TSPs do not emphasize on providing advanced and technical vocational training	Trainees cannot afford advanced training since this require higher amount of training fees thus lowering demand for advanced training	Dhaka East, Kamapur, Dhaka Shishu, Barisal APs
	Tailors	Tailoring ladies, kids clothing, bed cover, cushion cover etc.	Target only community women, but no institutional buyers thus have shortage of work order	Lack the expertise to work for institutional buyers Lack access to finance to invest in inventory/accounts receivables	Dhaka East, Kamapur, Dhaka Shishu, Barisal APs
			Purchase inputs from the local market and forgo wholesale price in the wholesale markets	Assessed tailors require small amount of inputs; transportation cost to wholesale market is substantial for them	
	Small Boutiques	Selling readymade clothing	Purchase inputs from the local market and forgo wholesale price in the wholesale markets	Assessed small boutiques require small amount of inputs/inventory; transportation cost to wholesale market is substantial for them	Dhaka East, Kamapur, Dhaka Shishu APs
	Beauty Parlour	Providing beautification services	Sub-optimal service provision by small beauty parlour	Technicians lack the expertise to provide sophisticated beautification services	Dhaka East, Kamapur, Dhaka Shishu APs
			Purchase inputs from the local market and compromise with quality of inputs and forgo wholesale price	Input requirement by small beauty parlours is low thus transportation cost restrict to distant wholesale market	
	Computer Professionals	Providing computer based services	Lack of advanced technical skills; Lack linkage with potential employer	Advanced computer training requires higher fees which computer learners cannot afford initially	Dhaka East, Kamapur, Dhaka Shishu APs
	Driving	Providing driving services	Lack expertise for driving; Lack finance for licensing fees	Driving learners enrol for basic driving learning courses. Driving learners comes from lower and lower-middle income families. Formal financial sector do not target driving trainees as potential customers	Dhaka East, Kamapur, Dhaka Shishu APs

Support Functions	Public services	Providing information and implementation of different activities	None		
	Infrastructure	Roads and communication for transportation	None		
Enabling Environment	NGO/ MF	Providing micro finance	<p>New vocational trainees do not get micro finance for starting-up operations</p> <p>Smallholder entrepreneurs do not get micro finance for expanded operations during peak seasons</p>	<p>The product offering (duration, interest rate and repayments schedule) of the NGOs is not suitable for smallholder vocational trainees; weekly repayment method is not suitable for them</p> <p>NGOs do not target the smallholder vocational trainees as prospective clients</p> <p>There is no seasonal loan or long term finance which is needed by tailors, small boutiques during peak seasons</p>	Dhaka East, Kamtapur, Dhaka Shishu, Barisal AP

## 2.10.8 Recommendations

The opportunities for working on these constraints can be analysed to develop intervention plans that can be used as the basis to plan project activities:

Constraint	Intervention	Areas (Suitable APs)	Output	Outcome	Impact
Public and Private TSPs do not emphasize on providing advanced and technical vocational training	Facilitate potential employers to finance training for development of potential employees' skill	Dhaka East, Kamapur, Dhaka Shishu, Barisal Aps	Employer finance the training program and skills development by Public and private TSPs	Vocational trainees are skilled with advanced technical expertise	Tailors, drivers, computer professionals and beauty parlours provides better services
Tailors target only community women, but no institutional buyers thus have shortage of work order  Sub-optimal service provision by small beauty parlours  Computer learners lack the advanced technical skills; also lack linkage with potential employer  Driving learners lack expertise by learning a basic driving course; they also lack finance for licensing fees	Facilitate public and private TSPs for providing training on advanced technical skills that employer requires with embedded services (such as providing loan for licensing of drivers, facilitating job placement)	Dhaka East, Kamapur, Dhaka Shishu, Barisal Aps	Public and private TSPs provide more advanced and technical vocational training with embedded services	Vocational trainees are skilled with advanced technical expertise;  Vocational trainees are ensured job placement	Tailors, beauty parlours, drivers and computer professionals provides better services  Trainees are ensured employment after vocational training
Tailors, small boutiques and beauty parlours purchase inputs from the local market and compromise with quality of inputs and forgo wholesale price	Facilitate aggregation of demand from similar enterprises (by forming group) and bulk purchase of inputs from wholesale markets	Dhaka East, Kamapur, Dhaka Shishu, Barisal Aps	Group of similar enterprises is formed and demand for inputs is aggregated	Inputs are purchased in bulk from wholesale market	Enterprise profitability is increased due to wholesale price of inputs.  Quality of inputs and products/services is improved in tailoring, small boutiques and beauty parlour end
New vocational trainees do not get micro finance for starting-up operations	Facilitate MFIs for designing and providing long term finance and seasonal loan	Dhaka East, Kamapur, Dhaka Shishu Aps	Seasonal and long term credit is designed and marketed by MFIs	Start-ups and smallholder entrepreneurs get long term and seasonal credit	Vocational trainees starting-up new enterprises

Smallholder entrepreneurs do not  
get micro finance for expanding  
operations

Smallholder enterprises  
expands operations during  
peak seasons

## 2.10.9 Intervention Details

**Intervention 1:** Facilitate potential employer to finance training for development of potential employees' skill

**Potential Partners:** Aarong, Grameen Check, Nagardola (for tailoring); Local beauty parlours, Persona, Farzana Shakil's Makeover Salon (beauty technicians), Graphics design and printing shops, hardware servicing shops such as Computer Source, Daffodil Computer (for computer professionals)

WVB can partner with leading chain boutiques such as Aarong, Grameen Check etc. for developing tailors; Persona, Farzana Shakil's Makeover Salon and Local beauty parlours in Dhaka city for developing beauticians; computer hardware selling and servicing shops such as Computer Source Ltd., Daffodil Computer and graphics design and printing shops in Dhaka city etc. for developing computer professionals. These companies can finance the training and development of expertise which would ensure them with supply of expert technicians. These enterprises can get reimbursement of the training cost from employees once they employ the trainee. The incentive for enterprises is to get expert work force and quality product and services which they currently demand from the technicians.

**Intervention 2:** Facilitate public and private TSPs for providing training on advanced technical skills that employer requires with embedded services (such as providing loan for licensing of drivers, facilitating job placement)

**Potential Partners:** Department of Youth Development led training centers (under Thana Jubo Unnayan Offices in Dhaka city), private sector Jubo Unnayan O Karigori Proshikkhon Academies, Driving learning centres.

WVB can partner with Department of Youth Development led training centres and private sector youth development and vocational training centres to facilitate advanced technical training. The TSPs already are providing the training services however, WVB can facilitate the training on advanced skills those required by institutional buyers and customers such as

quality tailoring skills, graphics design, hardware engineering, sophisticated luxury beautification and driving etc. By getting advanced training youth and unemployed drop-outs will be able to produce quality products and services for the enterprises or start-up as an entrepreneur.

Private sector TSPs are facilitated to provide embedded services such as working as job placement agent for the job seeking employees and financing initial fees such as licensing fees. After the trainees are ensured a job, TSPs would charge for the embedded services they provided. Charge may come from commission of the first couple of months' salary for example.

**Intervention 3:** Facilitate aggregation of demand from similar enterprises (by forming group) and bulk purchase of inputs from wholesale markets  
**Potential Partners:** Local NGO for group formation and mobilization, Community Based Organization (CBO)

WVB can partner with a local NGO which would form groups with smallholder tailors, beauty parlours, and small boutiques and mobilize the groups. The formed groups will be facilitated in aggregating demand for inputs from all other group members and purchase inputs in bulk from wholesale markets. This would enable group members to reap the advantage of wholesale price and also quality of inputs. Smallholder enterprises will be able to provide better quality of products and services with quality inputs.

**Intervention 4:** Facilitate MFIs/Banks for designing and providing long term finance and seasonal loan

**Potential Partners:** BRAC, ASA, Grameen Bank  
WVB can partner with microfinance institutions to develop and promote specific micro finance products. The terms and conditions of the micro finance products (high interest rate, repayment terms, and credit term/tenure) are not suitable for the ultra-poor beneficiaries of WVB. Thus WVB can facilitate development of specific micro-finance products which will suit the need of their beneficiaries and promote such products to their beneficiaries. By specific micro finance products, we mean products that match the requirement of the target enterprises such

as seasonal loan, long term loan (usually tenure of more than one year).

## Chapter 2.11: Assessment of Handicraft Value Chain

### 2.11.1 Overview of Handicraft Value Chain

Handicrafts are generally defined as handmade items that are generally artistic and traditional in nature, used for utility or as an object of decoration, portraying a particular culture, religion, symbol or community.<sup>33</sup> It includes products associated with textile, leather, straw, clay, metal, jewelry, woodwork, stone craft, pottery, cane and bamboo.<sup>34</sup>

The Bangladeshi handicraft industry is cottage based, and comprises of over a thousand large scale producers, many of which sell in the local market and export as well.<sup>35</sup> Majority of them are small manufacturing enterprises mostly located in the rural regions, self-operated or with a very small size of workforce (10 to 20 people). The industry is highly labor-intensive, with over 3 million people artisans, out of which a significant proportion are women. It is a low-cost high potential sector, with minimum overhead expenses and infrastructure, hence creates large scale employment (particularly off-season employment) and empowerment of the rural poor. It is also a major source of income and empowerment for the country's rural communities.

AP analysed under regional area for handicraft is

Region	AP
GMR	Mymensingh Sadar

Some of the major Bangladeshi handicraft products are nakshi kantha, jamdani and shital pati. Other popular items include mirrors, picture frames, baskets, as well as furniture made of bamboo and cane; decorative items such as wall hangings, draperies, carpets and accessories such as bags, belts, etc. made of jute.<sup>36</sup> The products have widespread demand across the country as well as in the international market.

Bangladesh is one of the largest suppliers of handicraft in the world market, with roughly 20 percent of total production derived from export of handicraft items. Domestic supplies are supported by a large number of NGOs exporters such as Aarong, product houses who support the NGOs and private manufacturers and exporters such as Naksha, Rong, Nabarupa, etc. Banglacraft (Bangladesh Handicrafts Manufacturers and Exporters Association) has 300 enlisted producers who are involved with both the local and export markets.<sup>37</sup> The association comprises of a large number of manufacturers, exporters, producers, designers, promoters and suppliers of handicraft goods across the country.<sup>38</sup>

<sup>33</sup>

<https://www.slideshare.net/kaiummunsi/handicraft-industry-in-bangladesh>

<sup>34</sup> <https://www.textiletoday.com.bd/textile-handicrafts-and-its-prospect-in-bangladesh/>

<sup>35</sup> <https://www.textiletoday.com.bd/textile-handicrafts-and-its-prospect-in-bangladesh/>

<sup>36</sup>

<https://www.scribd.com/doc/15458779/Research-Proposal-Handicrafts>

<sup>37</sup> <https://www.textiletoday.com.bd/textile-handicrafts-and-its-prospect-in-bangladesh/>  
<sup>38</sup>

[http://www.hawker.com.bd/news\\_details.php?news\\_id=365243&news\\_category\\_id=6&val\\_lan=1](http://www.hawker.com.bd/news_details.php?news_id=365243&news_category_id=6&val_lan=1)



## 2.11.2 End Market Analysis

### 2.11.2.1 Market Intermediaries: Main Market, Buyers & Competition

Most handicrafts are produced, traded and exported by the giant non-government organisations (NGOs) and private enterprises. Among them, Karupponno Rangpur, Dhaka Trade, Kumudini, Aarong, Nipun crafts, Creation and Pioneers are exporting handicrafts to foreign countries. In these farms, there are professional designers with technical expertise. They design the products and skilled or semi-skilled people living in rural areas work at the dictation of the designers. Most of these big organizations use a third party agent to outsource the labor intensive work to artisans in rural areas. Therefore, to grab institutional

buyers there has to be a strategic alliance with a demand/supply aggregator.

At present, beneficiaries of World Vision are selling their products in local markets. Many of the products, which are of daily use, such as chicken baskets made from bamboo, mats woven in jute, earthen pots or textiles are generally sold within the village or nearby haat / bazaars. Some of the products find ways to the larger markets through the intervention of intermediaries. But the producers face a lot of trouble in securing work orders, the demand for items (bag, basket etc) is always fluctuating and the producers suffer from uncertainty about continuity of their work.

### 2.11.3 Description of Handicraft Value Chain

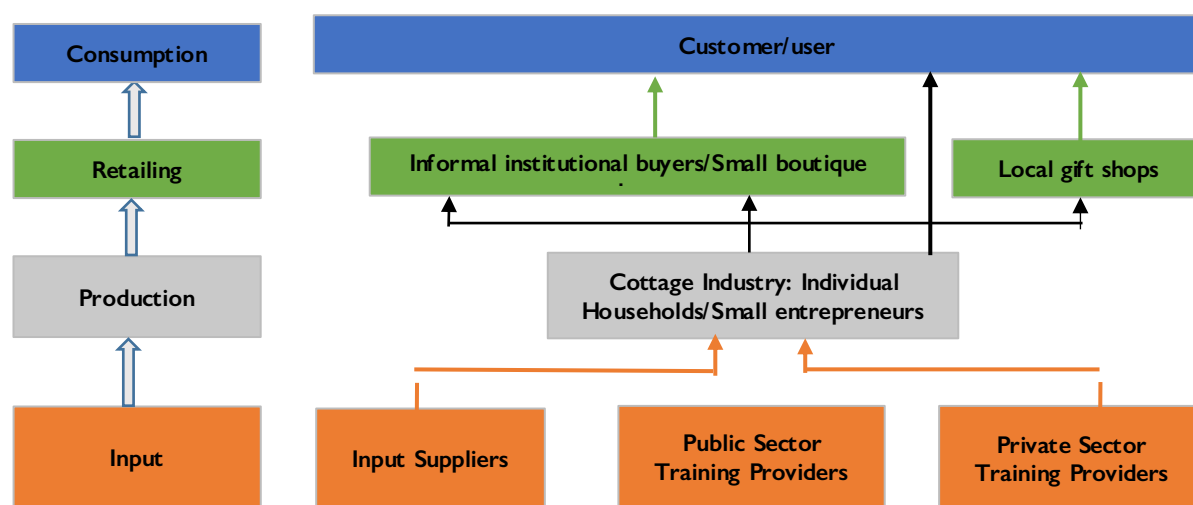


Figure 12: Handicrafts Value Chain

### 2.11.4 Performance and scope for upgrading:

#### 2.11.4.1 Input Suppliers:

Training Service Providers: Women received training either from Department of Youth Development or from World Vision. Training is affordable but there are producers who believe that the training is not effective, this was seen almost all the over the investigated area. Commonly women keep themselves busy in

making different bamboo and cane products in parallel to their daily household chores.

#### Scope for Upgrading:

The regular products are grain basket, bucket, stools, mats, fans, dala (tray), traps etc. However, due to lack of adequate training facilities, a very few can craft decorative items

like flower vase, lamp-shade, ornaments, showpieces, mirror frames, bags, decorative partitions etc. Therefore, there could be capacity development of training service providers so that they can teach more sophisticated items to women which in turn will generate more revenue for producers.

#### 2.11.4.2 Producers:

It is primary a women led activity and the producers are usually women who take orders and deliver products by working extra hours after their household chores. Therefore, women associated with Handicraft are yet to think of it as a profession or a means to earn.

##### Scope for Upgradation:

**Formation of Group:** Producers are working on individual level; they do not have a structured group to accomplish large work orders. Therefore, in order to attract big institutional buyers the producers themselves need to be organized to achieve the capacity required to supply products to big buyers.

**Training Service:** Producers need training on advanced skills. At present producers are relying on some basic skills which is readily available in almost all households in the area. There should be a connection with NGOs which work as supply aggregator for organizations like Aarong and they will be able to guide the groups on the specific skill set required by the buyers.

##### Cost Benefit Analysis of Handicraft Items:

Artisans of handicraft items continue to function at different levels, and within different work arrangements, their marketing methods are equally varied. For example, in the case of bamboo artisans selling at haats and bazaars is more pronounced whereas artisans who perform needlework effect most of their sales from their own premises. The rising costs of raw material inputs, the type of inputs which are

beyond the artisan's means, has created a vicious cycle in which the artisans find themselves in a situation where they neither have the surplus money to purchase raw materials, nor the ability to build up inventories. This is one reason for the appearance of intermediaries. If the production is for a distant market it invariably also leads to the emergence of the intermediaries, as they make purchases regularly, give advances for future orders and provide raw materials, which are not available locally or have been bought in bulk from wholesale markets.

Therefore, in some cases artisans only invest their labour in the value chain and are unaware of the input costs. Beneficiaries interviewed at the Mymensingh AP shared that they earn around BDT 2,500/month by selling handicraft items to different shops but they do not supply any fixed product and their sales fluctuates month to month.

#### 2.11.4.3 Retailers:

Producers usually sell their items to local boutique shops and gift shops in the markets. They usually place their order to their acquaintances and negotiate price with them on individual level. Retailers usually place their order once they are low on inventory.

##### Scope for Up-gradation:

**Market Linkage:** Producers lack access to market. The producers are not linked with any institutional buyers and thus they do not receive fair price for their items especially in locations which are at a distance from large urban centres. Therefore, there should be a relationship with NGOs which supply product to handicraft showrooms. The NGOs can also assist in terms of providing training of specific skill sets required by the buyer.

### 2.11.5 Assessment of the regulatory environment and support services

### 11.5.1 Infrastructure:

Majority of the project area are reasonably well connected. There is electricity in majority of the project areas except some very rural areas.

### 2.11.5.2 Government Support Services:

Department of Youth Development (DYD): The Department of Youth Development (DYD) aims to increase the active participation of the youth in National Development. They provide a range of services in Bangladesh in order to involve the youth in the mainstream national development process which includes: providing skill development institutional and non-institutional training, extension of micro-credit services, organization of self-employment

projects, establishment of youth organizations and provision of grants to youth organization.

Amongst the department's wide range of institutional and non-institutional training, DYD provides some which are relevant to cattle fattening. The relevant training courses for the unemployed youth include:

- (i) Livestock, Poultry rearing, Fishery and Agriculture program: This is a residential training program with a duration of 2.5 months, and has an admission fee of Tk. 100.

Department of Youth Development provides financing to youngsters who have developed a project after obtaining training from DYD. A trainee is eligible for credit if he/she has a viable project, the slabs for getting credit are as follow:

	First Disbursement	Second Disbursement	Third Disbursement	Interest	Duration
Formal Training	BDT 60,000	BDT 80,000	BDT 100,000	5% per annum	24 months with a grace period of three months
Informal Training	BDT 40,000	BDT 50,000	BDT 75,000		

### 2.11.5.3 Access to Finance

- **Credit Union:** In certain APs producers have a credit union of their own where they save money and borrow money from the group. The amounts of savings by farmers differ from group to group and the range is usually between BDT 10-50. Since these are groups by producers, therefore the terms and conditions are quite liberal. The interest rates charged by the producers are on average around 10% and they take monthly instalments but in some cases they also align the date of repayment with cash inflow of producers from the sales of products.
- **Micro Credit organisation:** Microcredit organizations are actively working in these regions such as BRAC, ASA and Grameen Bank. To avail any service

from these MFIs, one needs to become a member of the institute. These MFIs usually have a branch office and several centres/groups under each branch office. The first loan limit for new members is usually around BDT 5,000 to 10,000 for almost all the MFIs which is increased every year with the repayment of the previous loan. The payback period usually is 1 year with 44 instalments (weekly payment). The interest charged by the MFIs range from 20-26.5% per annum. It has been observed that many of the beneficiaries have been observed who availed micro credit however they are not using the money for handicrafts.

- **Banks:** Banks active in the project area are primarily state-owned commercial banks such as Sonali bank and Agrani bank. The non-state owned commercial

banks are established at the upazila level. Some of the major banks are BRAC Bank, Ansar VDP Bank, Islami Bank and Farmers Bank. To take out an SME loan from these banks, the borrower must have an already established business of two to three years. To avail the loan, the borrowers

must submit trade license, Tax Identification Number, Environmental, sanitary and fire-fighting certificate, picture of the store front, list of inventories. However, none of the beneficiaries have been observed availing these products.

## 2.11.6 SWOT Analysis

Table 50: SWOT Analysis of Handicraft Items

Strengths	Opportunities
<ul style="list-style-type: none"> <li>▪ Natural resources of raw materials: Bamboo, cane, thread etc are inexpensive</li> <li>▪ Locally produced handicraft products have both ethnic (hand woven clothes, show pieces, ladies ornaments etc.) and functional (carry basket, fences, fishing net etc.) utilities</li> </ul>	<ul style="list-style-type: none"> <li>▪ Supply-demand gap in countrywide ethnic product market offers a great promise for product placement. Additionally, these can be exported to the international market of ethnic products.</li> <li>▪ Functional products can be consumed in local markets within the region, in place of products from other regions of the country</li> </ul>
Weaknesses	Threats
<ul style="list-style-type: none"> <li>▪ Commercial production of handicrafts is little to non-existent</li> <li>▪ Traditional less productive approach to handicrafts making leads to lower productivity</li> <li>▪ Very little effective government and private initiatives to train the producers</li> </ul>	<ul style="list-style-type: none"> <li>▪ The town based commercial production houses are meeting the demand of functional products in the local market</li> <li>▪ Due to information gap interests of entrepreneurs in the field are not being attracted towards this region</li> </ul>

## 2.11.7 Constraints Analysis

Table 51: Constraints of Handcraft Value Chain

	Actors	Functions	Constraints	Root Cause	APs where the constraint was observed
Core Function	input suppliers	<ul style="list-style-type: none"> <li>- Providing raw materials such as bamboo, cane etc</li> <li>- Training Service Provider</li> </ul>	Training service providers do not have good trainers who can teach producers the craftsmanship required by the buyers.	Trainers close to the vicinity do not offer courses on advanced techniques	Mymensingh AP
			Lack of training facilities on design, product development and appropriate crafting methods		
	Smallholder Producers	Production of Handcraft items	Preference for indigenous technique over modern productive techniques	Producers are not aware of modern techniques.	Mymensingh AP
			Do not consider it as a profession, rather a means to earn extra income so its low in priority for the producers	They have not explored it as a profession	Mymensingh AP
			Producers do not have access to market	Lack of business network	Mymensingh AP
	Marketing Actors	Selling the produce	Low capacity in product innovation and diversification	Lack of training facilities	Mymensingh AP
			Information asymmetry about the volume of products they can buy. Sudden increase and demand in supply of products often cause price to fluctuate.	Buyers never have a forecast of the amount of products which they will find at the market.	Mymensingh AP
Support Functions	Public services	Providing information and implementation of different activities	The training program from DYD is not enough	Lack of manpower and budget of government agencies hampers the information dissemination	Mymensingh AP
Enabling Environment	NGO	Providing micro finance	Smallholder producers do not utilize micro finance for production	The product offering (duration, interest rate and repayments schedule) of the NGOs is not suitable for small producers NGOs do not target the smallholder producers as prospective clients	Mymensingh AP

## 2.11.8 Recommendations

The opportunities for working on these constraints can be analyzed to develop intervention plans that can be used as the basis to plan project activities:

Table 52: Recommendations on Handicraft Value Chain

Constraint	Intervention	Areas (Suitable APs)	Output	Outcome	Impact
Insignificant knowledge on Proper usage of inputs and Effective techniques	Skill development programs for small handicraft producers/ artisans on better crafting, effective use of tools and machineries, product design and finishing etc	Mymensingh AP	Artisans get trainings on better crafting, effective use of tools, product finishing etc.	Artisans adopt improved crafting methods and better practices	Enhanced awareness and better knowledge on better crafting, effective use of tools and machineries, product design and finishing
Lack of training facilities on design, product development and appropriate crafting methods	Developing training materials (documentary film, leaflet, booklet etc.) for artisans on design, better crafting, effective use of tools, product finishing etc	Mymensingh AP	Partners facilitating the intervention get better promotional coverage of their products or services	Convenient equipment's and tools, innovative crafting methods and eco-friendly practices for production of handicrafts get familiar and popular across the value chain	Better productivity
Poor access to market in terms of physical communication and transportation as well as poor bargain capacity of the artisans	Creating artisans group within the AP to get further reach to forward market (ie wholesale market), to reduce transport cost, to minimize wastage/ quality loss and to strengthen artisans' bargain capacity over the local intermediaries	Mymensingh AP	Artisans' groups add efficiency in the value chain performance through their collective efforts	Artisans become capable of producing inventive and diversified crafts	Increased Profitability

## 2.11.9 Intervention details

Intervention 1: Facilitate group formation of producers

Potential Partners: N.A

Intervention Details:

WVB can organize producer groups who will pursue work orders commercially. Before applying for big contracts, it is important to develop capacity of the producers as professionals.

Intervention 2: Capacity development of training service provider

Potential Partners: DYD, Private training service providers

Intervention Details:

WVB can partner with leading well reputed training service providers to hire trainers who will train and develop resource person in Mymensingh AP. There should be development of multimedia training modules such as video documentary, booklet etc. so that trainees find classroom interesting and they have learning materials which they can refer to later.

Intervention 3: Facilitate linkage with forward buyers

Potential Partners: Aarong, NGOs exporting handicraft items

Forward market linkage of producer groups should achieve two goals:

1. Win bulk contract
2. Get training on items which are mostly sought by buyers.

Therefore, there should be clear communication on the buyer's requirement and then train artisans on the exact product required by buyers to deliver the work order. This strategy will reduce rejection from buyers and will ensure the artisans get right price.

Intervention 4: Development and promotion of specific micro finance product for artisans

Potential Partners: BRAC, ASA,

WVB can partner with microfinance institutions to develop and promote specific micro finance products. The terms and conditions of the micro finance products (high interest rate, repayment terms) are not suitable for the ultra-poor beneficiaries of WVB. Thus WVB can develop specific micro-finance products which will suit the need of their beneficiaries and promote such products to their beneficiaries.

## Chapter 3: Inclusion of Women Producers/Ultra Poor Graduation HHs/Youths

In each of the value chains assessed, women, youth and ultra poor households can play an important role. However, each of these stakeholders face significant challenges in terms of inclusion. Women in Bangladesh are particularly disadvantaged compared to their male counterparts. Although women are engaged directly and indirectly in different stages in the agricultural sector<sup>39</sup> in most households, their efforts are often not reflected in official statistics. The mobility of women is also comparatively less than their male counterparts, due to various socio-economic reasons. Youths are faced with lack of access to productive resources, capital and fewer opportunities to apply their skills and knowledge<sup>40</sup>. Ultra poor households also lack capital, resources and opportunities to engage in income generating activities, and are unable to gain technical and vocational skills as per market demand.

Including women, youth and ultra poor in the value chain can significantly improve living standards of these stakeholders. These beneficiaries can also play an important role in the Value chain recommended interventions. Facilitating linkages with input sellers in all the value chains can contribute to a provision of training and embedded services to farmers. These training can be specially tailored for youth and women, which can help them to get a better understanding of the value chain as a whole. For instance, youth and women who want to enter into beef fattening can highly benefit from these training in terms of proper feed management, vaccination of cows and management of cows. Facilitating proper linkages can also reduce the distance women have to travel in order to avail such services. For example, before WVB

interventions, women who are engaged in beef fattening had to travel greater distances to DLS offices in order to avail AI services. If proper linkages are created between AI service providers and smallholder beef fattening farmers, women can obtain these services at closer proximity. This might encourage women to be more involved in beef fattening. The same is applicable for goat rearing and dairy farming.

Women and youth can also play an important role in the formation of farmer groups in duck or chicken rearing. These groups can pool together their ducks and chickens and avail vaccination services from DLS office, which might significantly lower their per head cost. Women who face difficulty in travelling to DLS office can entrust her chickens or ducks to another farmer in the group, who can help her by taking the chickens and ducks to the DLS office and getting their ducks vaccinated. WVB can also partner with the DLS to train up some of the female members as vaccinators.

The cultivation of Napier for cattle can be promoted especially for ultra-poor households as a potential non-farm income generating activity. The increase in demand for dairy farming and beef fattening in Bangladesh has caused an increase in the demand for Napier grass. Napier grass usually does not require much water, fertilizers and pesticides to grow, making the cost of production low. Therefore, promotion of Napier grass cultivation can help ultra-poor households to be involved in income generating activities (IGAs).

WVB can develop specific micro finance schemes for women and youth with partner microfinance organizations, which can suit the needs of such beneficiaries. Ultra Poor

<sup>39</sup>uz Zaman, S., 2002. Women's role and status in Bangladesh agriculture. Available at: [http://www.hdrc-bd.com/admin\\_panel/images/notice/1383646369.womens%20role%20and%20status%20in%20bangladesh%20agriculture.pdf](http://www.hdrc-bd.com/admin_panel/images/notice/1383646369.womens%20role%20and%20status%20in%20bangladesh%20agriculture.pdf)

<sup>40</sup> Pyburn, R., Audet-Bélanger, G., Dido, S., Quiroga, G. and Flink, I., 2015. Unleashing potential: Gender and youth inclusive agri-food chains. *KIT Work. Pap*, 7, pp.1-16. Available at: [http://www.snv.org/public/cms/sites/default/files/explore/download/snv-kit\\_wps\\_7-2015.pdf](http://www.snv.org/public/cms/sites/default/files/explore/download/snv-kit_wps_7-2015.pdf)



beneficiaries can also benefit from specific micro finance schemes designed for them.

The LVCD facilitators of WVB can also play a strong role in promotional activities. These

facilitators can work with the input companies in promotional activities. These facilitators can provide information through the use of mobile phones at both individual and household level.

Inclusion of Women, Youth and Ultra poor Household

Probable Interventions			
	Women	Youth	Ultra poor household
Dairy	Napier and Pakchong cultivation and selling	Napier and Pakchong Cultivation and selling	Linkage with graduation approach of WVB
	Linkage with MFIs	Linkage with MFIs	Napier and Pakchong Cultivation and selling
	Promotion of Hydroponics fodder	Promotion of Hydroponics fodder	Promotion of Hydroponics fodder
Country Chicken	Vaccinator Training Program with DLS	Promotion of incubator technology	Linkage with graduation approach of WVB Vaccinator Training Program with DLS
	Promotion of incubator technology		Promotion of Hydroponics fodder
	Promotion of Hydroponics fodder	Promotion of Hydroponics fodder	
Beef Fattening	Group based contract farming	Group based contract farming	Linkage with graduation approach of WVB
	Napier and Pakchong cultivation and selling		Group based contract farming
	Promotion of Hydroponics fodder	Napier and Pakchong cultivation and selling	Promotion of Hydroponics fodder
Duck Rearing	Promotion of incubator technology	Promotion of incubator technology	Linkage with graduation approach of WVB
	Vaccinator Training Program with DLS		Vaccinator Training Program with DLS
Goat Rearing	Group based contract farming	Group based contract farming	Linkage with graduation approach of WVB
	Napier and Pakchong cultivation and selling	Napier and Pakchong cultivation and selling	Napier and Pakchong Cultivation and selling
	Promotion of Hydroponics fodder	Promotion of Hydroponics fodder	Promotion of Hydroponics fodder
Maize	Silage preparation and selling	Silage preparation and selling	Silage preparation and selling
Vegetable	Group based contract farming	Group based contract farming	Group based contract farming
Carp Fish	Promotion of green pond technology	Creating linkage with hatcheries	Promotion of green pond technology
	Creating linkage with hatcheries	Linkage with MFIs	Linkage with graduation approach of WVB
Fruits	Group based contract farming	Group based contract farming	Group based contract farming
Vocational Training	Facilitate potential employer to finance training for development of potential employees' skill	Facilitate potential employer to finance training for development of potential employees' skill	Facilitate potential employer to finance training for development of potential employees' skill

Handicrafts	All proposed interventions	All proposed interventions	Linkage with graduation approach of WVVB
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### Case Study 1: Linking Women Entrepreneurs with Input Companies: The experience of Feed the Future

Partners: ACI and Feed the Future Program

**Background:** Feed the Future is the U.S. Government Global Food Security Initiative to combat hunger and poverty around the world. Feed the Future supports the following programs, partnerships and organizations in Bangladesh: Abiotic Stress Tolerant Rice and Wheat, Accelerating Capacity for Monitoring and Evaluation, Agricultural Extension Support Activity, Agricultural Statistics/Marketing Information Systems, Agricultural Value Chains, Agriculture Biotechnology Support Project Phase II and Agriculture Infrastructure Development with Local Government Engineering Department.

**Activity:** The Feed the Future Bangladesh Women's Empowerment Activity teamed up with Advanced Chemical Industries Ltd. (ACI), a Bangladeshi agribusiness company, to work with disadvantaged women to improve access to productive resources and increase power and agency. The FtF program identified three necessary resources for successful integration of women in poultry value chain: 1) assets, 2) agricultural services, and 3) financial services. To address these gender-constraints, ACI offered households a two-day Agricultural Technical Training and a three-day Entrepreneurship Development Training. The trainings provided participants with the skills, technical knowledge, and confidence to engage in new income-generating activities.

**Impacts:** For one of the beneficiaries, Morzina Begum, this meant establishing a small-scale poultry operation. Morzina's new understanding of poultry feed varieties and poultry health maintenance as well as her ability to create and implement an effective business and marketing plan helped to mitigate the risks traditionally associated with small-scale poultry farming<sup>41</sup>. She started a two-decimal farm with 200 chicks that she received from ACI, and with her own investment built a structure to rear the chicks.

Morzina applied her technical knowledge and skills to successfully rear her first round of chicks. In the first cycle Morzina made a profit of 21,750 Bangladeshi Taka, around \$280 US, which she reinvested in a second venture. In the second venture, she made a profit of 12,285 Bangladeshi Taka, around \$160 US, and is now planning to use these funds to start a larger poultry farm.

### Case Study 2: Linking Meat Producers with Formal Processors

Partners: Pabna Meat and Practical Action

**Background:** The contract farming scheme of Pabna Meat, in collaboration with Practical Action Bangladesh, aims to involve twenty-five women to feed and fatten cows on a pilot basis for six months. This scheme has been undertaken in order to increase Pabna Meat's output of high quality organic meat, by developing a sustainable inclusive supply chain.

**Activity:** Under this scheme, Pabna Meat will provide a loan to women to purchase cows per four or six months cycle each year. At the end of each cycle, Pabna Meat purchases the cows back at a fair market price. In addition, Pabna Meat will train the women on cattle management and production of cattle feed. In the same time, Pabna Meat will also ensure that good quality cows are being selected for fattening and are given proper medication in a timely basis.

**Impact:** In this way, Pabna meat will be able to increase their processing capacity to around 25 cows per day and will also be able to ensure high quality of meat. Furthermore, Pabna Meat will be able to obtain a steady supply of cows at fair market prices. Simultaneously, the scheme is expected to benefit around 1200 marginalized women entrepreneurs, where the women will be able to earn a reliable monthly wage, training and

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<sup>41</sup> Friar, C. 2017. *Working with the Private Sector to Promote Women's Empowerment*. USAID. Available at: <https://microlinks.org/blog/working-private->

[sector-promote-women%E2%80%99s-empowerment](https://microlinks.org/blog/working-private-sector-promote-women%E2%80%99s-empowerment)

quarterly sale of two cattle to Pabna Meant. Each woman is estimated to earn around BDT 8000 from quarterly sale of two cattle to Pabna Meat, and an approximate wage of BDT 2000 per month for her labor.

#### Case Study 3: Contract Farming model of ACI

Partners: ACI and Practical Action

Background: The profit-sharing contract farming scheme of ACI, in collaboration with Practical Action Bangladesh, aims to engage smallholder farmers in tomato production in order to ensure a sustainable supply of high quality tomatoes at fair market prices.

Activity: Practical Action shall be responsible for forming groups of smallholder farmers under

Rural Sales & Services Centres (RSSCs), in order to assist farmers to lease land and oversee the cultivation process. ACI will provide all agricultural inputs to the farmers on credit. The smallholder farmers will then cultivate tomatoes and sell the tomatoes directly to ACI at an agreed upon price. The profits will then be distributed amongst all the farmers in the group.

Impact: Under this venture, farmers will be able to afford agricultural inputs, and will be able to realize a 30% increase in their income. They could also benefit from training on optimal fertilizer use and cultivation methods. This project is estimated to benefit 5000 low income farmers by the third year of scale-up. In return, ACI can ensure a steady supply of high quality tomatoes at fair market price.

## Chapter 4. Value Chain Development interventions impact on Women Economic Empowerment

Gender equality and women's empowerment are key considerations in making markets more inclusive. Although precise definitions vary, and are dependent on context, two aspects are typically considered necessary for a woman to be economically empowered: (i) Access to resources: to be able to advance economically, women need the skills and resources to compete in markets, as well as fair and equal access to economic institutions and (ii) Agency: to benefit from economic activities, women need to have the ability to make and act on decisions and control resources and profits, and a manageable workload. When a market system is inclusive, the structures within it enable and facilitate women's equal access to resources. It also catalyzes the capability of decision making required for women to have the agency to act upon the acquisition of those resources and influence the systems in which they live. The resulting outcome is a reduction in gender inequalities throughout the market system, opening up new opportunities for women to access additional resources and enhance their agency. This dynamic cycle ultimately enables women and men to equally compete for and reap the benefits of market systems on a level playing field.

Women's empowerment is achieved when women and girls acquire the power to act freely, exercise their rights, and fulfill their potential. While empowerment often comes from within individuals themselves, cultures, societies, and institutions create conditions that facilitate or undermine the possibilities for empowerment. The process of empowerment is incremental and involves changes to multiple aspects of a woman's life. Furthermore, women are not a homogenous group, but a diverse group of people who experience empowerment and gender relations differently based on the context in which they live, their social relations (i.e., class, age, marital

status), and their socially designated identities (i.e., wife, daughter, co-worker). Women face unique barriers, such as lower ownership of assets, unequal access to productive resources, and disproportionate responsibility for unpaid, household work that limits their time to invest in profitable work—all of which prevent them from benefitting from these interventions.

Women generally face various barriers to and opportunities for empowerment exist in each of the subsystems within a market system where women engage. These include the household, community, workplace, supporting institutions, and enabling environment. For example, in many contexts, a woman's access to markets and services is constrained by household and communal norms that restrict her mobility outside the home or community. In Sylhet region, we have found that the existing social norm does not allow women to participate in activities outside of their home. However, in the Northern region of Bangladesh especially in Dinajpur, Rangpur, Thakurgaon, such social norms are not so strict. In terms of wage labour, we have seen that women are paid less than their male counterparts. In terms of access to financial services especially microcredit, although the woman in the household borrows from the MFIs, they generally do not utilize the funds rather give the funds to the male family member to utilize. We have also seen that noneconomic factors such as gender-based violence, education levels, and reproductive health issues can have strong impacts on a woman's empowerment.

According to ILO (2014), Women's Entrepreneurship Development (WED)

interventions should focus on 5 key aspects<sup>42</sup>: Finance, BDS, Market access, Enabling Environment and Agency. The intermediate outcomes will be:

- More start-ups, investment
- Improved business knowledge/skills, confidence, agency over business decisions
- Improved business practices & performance
- Increased market access
- Higher business formalization

Final outcomes will be:

- Business growth: increased revenues, profits, employees
- Enhanced women's economic empowerment (e.g. agency over business earnings, investments)

Experience of Katalyst (2018) in Prawn subsector on women economic empowerment provides further evidence of such changes<sup>43</sup>. Katalyst's Women's Economic Empowerment (WEE) sector designed an intervention to provide training in modern prawn cultivation techniques and input and create linkages between feed and aqua-chemical companies with women prawn farmers of the Jessore-Khulna-Bagerhat-Satkhira-Narail belt in Bangladesh. Through the intervention, 22,170 women farmers had improved access to quality inputs and relevant know-how. Katalyst reported an average income increase of 20,060 BDT annually per women farmer. Women farmers had improved confidence and agency over their production and had better access to input providers. Local MFIs, realizing that the women farmers were better borrowers, designed and promoted a specific loan product especially targeting women prawn farmers. As a result of

increased income of the female member of household, the husbands started asking inputs from their wives of household level decisions. With the increased income, women were able to buy more nutritious food for their children and also saved a certain amount for future uncertainties.

Women Economic Empowerment can benefit not only women, but the society as a whole. Women have a tendency to spend their incomes on their family's health and wellbeing, as opposed to their male counterparts. As a result, women empowerment can not only lead to her own development, but to the development of the household as a whole. Women who earn and control their own income are likely to invest more on children's nutrition, education and health<sup>44</sup>. Improving the knowledge and status of women within the household and at the farmer group level would deliver significant improvements to agricultural production, food security, child nutrition, health and education. Studies show that when income is in the hands of the mother, the survival probability of a child increases by about 20 percent in Brazil, and in Kenya, a child will be about 17 percent taller, because mothers will invest more of their income in health and nutrition. In sub-Saharan Africa, agricultural productivity could be raised by as much as 20 percent by allocating a bigger share of agricultural input to women<sup>45</sup>.

Women with greater agency are more likely to have fewer children, more likely to access health services and have control over health resources, and less likely to suffer domestic violence. Their children are more likely to survive, receive better childcare at home and receive health care when they need it. At the same time, improved health

<sup>42</sup> Patel, P., 2014. Effectiveness of entrepreneurship development interventions for women entrepreneurs: An ILO-WED Issue Brief.

<sup>43</sup> Katalyst. 2018. Women's Economic Empowerment through Prawn Cultivation: a mini case study.

<sup>44</sup> Van Ameringen, M., 2014. What does women's empowerment have to do with nutrition?. *African Journal of Food, Agriculture, Nutrition and Development*, 14(1).

Available at: <https://www.theguardian.com/global-development-professionals-network/gain-partner-zone/womens-empowerment-nutrition>

<sup>45</sup> Why is women's economic empowerment important for development?. World Bank. n.d. Available at: [http://siteresources.worldbank.org/INTGENDER/Resource/womens\\_economic\\_empowerment.pdf](http://siteresources.worldbank.org/INTGENDER/Resource/womens_economic_empowerment.pdf)

outcomes for women can help to strengthen their own agency and empowerment. Healthy women are more able to actively participate in society and markets and take collective action to advance their own interests. They are likely to have

greater bargaining power and control over resources within the household. Therefore, collaborative action between gender and health can help maximize the impact of gender policies on health and vice versa.



# Chapter 5: Risk Mitigation Strategy

## Risk mitigation:

As the ultimate goal of any value chain development program is to facilitate the participation of beneficiaries in the end market, a strong focus needs to be placed on assessing and mitigating any risks associated with the end market. One of the most effective methods in risk mitigation strategy is early detection and assessment of risks to understand whether a risk can seriously affect the end market. To successfully assess such risks, there is a need for a strong market intelligence system. Market intelligence is the process of gathering, analyzing, conveying and utilizing information (quantitative and qualitative) about a particular market. It seeks to assess opportunities and constraints with regard to buyers, competitors, suppliers, service providers, market trends, regulatory environments – all elements relevant to making business decisions. Such market intelligence is extremely important for a value chain program utilizing a portfolio approach as the program needs to continuously gather and analyze information regarding each of the value chains. Although the program should primarily be responsible for such market intelligence, multiple actors possess the resources, skills and access to information needed to develop reliable, actionable end-market intelligence. Thus it is recommended that the program works with the

various stakeholders to reduce the risks associated with depending on the decision-making expertise of any single entity and sharing the responsibility. The program can work with government agencies and private companies to gather such intelligence. There needs to be a system which gathers market intelligence periodically (every two or three months) and analyzes such data to guide program activities.

Some of the risks associated with end markets are:

- evolving buyer preferences
- emerging and fading trends
- new threats
- key areas requiring investments in upgrading
- contracting markets for a particular product or service
- rising niche markets requiring improved market positioning
- shifts in messaging (marketing approaches that currently resonate with buyers)
- changes in a target market's regulatory environment (e.g., tariff schedules, banned materials)

Based on the field investigation we have assessed the degree of risks for each of the value chains:

	Cow (Dairy)	Country Chicken	Beef Fattening	Duck Rearing	Goat Rearing	Vegetables	Fruits	Carp fish	Handicrafts	Maize
Evolving buyer preferences	Low	Low	Low	Low	Low	Low	Low	Low	Medium	Low
Emerging and fading trends	Low	Low	Low	Low	Low	Low	Low	Low	Medium	Low
New threats	Medium	Low	Medium	Low	Low	Low	Low	Low	Low	Low
Key areas requiring investments in upgrading	Low	Medium	Low	Low	Low	Low	Low	Low	Medium	Low
Contracting markets for a particular product or service	Low	Low	Low	Low	Low	Low	Low	Low	Medium	Low
Rising niche markets requiring improved market positioning	Low	Low	Low	Low	Low	Low	Low	Low	Medium	Low
Shifts in messaging (marketing approaches that currently resonate with buyers)	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Changes in a target market' s regulatory environment (e.g., tariff schedules, banned materials)	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low

Risk Management: Livestock			
1	Natural and Climate Change Induced Risk Mitigation Strategy		
	Type	Risk	Mitigation strategy
	Production	Flood	Alternative feed source such as Napier and Pakchong Cultivation on high land Promotion of Feed Conservation techniques Usage of GIS to provide early warning system
		Drought	Alternative feed source such as Napier and Pakchong Cultivation on high land Promotion of Feed Conservation techniques
		Diseases	Proper feed management, regular Health check-up of livestock, vaccination
	Sales	Not Applicable	
	Transportation	Not Applicable	
2	Business Risk and Mitigation Strategy		
	Type	Risk	Mitigation strategy
	Customer Commitment	Low sales (Dairy)	Linkage with institutional buyers
	Market Price	Market Price is low (Dairy)	Linkage with institutional Buyers
		Input Price is high	Promotion of alternative feed
	Investment/ Loan	Collateral Requirement	Development of alternative loan product
	Road Accident Supply of Finance Others	Product offering is not suitable	Promotion of existing loan product
3	Social Barriers to Business/Political Risk and Mitigation		
	Risk	Mitigation strategy	
	Pressure from household Work	Awareness/ Motivational campaign at household level with participation of male household member	
	Thievery/Enmity	Engagement of local community leaders with producer groups	

Risk Management: Vegetable, Maize and Fruits			
1	Natural and Climate Change Induced Risk Mitigation Strategy		
	Type	Risk	Mitigation strategy
	Production	Flood	Usage of GIS to provide early warning system
			Promotion of early varieties
		Diseases	Promotion of Integrated pest management
	Sales	Flood	Establishment of collection points
Transportation	Not Applicable		
2	Business Risk and Mitigation Strategy		
	Type	Risk	Mitigation strategy

Customer Commitment	Low sales	Linkage with institutional buyers
Market Price	Market Price is low	Linkage with institutional Buyers Establishment of collection points
	Input Price is high	Promotion of bio-fertilizer
Investment/ Loan	Collateral Requirement	Development of alternative loan product
Road Accident	Product offering is not suitable	Promotion of existing loan product
Supply of Finance		
Others		
<b>3 Social Barriers to Business/Political Risk and Mitigation</b>		
Risk	Mitigation strategy	
Pressure from household Work	Awareness/ Motivational campaign at household level with participation of male household member	

<b>Risk Management: CARP Fish</b>		
<b>1</b>	<b>Natural and Climate Change Induced Risk Mitigation Strategy</b>	
Type	Risk	Mitigation strategy
Production	Flood	Usage of GIS to provide early warning system
	Draught	
Sales	Flood	
Transportation	Not Applicable	
<b>2</b>	<b>Business Risk and Mitigation Strategy</b>	
Type	Risk	Mitigation strategy
Customer Commitment	Low sales	Linkage with institutional buyers
		Group based approach to improve bargaining power
Market Price	Market Price is low	Linkage with institutional Buyers Group based approach to improve bargaining power
	Input Price is high	Promotion of green pond technology
Investment/ Loan	Collateral Requirement	Development of alternative loan product
Road Accident	Product offering is not suitable	Promotion of existing loan product
Supply of Finance		
Others		
<b>3</b>	<b>Social Barriers to Business/Political Risk and Mitigation</b>	
Risk	Mitigation strategy	
Pressure from household Work	Awareness/ Motivational campaign at household level with participation of male household member	

#### Risk Management: Handicrafts

<b>1 Natural and Climate Change Induced Risk Mitigation Strategy</b>		
<b>Type</b>	<b>Risk</b>	<b>Mitigation strategy</b>
Production	Flood	Usage of GIS to provide early warning system
Sales	Not Applicable	
Transportation	Not Applicable	
<b>2 Business Risk and Mitigation Strategy</b>		
<b>Type</b>	<b>Risk</b>	<b>Mitigation strategy</b>
Customer Commitment	Low sales	Linkage with institutional buyers
Market Price	Market Price is low	Linkage with institutional Buyers
Investment/ Loan Road Accident Supply of Finance Others	Collateral Requirement Product offering is not suitable	Development of alternative loan product Promotion of existing loan product
<b>3 Social Barriers to Business/Political Risk and Mitigation</b>		
	<b>Risk</b>	<b>Mitigation strategy</b>
	Pressure from household Work	Awareness/ Motivational campaign at household level with participation of male household member

<b>Risk Management: Vocational Training</b>		
<b>1 Natural and Climate Change Induced Risk Mitigation Strategy</b>		
<b>Type</b>	<b>Risk</b>	<b>Mitigation strategy</b>
Production	Not Applicable	
Sales	Not Applicable	
Transportation	Not Applicable	
<b>2 Business Risk and Mitigation Strategy</b>		
<b>Type</b>	<b>Risk</b>	<b>Mitigation strategy</b>
Customer Commitment	Low Sales	Linkage with institutional buyers
Market Price	Low Price	Linkage with institutional Buyers
Investment/ Loan Road Accident Supply of Finance Others	Not Applicable Product offering is not suitable	Development of alternative loan product Promotion of existing loan product

<b>3</b>	<b>Social Barriers to Business/Political Risk and Mitigation</b>
<b>Risk</b>	<b>Mitigation strategy</b>
Pressure from household Work	Awareness/ Motivational campaign at household level with participation of male household member

## Chapter 6. Implementation guideline

### 6.1 Theory of Change

As with all designs, the value chain project design process needs to be guided by a theory of change that builds on a development hypothesis to say how a set of interventions will catalyze desired change. A theory of change provides the “story” of how the program expects goals and objectives to be reached, what will need to happen for them to be reached, and what assumptions are being made. In addition, projects need a means of explaining and tracking progress towards the goals and objectives—through a results framework, logframe, or similar tool. These foundational components of design are essential and need to be developed at the early stage of the program to guide implementation effort.

### 6.2. Portfolio Approach

As WVW will be working at the national level, it is expected and recommended that the program follows a portfolio approach. Such an approach will mitigate the risks associated with working in dynamic and sometimes volatile markets, some activities take a portfolio approach—selecting multiple value chains with diverse risk profiles. The portfolio approach also allows for greater impact through targeting complementary value chains—such as food and cash crops, or economic activities that maximize land and labor resources. In addition, addressing input delivery mechanisms for one crop could have a spillover effect on another crop value chain. Thus the program needs to take a portfolio approach and such an approach needs to be based on a consistent stream of performance data that guides periodic assessment or rebalancing of portfolio holdings to optimize donor returns.

### 6.3 Designing Interventions and activities

Once the theory of change is developed, the program needs to focus on designing

interventions and activities. Although this report outlines the proposed interventions, the program needs to decide upon which interventions to undertake. The rapid nature of the assessment also means that some market constraints and opportunities might not have been revealed. Thus the program team needs to decide on the specific interventions. After designing the interventions, the program team also needs to decide on the specific activities under each of the interventions.

### 6.4 Partner/Lead Farm Identification and Selection

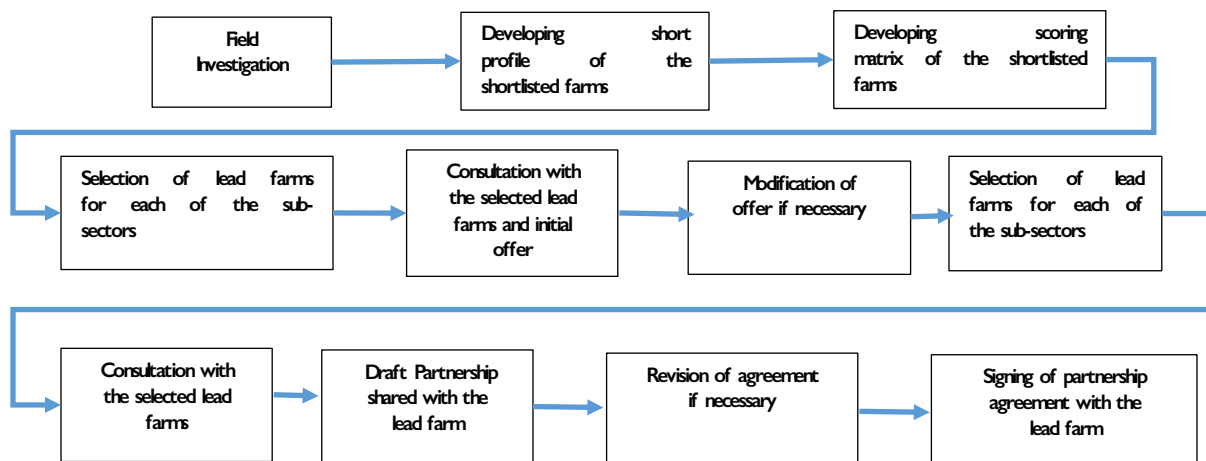
One of the key aspects of the VCD approach is leveraging the resources of farms (small, medium, or large farms that have forward or backward commercial linkages with a significant number of MSMEs). The benefits of working with the lead farms include: achieving sustainability of impact, scale of impact, achieve expansion of desired outcomes, development of embedded support among market actors and greater industry competitiveness. Thus we propose to utilize the following criteria in selection of lead farms:

- Degree of engagement with forward and backward level MSMEs
- Relevance with the intervention
- Degree of sufficient financial strength to make investments or dedicate resources to business operations that will result in improved and/or expanded relations with MSMEs
- Willingness to make investments in improved or expanded relations with MSMEs that may only show results over a longer period of time
- Demand of the products or services of the Lead Farms
- Ability to compete successfully in end markets for their products or services
- Potential to influence other lead farms and actors in the value chain
- Track record and reputation as businesses

The program needs to identify and select potential lead farms who will become project partners and implement the designed interventions and activities. However, the

identification and selection of the lead farm is a long and often repetitive process. We propose WVB follows the following framework for partner identification and selection:

Process Flow of Lead Farm selection and Partnership Agreement signing



## 6.5 Monitoring and Results Measurement Framework

After the partnership agreement is formed, WVB needs to implement the activities as per the logframe. Thus a strong monitoring and results measurement framework needs to be developed for monitoring and evaluating the activities and interventions. Such a framework can be used to

track intervention progress, identify bottlenecks and help in modification or change of interventions. As markets are extremely fluid and complex, such mechanism helps in flexibility and continual validation and revision of the programme logic.



# Annexure

## I. Value Chain Selection Consultation Workshop Discussion Guide

**Participants:** Farmers, Producers, Input Suppliers, Forward Market Actors (Bepari, Aratdat, etc.), Government officials from DLS/DYD, officials from other development programs within the area, MFIs and Trader Association Representatives.

### Introduction:

Welcome and thank you for volunteering to take part in the value chain selection meeting. World Vision wants to identify potential value chain to improve the income of poor and marginalized farmers/producers. They also want to figure out which potential value chains are suitable for women and youth engagement. World Vision Bangladesh has commissioned Innovision Consulting Private Limited to conduct the study. You have been asked to participate as your point of view is important. I realize you are busy and I appreciate your time. The purpose of this meeting is to select and gain an in-depth understanding of the potential value chains within the respective AP. The discussion will not take place for more than two hours.

### Sharing the objectives of the meeting

The meeting tried to bring together stakeholders and beneficiaries of different potential value chains. This was done in order to gain a better understanding of the region, and to assess the prospects and challenges. Some participants, such as government officials and representatives of other development programs of the region were also invited to gain a more diversified understanding of the region and value chain. World Vision wants to work with potential value chain to improve the income of poor and marginalized farmers/producers. They also want to figure out which potential value chains are suitable for women and youth engagement. Each value chain will be marked based on selection criteria such as:

- Number of farmer engagement.
- Experience of WVB in the value chain.
- Potential for growth.
- Initiatives of public sector.
- Private sector and development projects.
- Scope for inclusion of women and youth and
- Scope for engagement of poor and ultra-poor as farmers or producers

8 to 10 value chains will be primarily selected for marking.

### Ground rules

- Only one person shall speak at a time. Please do not interrupt others while they are talking, and wait for them to finish.
- There is no order in which you have to speak
- Each member of the discussion will be given an opportunity to speak
- You do not have to agree or disagree with anyone else in the group discussion
- The discussion will be completely anonymous

### Guiding Questions:

The following questions will be marked for each value chain within a scale of 1 to 5.

1. Can you please rank each value chain based on the engagement of farmers/producers?
2. Can you please rank the experience and activity of WVB in each value chain?
3. Can you rank each value chain based on the Potential for growth? The potential of growth shall be assessed based on demand, risk and profitability.
4. Can you please rank each value chain based on initiatives from public sector, private sector and development projects?
5. Can you please rank each value chain based on scope for inclusion of women and youth?
6. Can you please rank each value chain based on scope for engagement of poor and ultra-poor as producer or employees?

#### Conclusion

- Thank you for participating. This has been a very successful discussion
- Your opinions will be a valuable asset to the study
- We hope you have found the discussion interesting

## 2. Question Guide for On-Farm Producer

### General information

Name of Respondent			
Address			
Cell number			
Type of produce			
Name of Interviewer		Date	

### Crop information

Type of Crops	Season	Production (MT/Year)	Area utilized (Acre)	Trend of produce %	
				Increasing	Decreasing

### Input usage and procurement:

Types of Input	Sourcing (Self/Supplier)	Name of source	Challenges in usage & procurement

### Process of production:

Steps in production	Challenges

### Marketing channels:

		Volume sold (%)	Number of marketing agents	Challenges
Direct sale	Direct sales in market			
In direct sale	Faria			
	Bepari			
	Arotdar			

#### Cost profit

Production cost	Cost head		Amount (BDT/Acre)
	Lease cost		
	Land Preparation Cost (If applicable)		
	Type of Inputs & Cost		
	Labor Cost		
	Post-Harvest Cost (Cleaning, sorting/grading, packaging, storing)		
	Transport Cost		
Others			
Total Cost			
Sales of production	Total sales volume/ quantity		
	Average sales price (per Unit)		
	Total sales		
Profit (BDT)			

#### Access to finance:

Cost head	Investment requirement (BDT)	Source of finance	Challenges in accessing finance

#### Knowledge and Training

Have you received training? (Yes/No)	Topics of training	Source of training	Knowledge obtained from training	Do you require further training? (Yes/No)	If yes, on what topics?

1. What are the constraints that hinder your business growth?
2. What types of services are needed for your business growth?
3. Are you member of any producer group/association/Community groups? If so, name please.
4. Are you member of any savings group?

### 3. Question Guide for Off-Farm Producer

#### 1. General information

Name of Respondent			
Name of Enterprise			
Address			
Cell number			
Type of product			
Name of Interviewer		Date	

#### 2. Product information

Type of Product	Production Season	Production (MT/Year)	Trend of produce %	
			Increasing	Decreasing

#### 3. Input usage and procurement:

Types of Input	Sourcing (Self/Supplier)	Name of the source	Challenges in usage & procurement

#### 4. Process of production:

Steps in production	Challenges

## 5. Cost profit

Production cost	Cost head		Amount (BDT/Acre)
	Lease cost		
	Utility		
	Labor Cost		
	Types of Input & Costs		
	Marketing Cost		
	Transport Cost		
	Others		
Total Cost			
Sales of production	Total sales volume/ quantity		
	Average sales price (per Unit)		
	Total sales		
Profit (BDT)			

## 6. Marketing channels:

		Volume sold (%)	Number of marketing agents	Challenges
Direct sale	Direct sales in market			
In direct sale	Agent			
	Dealer			
	Other			

## 7. Access to finance:

Cost head	Investment requirement (BDT)	Source of finance	Challenges in accessing finance

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**8. Knowledge and Training**

Have you received training? (Yes/No)	Topics of training	Source of training	Knowledge obtained from training	Do you require further training? (Yes/No)	If yes, on what topics?

**9. What are the constraints that hinder your business?**

**10. What types of services are needed for your business growth?**



## 4. Question Guide for Input Supplier

### 1. General information

Name of Proprietor	
Name of Enterprise	
Address & contact	
Name of interviewer	

### 2. Product information

Types of product Sold	Existing Sales Volume (Unit/ Month)

3. In terms of product quality or variety, what do the users demand?

4. Have the users demanded any products other than those you generally sell? Do you currently have plans regarding new products?

5. Have you disseminate knowledge to users on following topics? (Yes/No)

Better cultivation practice	
Better usage of products	

6. What type of market activity do you undertake for your business growth?

7. What are the constraints that hinder your business growth?

8. What types of services are needed for your business growth?

## 5. Question Guide for Forward market actors

### 1. General information

Name of Proprietor	
Name of Enterprise	
Address & contact	
Name of interviewer	

### 2. Product information

Types of product Procured	Volume (MT/Year)	Procurement cost of product (BDT/MT)	Selling price of products (BDT/MT)

### 3. Procurement and marketing channels

Number of supplier	Number of customer

### 4. In terms of product quality, do you get your expected standard? (Yes/No)

If “ No”, Please specify

During which period of the year do you get inferior quality?	
Reason behind inferior quality	

### 5. In terms of product supply (Procurement), do you get the required volume? (Yes/No)

If “ No”, please specify

During which period of the year you cannot procure the required volume?	
Reason behind reduce supply?	

6. What products show good growth potential in your market? Have you discussed such products with the suppliers you buy from?
7. What type of market activity do you undertake for your business growth?
8. What are the constraints that hinder your business growth?
9. What types of services are needed for your business growth?

## 6. Question Guide for Government institute/NGO/Development Project/Association

### General Information

Name of Interviewee:		Date:	
Name of Institution:			
Designation			
Contact Details:			
Name of Interviewer			

1. Brief the provider about the profile of the beneficiary of WVB. Ask them whether they have served any such beneficiary. If they say yes, then ask which services the beneficiaries availed and what was the characteristic of the services.
2. Ask the provider whether services provided to the beneficiaries is increasing or decreasing and the reason behind increase/decrease with justification.
3. Ask the provider what was the experience of the institute in providing the required services i.e. whether they faced any challenge serving the beneficiaries, whether the beneficiaries understood all the rules and requirements of the provider and the procedure of availing the services of the provider.
4. What does the BDS provider think about how to improve access of the beneficiaries?
5. If not, then ask the institution why they have not served such beneficiary? What stopped the provider from serving the beneficiary?
6. Ask the provider what future plans they have to provide services to the beneficiaries. What capacity support will be needed to provide such services?
7. What observation does the BDS provider have about the engagement of women, children and youth in the respective value chain?
8. Does the provider have any specific programs or services for women, children and youth? (Yes/ No)
9. If “Yes”, please specify about the program or services and the characteristic of the services. (Program/service duration, selection criteria of the recipient, training/service fee etc.)

## 7. AP wise selection details:

Northern Bangladesh Region (NBR):

Nilphamari AP

Nilphamari AP	Potato	Maize	Bitter Gourd	Brinjal	Beef Fattening	Goat	Country Chicken	Tailoring	Auto Driving	Van Pulling
Number of farmers/producers engaged in a value chain	4	3	1	1	5	2	5	1	1	2
Previous or existing experience and activity of WVB in a value chain	0	0	0	0	5	2	4	2	1	3
Potential for growth	2	2	2	2	5	2	4	2	1	3
Initiatives from public sector, private sector and development projects in the value chain	0	1	0	0	3	3	3	3	1	1
Scope for inclusion of women and youth	4	2	1	1	5	5	5	5	3	3
Scope for engagement of poor and ultra-poor as producer or employees	5	3	1	1	3	2	5	4	3	4
Total	15	11	5	5	26	16	26	17	10	16

Rangpur Sadar AP:

Rangpur Sadar AP	Potato	Maize	Bottle Gourd	Beef Fattening	Cow (Dairy)	Tailoring	Grocery Shop	Country Chicken	Goat	Electrical Work
Number of farmers/producers engaged in a value chain	3	2	4	5	5	3	1	5	3	1
Previous or existing experience and activity of WVB in a value chain	0	0	4	4	5	5	5	5	5	0
Potential for growth	2	2	4	5	5	3	3	5	3	3
Initiatives from public sector, private sector and development projects in the value chain	1	1	2	3	3	1	1	3	3	1
Scope for inclusion of women and youth	1	3	5	3	3	4	4	5	4	5

Scope for engagement of poor and ultra-poor as producer or employees	2	2	4	5	5	5	2	5	5	3
Total	9	10	23	25	26	21	16	28	23	13

#### Mithapukur AP:

Mithapukur AP	Maize	Jute	Potato	Beef Fattening	Country Chicken	Cow (Dairy)	Goat	Tailoring
Number of farmers/producers engaged in a value chain	3	2	4	3	5	5	3	3
Previous or existing experience and activity of WVB in a value chain	0	0	0	0	0	3	5	4
Potential for growth	5	1	2	3	1	5	1	3
Initiatives from public sector, private sector and development projects in the value chain	0	1	0	0	3	3	3	3
Scope for inclusion of women and youth	4	5	4	1	5	5	5	5
Scope for engagement of poor and ultra-poor as producer or employees	3	2	3	3	5	3	3	5
Total	15	11	13	10	19	24	20	23

#### Paba AP:

Paba Rajshahi	Beef Fattening	Goat rearing	Country chicken rearing	Mango	Brinjal	Sugarcane	Green Chili	Potato	Bottle gourd
Number of farmers/producers engaged in a value chain	4	2	5	2	3	1	3	3	2
Previous or existing experience and activity of WVB in a value chain	3	3	4	0	1	0	1	0	1
Potential for growth	5	3	2	3	2	2	2	1	3
Initiatives from public sector, private sector and development projects in the value chain	4	3	4	3	2	0	1	1	2
Scope for inclusion of women and youth	5	5	5	1	1	1	2	2	2
Scope for engagement of poor and ultra-poor as producer or employees	4	5	4	1	2	1	2	2	2
Total	25	21	24	10	11	5	11	9	12

#### Tanore AP:

Tanore Rajshahi	Green chili	Goat rearing	Country chicken rearing	Mango	Beef Fattening	Brinjal	Potato	Bottle gourd	Tomato	Bean	Duck rearing	Maize	Tailoring
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Number of farmers/producers engaged in a value chain	2	2	5	2	4	2	2	2	2	2	2	2	1
Previous or existing experience and activity of WVB in a value chain	1	3	4	0	3	2	0	2	1	1	4	1	3
Potential for growth	2	3	3	3	5	2	1	3	3	2	2	4	2
Initiatives from public sector, private sector and development projects in the value chain	1	3	4	2	4	2	1	2	2	2	3	3	1
Scope for inclusion of women and youth	2	5	5	1	5	1	1	2	1	2	4	1	4
Scope for engagement of poor and ultra-poor as producer or employees	1	5	5	0	4	2	1	2	1	2	4	1	3
Total	9	21	26	8	25	11	6	13	10	11	19	12	14

#### Ghoraghat AP:

Ghoraghat Dinajpur	Maize	Potato	Bottle Gourd	Pointed Gourd	Beef Fattening	Goat	Country Chicken	Duck	Tailoring	Cow (Dairy)
Number of farmers/producers engaged in a value chain	5	4	3	3	4	3	5	2	4	5
Previous or existing experience and activity of WVB in a value chain	0	0	5	0	4	3	3	3	5	5
Potential for growth	1	2	4	2	5	1	4	1	3	5
Initiatives from public sector, private sector and development projects in the value chain	1	1	1	1	3	2	2	2	1	3
Scope for inclusion of women and youth	5	5	3	2	4	4	4	4	5	4
Scope for engagement of poor and ultra-poor as producer or employees	5	5	3	2	4	4	4	4	5	1
Total	17	17	19	10	24	17	22	16	23	23

#### Birganj AP:

Birganj Dinajpur	Cabbage	Maize	Potato	Country chicken	Cauliflower	Goat rearing	Cow (Dairy)
Number of farmers/producers engaged in a value chain	2	4	4	1	2	4	3
Previous or existing experience and activity of WVB in a value chain	1	1	0	4	1	3	4
Potential for growth	3	4	3	2	3	4	3
Initiatives from public sector, private sector and development projects in the value chain	2	3	1	4	2	2	4
Scope for inclusion of women and youth	0	4	4	1	0	5	4
Scope for engagement of poor and ultra-poor as producer or employees	1	2	1	0	1	5	4
Total	9	18	13	12	9	23	22

#### Kaharole AP:

Kaharole Dinajpur	Pointed Gourd	Maize	Brinjal	Beef Fattening	Goat rearing	Sewing	Cauliflower	Fish cultivation	Duck rearing	Country chicken
Number of farmers/producers engaged in a value chain	3	5	2	5	3	3	2	4	4	4
Previous or existing experience and activity of WVB in a value chain	2	1	2	3	4	3	2	0	4	4
Potential for growth	4	5	3	5	4	4	3	2	3	4
Initiatives from public sector, private sector and development projects in the value chain	1	3	1	5	4	4	1	4	3	3
Scope for inclusion of women and youth	3	5	3	5	5	5	1	1	5	5
Scope for engagement of poor and ultra-poor as producer or employees	2	4	1	3	5	5	2	3	4	5
Total	15	23	12	26	25	24	11	14	23	25

#### Birampur AP:

Birampur Dinajpur	Cow (Dairy)	Country chicken rearing	Goat rearing	Maize	Brinjal	Bottle gourd	Tailoring	Handicraft (Mat/paper bag/packet)	TV/Freeze/ electronics good repairing	Computer training	Plumbing & sanitary
Number of farmers/producers engaged in a value chain	4	4	3	2	2	2	1	1	1	1	1
Previous or existing experience and activity of WVB in a value chain	5	4	2	1	0	1	3	1	0	1	0
Potential for growth	3	4	5	2	1	3	1	2	2	3	2
Initiatives from public sector, private sector and development projects in the value chain	1	1	1	4	5	1	1	1	1	1	1
Scope for inclusion of women and youth	5	5	5	2	2	1	4	4	2	2	2
Scope for engagement of poor and ultra-poor as producer or employees	3	4	5	2	1	2	4	4	1	1	3
Total	21	22	21	13	11	10	14	13	7	9	9

#### Pirganj AP:

Pirganj Rangpur	Cow (Dairy)	Country chicken rearing	Goat rearing	Brinjal	Pointed gourd	Bottle gourd	Pumpkin	Maize	Tailoring	Handicraft (Stone bag/Mat/paper bag/packet)
Number of farmers/producers engaged in a value chain	4	4	3	2	1	3	3	2	1	1
Previous or existing experience and activity of WVB in a value chain	2	4	3	5	5	0	0	0	3	1
Potential for growth	4	5	3	2	1	3	3	3	1	2

Initiatives from public sector, private sector and development projects in the value chain	4	3	2	1	1	3	3	3	1	1
Scope for inclusion of women and youth	4	5	4	2	2	1	1	1	4	4
Scope for engagement of poor and ultra-poor as producer or employees	3	5	4	2	2	4	4	2	4	4
Total	21	26	19	14	12	14	14	11	14	13

#### Kishoreganj AP:

Kishoreganj Nilphamari	Cow (Dairy)	Goat rearing	Country chicken rearing	Maize	Brinjal	Bean	Bottle gourd	Tailoring	Auto mobile(Battery vehicle/Motor cycle repairing)	Computer training	Electrical house wearing
Number of farmers/producers engaged in a value chain	4	4	2	4	3	2	3	1	1	1	1
Previous or existing experience and activity of WVB in a value chain	0	2	2	2	0	0	0	3	0	1	0
Potential for growth	5	3	2	4	3	3	3	1	3	3	2
Initiatives from public sector, private sector and development projects in the value chain	5	3	4	3	5	2	3	1	0	1	1
Scope for inclusion of women and youth	4	4	4	2	2	3	1	4	2	2	2
Scope for engagement of poor and ultra-poor as producer or employees	5	4	4	2	2	4	4	4	1	1	3
Total	23	20	18	17	15	14	14	14	7	9	9

#### Thakurgaon AP:

Thakurgaon	Beef fattening	Maize	Cow rearing (Dairy)	Country Chicken rearing	Bottle gourd	Potato	Red amaranth	Tailoring	Handicraft (Mat /paper bag/ packet)	Mobile serviceing	Electronics good repairing	Auto mobile	Computer training
Number of farmers/producers engaged in a value chain	5	3	4	5	3	3	2	1	1	1	1	1	1



Previous or existing experience and activity of VVB in a value chain	0	0	5	3	0	0	1	3	1	0	0	0	1
Potential for growth	5	4	4	2	3	4	3	1	2	2	2	3	3
Initiatives from public sector, private sector and development projects in the value chain	4	3	4	4	3	5	1	1	1	1	1	0	1
Scope for inclusion of women and youth	5	3	5	5	1	4	1	5	5	2	2	2	2
Scope for engagement of poor and ultra-poor as producer or employees	4	2	4	5	4	2	1	4	4	3	1	1	1
Total	23	15	26	24	14	18	9	15	14	9	7	7	9

#### Godagari AP:

Godagari Rajshahi	Country chicken rearing	Beef fattening	Cow rearing (Dairy)	Tomato	Pointed Gourd	Green Chili	Mustard	Maize	Lentil	Goat rearing	Gua va	Jujube	Handicraft (Nakshi Katha, Karchupi)	Handicraft (showpiece, paper bag/packet)	Mobile servicing	TV/Freeze/electronics good repairing
Number of farmers/producers engaged in a value chain	4	3	4	4	4	2	3	3	2	2	3	2	1	1	1	1
Previous or existing experience and activity of VVB in a value chain	4	0	4	0	2	1	0	1	0	3	0	0	1	1	0	0
Potential for growth	3	4	5	5	4	2	2	4	1	3	4	3	3	2	2	2
Initiatives from public sector, private sector and development projects in the value chain	4	4	5	3	3	1	1	4	1	3	2	1	1	1	1	1
Scope for inclusion of women and youth	5	4	5	1	1	1	1	2	1	4	1	1	4	5	2	2
Scope for engagement of poor and ultra-poor as producer or employees	4	4	4	1	2	2	1	2	2	3	1	1	4	4	3	1
Total	24	19	27	14	16	9	8	16	7	18	11	8	14	14	9	7

#### Dhamoirhat AP:

Dhamoirhat Naogaon	Country chicken rearing	Cow (Dairy)	Goat rearing	Duck rearing	Pointed gourd	Mustard	Maize	Bitter Gourd	Potato	Spine Gourd	Red amaranth	Tailoring	Handicraft	Mobile servicing	Electrical house wearing
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Number of farmers/producers engaged in a value chain	4	4	3	3	3	3	1	3	4	3	2	1	1	1	1
Previous or existing experience and activity of WVB in a value chain	5	4	3	2	2	1	1	2	1	1	1	3	1	0	0
Potential for growth	4	5	3	3	4	2	3	3	2	3	3	1	2	2	2
Initiatives from public sector, private sector and development projects in the value chain	4	4	4	3	2	1	3	2	1	2	1	1	1	1	1
Scope for inclusion of women and youth	4	5	4	4	1	1	1	1	1	1	1	5	4	2	2
Scope for engagement of poor and ultra-poor as producer or employees	5	4	4	3	1	1	1	1	1	1	1	4	4	3	3
Total	26	26	21	18	13	9	10	12	10	11	9	15	13	9	9

#### Biral AP:

Biral Dinajpur	Goat Rearing	Maize	Cow (Dairy)	Country Chicken rearing	Mustard	Soy bean	Red amaranth	Brinjal	Bottle Gourd	Tailoring	Handicraft	Electrical house wearing	Mobile servicing	Auto mobile repairing
Number of farmers/producers engaged in a value chain	3	3	4	5	3	2	2	2	1	1	1	1	1	1
Previous or existing experience and activity of WVB in a value chain	3	1	3	5	0	0	1	1	1	3	1	0	0	0
Potential for growth	3	4	4	3	3	2	3	2	2	1	2	2	2	3
Initiatives from public sector, private sector and development projects in the value chain	3	4	4	4	2	1	1	1	2	1	1	1	1	0
Scope for inclusion of women and youth	5	2	5	5	1	1	1	1	2	4	4	2	2	2
Scope for engagement of poor and ultra-poor	5	1	3	5	1	1	1	1	1	4	4	3	3	1

as producer or employees														
Total	22	15	23	27	10	7	9	8	9	14	13	9	9	7

#### Fulbari AP:

Fulbari Dinajpur	Cow (Dairy)	Country chicken rearing	Goat rearing	Duck Rearing	Sheep rearing	Pumpkin	Bottle Gourd	Brinjal	Potato	Tailoring	Mobile servicing	Electrical house wearing	Electronic good repairing
Number of farmers/producers engaged in a value chain	4	5	3	2	2	2	3	2	3	1	1	1	1
Previous or existing experience and activity of WVB in a value chain	4	5	3	3	0	1	1	1	0	3	0	0	0
Potential for growth	4	3	3	3	3	2	2	2	2	1	2	2	2
Initiatives from public sector, private sector and development projects in the value chain	4	3	3	2	2	2	2	2	1	1	1	1	1
Scope for inclusion of women and youth	5	5	5	4	5	1	2	1	1	4	2	2	2
Scope for engagement of poor and ultra-poor as producer or employees	3	5	4	4	5	2	2	1	1	4	3	3	1
Total	24	26	21	18	17	10	12	9	8	14	9	9	7

Greater Mymensingh Region (GMR):

Sribordhi AP:

Sribordhi	Cow (Dairy)	Bitter Gourd	Tilapia	Lychee	Agro Input Sales	Handicraft	Tailoring
Number of farmers/producers engaged in a value chain	4	5	5	2	3	3	3
Previous or existing experience and activity of WVB in a value chain	4	5	3	2	1	4	3
Potential for growth	5	2	5	2	2	4	3
Initiatives from public sector, private sector and development projects in the value chain	1	1	1	1	3	2	4
Scope for inclusion of women and youth	5	3	3	1	1	3	4
Scope for engagement of poor and ultra-poor as producer or employees	3	4	4	1	1	4	4
Total	22	20	21	9	11	20	21

Sherpur AP:

Sherpur	Cow Dairy	Country Chicken	Tailoring	Lychee	Agro Input Sales	Handicraft	Pumpkin	Snake Gourd
Number of farmers/producers engaged in a value chain	3	5	5	3	3	3	4	4
Previous or existing experience and activity of WVB in a value chain	3	3	3	2	1	4	2	2
Potential for growth	4	5	3	2	2	4	4	5
Initiatives from public sector, private sector and development projects in the value chain	2	2	3	1	3	2	2	2
Scope for inclusion of women and youth	4	4	4	1	1	3	2	3
Scope for engagement of poor and ultra-poor as producer or employees	3	5	4	1	1	4	3	4
Total	19	24	22	10	11	20	17	20

Jhenaigati AP:

Jhenaigati	Cow (Dairy)	Country Chicken	Agro Input Sales	Handicraft (Traditional Cap Making)	Tailoring
Number of farmers/producers engaged in a value chain	3	5	3	2	3
Previous or existing experience and activity of WVB in a value chain	3	5	1	4	5
Potential for growth	4	4	2	3	3
Initiatives from public sector, private sector and development projects in the value chain	2	1	3	1	4
Scope for inclusion of women and youth	4	4	1	3	4
Scope for engagement of poor and ultra-poor as producer or employees	3	4	1	4	4
Total	19	23	11	17	23

Mymensingh AP:

Mymensingh AP	Vegetable (bitter gourd, bottle gourd, Brinjal)	Pulses	Fruits (Banana)	Handicraft (Nakshi Katha, Karchupi)	Handicraft (showpiece, paper bag/packet)	Tailoring	Cow (dairy)	Beef Fattening	Country chicken	Duck	Electric, electronic, mobile mechanic	Mixed Aquaculture	Auto rickshaw Driving
Number of farmers/producers engaged in a value chain	3	2	2	3	2	3	4	3	4	3	2	2	2
Previous or existing experience and activity of WVB in a value chain	2	0	0	2	2	4	4	4	4	3	2	0	0
Potential for growth	5	2	3	4	2	3	4	3	3	3	3	2	3
Initiatives from public sector, private sector and development projects in the value chain	2	1	1	3	2	4	3	2	3	2	2	1	2
Scope for inclusion of women and youth	2	2	1	4	4	4	4	2	5	5	0	1	0
Scope for engagement of poor and ultra-poor as producer or employees	4	3	2	4	4	3	4	3	4	4	3	1	4
Total Mark	18	10	9	20	16	21	23	17	23	20	12	7	11

#### Muktagacha AP:

Muktagacha AP	Vegetable (bitter gourd, bottle gourd, tomato)	Mixed Aquaculture	Cow (Dairy)	Country chicken	Fruits (Banana, Pineapple)	Betel leaf	Potato & Cassava	Handicraft (bamboo made)	Handicraft (Wig hair)	Vermicomposting	Sewing/ tailoring	Auto rickshaw Driving
Number of farmers/producers engaged in a value chain	4	4	4	4	5	3	4	2	2	2	3	3
Previous or existing experience and activity of WVB in a value chain	4	1	4	3	1	1	1	4	1	5	3	1
Potential for growth	5	5	3	2	3	2	2	1	3	3	2	3
Initiatives from public sector, private sector and development projects in the value chain	2	4	2	1	1	1	3	4	1	5	2	1
Scope for inclusion of women and youth	3	1	4	5	1	2	2	4	5	5	4	1
Scope for engagement of poor and ultra-poor as producer or employees	4	1	3	5	4	4	2	5	5	5	4	4
Total Mark	22	16	20	20	15	13	14	20	17	25	18	13

#### Muktagacha South AP:

Muktagacha South AP	Vegetable (tomato, yard long bean, bean, lady's finger, lemon)	Spinach	Cow (dairy)	poultry	Mixed Aquaculture	Handicraft (cane made basket, flower vase)	Tailoring
Number of farmers/producers engaged in a value chain	4	3	4	5	2	3	2
Previous or existing experience and activity of WVB in a value chain	4	4	5	4	1	1	4

Potential for growth	5	3	4	4	3	3	3
Initiatives from public sector, private sector and development projects in the value chain	3	2	4	4	3	4	4
Scope for inclusion of women and youth	4	4	5	5	1	5	5
Scope for engagement of poor and ultra-poor as producer or employees	4	4	4	5	1	5	4
Total Mark	24	20	26	27	11	21	22

#### Jolchotro AP:

Jolchotro AP	Cow (dairy)	Beef Fattening	Country chicken	Duck	Vegetable (Brinjal, bean, bottle gourd)	Banana	Pineapple	Mixed Cultivation	Apiculture	Lemon	Mushroom	Spices (ginger, turmeric)
Number of farmers/producers engaged in a value chain	4	3	5	2	4	2	4	3	1	2	1	3
Previous or existing experience and activity of WVVB in a value chain	2	2	2	2	3	0	0	0	0	0	2	0
Potential for growth	4	4	3	3	4	3	4	4	2	3	1	4
Initiatives from public sector, private sector and development projects in the value chain	3	3	3	3	2	1	1	3	2	1	2	2
Scope for inclusion of women and youth	4	4	5	5	4	1	4	2	1	1	3	4
Scope for engagement of poor and ultra-poor as producer or employees	3	3	5	4	4	3	3	3	2	2	2	4
Total Mark	20	19	23	19	21	10	16	15	8	9	11	17

## Southern Bangladesh Region (SBR):

### Asashuri AP:

Asashuri AP	Vegetable (tomato, Brinjal, bottle gourd)	Spinach (Lal, Rui, Palong)	Fruits (Banana)	Cow (Dairy)	Goat	Country chicken	Duck	Prawn Carp Fish mixed culture	Shrimp	Crab (fattening)
Number of farmers/producers engaged in a value chain	3	2	3	3	2	4	2	4	5	1
Previous or existing experience and activity of WVB in a value chain	3	3	3	2	2	2	2	0	0	0
Potential for growth	4	3	4	3	2	4	3	5	4	2
Initiatives from public sector, private sector and development projects in the value chain	3	3	2	2	2	2	2	4	4	2
Scope for inclusion of women and youth	4	4	3	4	4	5	5	4	3	3
Scope for engagement of poor and ultra-poor as producer or employees	3	2	3	3	4	4	4	4	3	0
Total Mark	20	17	18	17	16	21	18	21	19	8

### Kachua AP:

Kachua AP	Winter Vegetable (Spinach, tomato, cucumber)	Summer Vegetable (bottle gourd, ladies finger, bitter gourd)	Fruits (Banana)	Sugarcane	Shrimp	Carp fish	Beef Fattening	Cow (dairy)	Country chicken	Duck	Betel nut, Coconut	Tailoring	Hbgla mat
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Number of farmers/producers engaged in a value chain	3	3	2	2	4	4	2	4	5	2	3	2	1
Previous or existing experience and activity of WVB in a value chain	2	0	0	0	0	2	2	2	3	2	0	2	0
Potential for growth	3	3	3	3	3	5	3	4	3	3	3	3	2
Initiatives from public sector, private sector and development projects in the value chain	3	2	3	1	3	3	3	3	3	3	0	4	0
Scope for inclusion of women and youth	4	4	4	1	2	2	4	4	5	5	2	4	4
Scope for engagement of poor and ultra-poor as producer or employees	3	3	3	3	3	4	3	3	4	4	5	5	5
Total Mark	18	15	15	10	15	20	17	20	23	19	13	20	12

#### Rampal AP:

Rampal AP	Shrimp	Carp fish	Prawn	Crab	Cow (dairy)	Country chicken	Winter Vegetable
Number of farmers/producers engaged in a value chain	4	4	3	3	2	4	2
Previous or existing experience and activity of WVB in a value chain	0	0	0	0	0	0	2
Potential for growth	3	4	3	3	3	4	3
Initiatives from public sector, private sector and development projects in the value chain	2	2	2	2	2	2	2
Scope for inclusion of women and youth	2	2	2	2	4	5	3
Scope for engagement of poor and ultra-poor as producer or employees	3	4	3	4	4	5	3
Total Mark	14	16	13	14	15	20	15

#### Pirojpur AP:

Pirojpur AP	Fruits (Guava)	Betel Nut	Betel leaf	Cow (dairy)	Duck	Country chicken	Tailoring	Winter Vegetable (Spinach, Bottle Gourd, Brinjal)	Summer Vegetable (Snake Gourd, Red Spinach, Brinjal, Pumpkin, Cucumber)
Number of farmers/producers engaged in a value chain	3	4	2	3	4	4	2	4	3
Previous or existing experience and activity of WVB in a value chain	2	0	0	3	2	3	3	3	0
Potential for growth	3	4	3	4	3	3	3	3	3



Initiatives from public sector, private sector and development projects in the value chain	2	0	0	4	4	3	4	3	3
Scope for inclusion of women and youth	3	2	1	4	5	5	4	3	2
Scope for engagement of poor and ultra-poor as producer or employees	3	3	1	3	4	4	4	4	4
Total Mark	16	13	7	21	22	22	20	20	15

#### Barisal AP:

Barisal	Country Chicken	Tailoring	Electronics	Welding	Homestead Agro	Driving	Mobile Servicing
Number of farmers/producers engaged in a value chain	5	4	3	3	2	3	3
Previous or existing experience and activity of WVB in a value chain	4	3	2	2	1	1	2
Potential for growth	5	2	4	5	2	4	4
Initiatives from public sector, private sector and development projects in the value chain	1	1	1	1	1	1	1
Scope for inclusion of women and youth	3	5	3	3	4	3	3
Scope for engagement of poor and ultra-poor as producer or employees	5	4	4	5	3	5	3
Total	23	19	17	19	13	17	16

#### Bhandaria AP:

Pirojpur _Bhandaria	Beetle Leaf	Pumpkin	Barana	Country Chicken	Tailoring	Fish
Number of farmers/producers engaged in a value chain	5	3	4	5	3	3
Previous or existing experience and activity of WVB in a value chain	2	2	3	2	3	2
Potential for growth	3	4	5	3	3	3
Initiatives from public sector, private sector and development projects in the value chain	1	2	2	2	2	1
Scope for inclusion of women and youth	5	5	5	5	4	3
Scope for engagement of poor and ultra-poor as producer or employees	5	3	5	5	5	4
Total	21	19	24	22	20	16

#### Kotalipara AP:

Gopalganj Kotalipara	Cow (Dairy)	Country Chicken	Embroidery	Agro Input Sales	Tailoring	Carp	Tilapia
Number of farmers/producers engaged in a value chain	4	5	3	3	4	4	3

Previous or existing experience and activity of WVB in a value chain	3	3	3	1	3	2	1
Potential for growth	5	5	4	3	5	5	5
Initiatives from public sector, private sector and development projects in the value chain	3	3	2	1	3	3	2
Scope for inclusion of women and youth	5	5	4	4	4	3	3
Scope for engagement of poor and ultra-poor as producer or employees	5	5	4	1	4	5	5
Total	25	26	20	13	23	22	19

## Central Eastern Region (CER):

### Laksham AP:

LAKSHAM AP	Tilapia Cultivation	Red amaranth	Country Chicken Rearing	Tilapia Cultivation	Cow (Dairy)	Tailoring	Spinach	Beef Fattening
Number of farmers/producers engaged in a value chain	2	3	5	1	3	2	3	2
Previous or existing experience and activity of WVB in a value chain	2	5	2	0	5	5	3	0
Potential for growth	1	3	4	1	3	3	4	4
Initiatives from public sector, private sector and development projects in the value chain	0	0	2	0	3	1	1	3
Scope for inclusion of women and youth	3	4	3	3	4	3	4	4
Scope for engagement of poor and ultra-poor as producer or employees	1	5	5	1	3	5	5	3
Total	9	20	21	6	21	19	20	16

### Bandarban AP:

Bandarban AP	Mango Cultivation	Papaya Cultivation	Banana Cultivation	Country Rearing	Chicken	Ginger	Cow (Dairy)	Turmeric	Tailoring	Traditional Loom	Cucumber	Bean	Brinjal
Number of farmers/producers engaged in a value chain	4	3	5	5	3	4	3	3	3	3	4	3	4
Previous or existing experience and activity of WVB in a value chain	5	4	5	5	2	2	2	1	0	1	1	1	1
Potential for growth	5	2	5	5	1	3	1	3	2	2	2	2	2
Initiatives from public sector, private sector and development projects in the value chain	3	3	3	1	3	2	2	1	0	1	1	1	1
Scope for inclusion of women and youth	4	4	4	5	4	4	4	3	3	4	4	4	4
Scope for engagement of poor and ultra-poor as producer or employees	2	1	3	5	2	1	3	3	4	3	2	2	2
Total	23	17	25	26	15	16	15	14	12	15	13	14	14

### Gowainghat AP:

Gowainghat_Sylhet	Cow (Dairy)	Country chicken rearing	Goat rearing	Bottle gourd	Bean	Mustard	Sheep rearing	Fishing	Handicraft (Bamboo/Cane/paper bag/packet)	Tailoring	Mobile servicing	TV/Freeze/electronics good repairing
Number of farmers/producers engaged in a value chain	5	5	2	2	3	2	3	2	1	1	1	1
Previous or existing experience and activity of WVB in a value chain	0	0	0	0	0	0	0	0	1	3	0	0
Potential for growth	5	4	3	2	3	1	4	2	2	1	2	2
Initiatives from public sector, private sector and development projects in the value chain	4	3	2	5	5	4	1	0	1	1	1	1

Scope for inclusion of women and youth	4	5	4	4	4	1	4	1	5	5	2	2
Scope for engagement of poor and ultra-poor as producer or employees	4	5	3	4	4	2	5	3	4	4	3	1
Total	22	22	14	17	19	10	17	8	14	15	9	7

#### Sylhet Sadar AP:

Sylhet Sadar	Country chicken rearing	Cucumber	Tomato	Cauliflower	Cabbage	Bean	Bottle gourd	Pumpkin	Cow (Dairy)	Goat rearing	Fishing	Tailoring	Handicraft	Mobile servicing	Electronics good repairing	Electrical house wearing	Computer training
Number of farmers/producers engaged in a value chain	4	4	5	2	2	2	3	3	5	2	2	1	1	1	1	1	1
Previous or existing experience and activity of WVB in a value chain	1	0	0	0	0	0	0	0	0	0	1	3	1	0	0	0	1
Potential for growth	3	4	5	2	2	3	3	3	5	2	2	1	2	2	2	2	3
Initiatives from public sector, private sector and development projects in the value chain	2	4	3	2	2	2	3	3	3	2	0	1	1	1	1	1	1
Scope for inclusion of women and youth	3	1	1	1	1	3	1	1	4	4	1	4	4	2	2	2	2
Scope for engagement of poor and ultra-poor as producer or employees	4	4	1	1	1	4	4	4	5	3	3	4	4	3	1	3	1
Total	17	17	15	8	8	14	14	14	22	13	9	14	13	9	7	9	9

#### Tahirpur AP:

Tahirpur Shunargarj	Cow (Dairy)	Sheep	Duck	Country chicken rearing	Bottle gourd	Taro stolon	Fishing	Fish cultivation	Bean	Radis	maize	Handicraft	Tailoring	Mobile servicing	electronics good repairing	Auto mobile repairing

Number of farmers/producers engaged in a value chain	5	3	4	5	3	3	4	1	3	2	1	1	1	1	1	1
Previous or existing experience and activity of VVB in a value chain	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0
Potential for growth	5	3	4	4	3	3	2	4	3	2	1	2	1	2	2	3
Initiatives from public sector, private sector and development projects in the value chain	4	3	4	4	2	1	0	1	1	1	2	1	1	1	1	0
Scope for inclusion of women and youth	5	4	4	5	3	3	1	1	3	1	1	5	5	2	2	2
Scope for engagement of poor and ultra-poor as producer or employees	4	4	4	5	3	2	3	2	3	1	1	4	4	3	1	1
Total	23	17	20	23	14	12	10	9	13	7	6	14	15	9	7	7

#### Dhaka East AP:

Dhaka East AP	Cow (Dairy)	Poultry	Electric & Electronic Service	Tailoring	Handicraft (showpiece, Karchupi)	Mini Garments	Driving (car, auto, CNG)	Automobile mechanic	Beauty Parlour	Fast Food/ Catering	Paper made shopping bag & packet	Small Boutique
Number of farmers/producers engaged in a value chain	2	3	2	4	2	2	2	1	2	2	2	3
Previous or existing experience and activity of VVB in a value chain	2	2	4	4	2	2	2	1	2	0	0	2
Potential for growth	2	2	4	4	3	3	4	2	4	3	3	3

Initiatives from public sector, private sector and development projects in the value chain	3	3	4	4	3	0	4	1	3	0	0	2
Scope for inclusion of women and youth	3	4	1	5	4	4	1	1	5	3	3	4
Scope for engagement of poor and ultra-poor as producer or employees	2	3	2	4	3	3	4	3	2	1	4	4
Total Mark	14	17	17	25	17	14	17	9	18	9	12	18

#### Dhaka Shishu AP:

Dhaka Shishu	Tailoring	Catering	Handicraft	Beauty Parlour	Computer/Freelance	Driving	Mobile Servicing
Number of farmers/producers engaged in a value chain	5	2	3	3	3	4	2
Previous or existing experience and activity of WVB in a value chain	4	3	5	3	2	2	1
Potential for growth	3	3	2	2	1	4	3
Initiatives from public sector, private sector and development projects in the value chain	3	2	3	3	3	4	3
Scope for inclusion of women and youth	3	3	2	2	4	4	2
Scope for engagement of poor and ultra-poor as producer or employees	2	3	1	1	2	4	2
Total	20	16	16	14	15	22	13

#### Kamalapur AP:

Kamalapur	Driving	Mobile Servicing	Computer	Beauty Parlour	Block Batik	Tailoring	Catering
Number of farmers/producers engaged in a value chain	5	3	4	4	3	4	3
Previous or existing experience and activity of WVB in a value chain	2	2	3	3	2	3	1
Potential for growth	5	3	4	4	3	4	3
Initiatives from public sector, private sector and development projects in the value chain	3	2	4	3	2	4	1
Scope for inclusion of women and youth	4	2	4	3	4	3	3
Scope for engagement of poor and ultra-poor as producer or employees	5	4	3	5	5	4	4
Total	24	16	22	22	19	22	15

## 8 AP wise List of People in Value chain selection consultation workshop:

Southern Bangladesh Region (SBR):

Asashuni AP:

Respondent Name	Respondent Type	Address	Upazila/AP	District
Fatema	Farmer	Beula	Assasuni	Satkhira
Shorifunnahar	Farmer	Beula	Assasuni	Satkhira
Masuma	Farmer	Beula	Assasuni	Satkhira
Tanzila	Farmer	Beula	Assasuni	Satkhira
Minoti	Farmer	Dhannohati	Assasuni	Satkhira
Varoti	Farmer	Dhannohati	Assasuni	Satkhira
Shamoly	Farmer	Dhannohati	Assasuni	Satkhira
Nayem	Farmer	Dhannohati	Assasuni	Satkhira
Rahsid	Farmer	Dhannohati	Assasuni	Satkhira
Sonod sing	Farmer	Dhannohati	Assasuni	Satkhira
Tanzila	Farmer	Beula	Assasuni	Satkhira
Snigdha	Farmer	Beula	Assasuni	Satkhira
Maya rani	Farmer	Kundureya	Assasuni	Satkhira
Shopna	Farmer	Kundureya	Assasuni	Satkhira
Monju	Farmer	Kundureya	Assasuni	Satkhira
Varoti	Farmer	Kundureya	Assasuni	Satkhira
Biva	Farmer	Kundureya	Assasuni	Satkhira
Provati	Farmer	Dhannohati	Assasuni	Satkhira
Shila	Farmer	Dhannohati	Assasuni	Satkhira
Dhom Das	Farmer	Dhannohati	Assasuni	Satkhira
Nironjon	Farmer	Dhannohati	Assasuni	Satkhira
Shourov	Farmer	Dhannohati	Assasuni	Satkhira
Richord	Farmer	Borodol	Assasuni	Satkhira
Mijanur rahman	Veterinary surgeon		Assasuni	Satkhira
Atiyar Rahman	SAAO		Assasuni	Satkhira
Malaya K Biswas	WVB		Assasuni	Satkhira
Malik Halder	WVB		Assasuni	Satkhira
Edward K Babul	WVB		Assasuni	Satkhira

Kachua AP:

Respondent Name	Respondent Type	Address	Upazilla/AP	District
Kalingo Boiddyo		Malipaton	Kachua	Bagerhat
Sujon Halder		Sonakura	Kachua	Bagerhat
Sufiya Begum		Norendropur	Kachua	Bagerhat
Md. Rana		Sommal Bouragi	Kachua	Bagerhat
Fatema Begum		Sommal Bouragi	Kachua	Bagerhat
Dulal Chandra Shaha		Charokathi	Kachua	Bagerhat
Sushanto Kuamr Mondol		Malipaton	Kachua	Bagerhat
Khitish Chandro Halder		Gopalpur	Kachua	Bagerhat
Md. Omor Farukh		Sangdiya	Kachua	Bagerhat
Shirina Begum		Khalisha khali	Kachua	Bagerhat
Idris Sheikh		Charokathi	Kachua	Bagerhat
Sukh Deb		Koroi khali	Kachua	Bagerhat

Debenronath Mondol		Vandar kola	Kachua	Bagerhat
Sima		Khalisha khali	Kachua	Bagerhat
Topon Kuamr		Andhar manik	Kachua	Bagerhat
Sumona Majhi		Boro anddhar manik	Kachua	Bagerhat
Suborna Biswas		Ariya mordin	Kachua	Bagerhat
Md. Siddikur Rahman		Fultola	Kachua	Bagerhat
Sreebas Mridha		Bishkhali	Kachua	Bagerhat
Md. Almamun Bepari		Sonakura	Kachua	Bagerhat
Rothrindro Biswas		Bishkhali	Kachua	Bagerhat
Koshar Sheikh		Protap pur	Kachua	Bagerhat
Shushanto Nondi		Boktar Koshi	Kachua	Bagerhat
Hasi Begum		Shopoth kathi	Kachua	Bagerhat
Debendro nath Sarker		Upozila prani sompod	Kachua	Bagerhat
Md. A. Salam		Bathal kothuri	Kachua	Bagerhat
Najmunnahar		UWAO kach	Kachua	Bagerhat
Md. Abdul Kalam		Office sohosh	Kachua	Bagerhat
Md. Rafilul Islam		AEO	Kachua	Bagerhat
Bivash Chandro Shaha	SAPPD		Kachua	Bagerhat
Morjina Begum			Kachua	Bagerhat
Md. Milad Nobi	SAAO	Kachua	Kachua	Bagerhat
Md. Abdul Kuddus	AAEO	Kachua	Kachua	Bagerhat
Sonoj Mondol	SAAO	Kachua	Kachua	Bagerhat
Chisuk Rani Das	SAAO	Kachua	Kachua	Bagerhat
Julkar Nayeck	Farmer		Kachua	Bagerhat
Sujon Shaikh		Bockterkali	Kachua	Bagerhat
Debodulal Ray		Mabiya	Kachua	Bagerhat
Rana		Mabiya	Kachua	Bagerhat
Ariful Islam		Char Katha	Kachua	Bagerhat

#### Pirojpur AP:

Respondent Name	Respondent Type	Address	Upazilla/AP	District
Md. Kaiyum			Pirojpur	Pirojpur
Barek Sarder			Pirojpur	Pirojpur
Abdul Motaleb			Pirojpur	Pirojpur
Johirul Islam			Pirojpur	Pirojpur
Nijam Uddin			Pirojpur	Pirojpur
Narayan Chandra			Pirojpur	Pirojpur
Shahadat Gazi			Pirojpur	Pirojpur
kuddus			Pirojpur	Pirojpur
Sultan Hossain			Pirojpur	Pirojpur
Nasima Begum			Pirojpur	Pirojpur
Marzana Ferdousi			Pirojpur	Pirojpur
Razia Begum			Pirojpur	Pirojpur
Zahanara Begum			Pirojpur	Pirojpur
Mirani shaha			Pirojpur	Pirojpur
Dalia Begum			Pirojpur	Pirojpur
Anita			Pirojpur	Pirojpur
Sumon Dash			Pirojpur	Pirojpur
Babul			Pirojpur	Pirojpur
Haron Or Rashid			Pirojpur	Pirojpur
Shuvakor Datta			Pirojpur	Pirojpur



Malek			Pirojpur	Pirojpur
Hasan Mir			Pirojpur	Pirojpur
Jobayer Hossain			Pirojpur	Pirojpur

Respondent Name	Address	Upazilla/ AP	District
Motaleb Fakir	Bashtoli	Rampal	Bagerhat
Arun Mondol	Rampal	Rampal	Bagerhat
Motiar Rahman	Bashtoli	Rampal	Bagerhat
Dulal mondol	Rampal	Rampal	Bagerhat
Jahangir Haowladar	Rampal	Rampal	Bagerhat
Sojol Mondol	Rampal	Rampal	Bagerhat
Sheikh Reajaul	Bashtoli	Rampal	Bagerhat
Anowar	Bashtoli	Rampal	Bagerhat
Rafkul islam	Bashtoli	Rampal	Bagerhat
Forkan	Bashtoli	Rampal	Bagerhat
Irani Parven	Rampal	Rampal	Bagerhat
Shahnaj sultana	Rampal	Rampal	Bagerhat
Abu Hasib	Rampal	Rampal	Bagerhat
Al Mamun	Rampal	Rampal	Bagerhat
Prince lolon	Rampal	Rampal	Bagerhat
Billal hossain	Rampal	Rampal	Bagerhat
Mostafizur Rahman	Bashtoli	Rampal	Bagerhat
Mosharof Hossain	Bashtoli	Rampal	Bagerhat
Ahsan tarek	Bashtoli	Rampal	Bagerhat
Mohammad ali jinnah	Bashtoli	Rampal	Bagerhat
Toibur Rahman	Bashtoli	Rampal	Bagerhat
Dipok Mondol	Rampal	Rampal	Bagerhat
Mohidul	Bashtoli	Rampal	Bagerhat
Abudaud	Rampal	Rampal	Bagerhat
Saddam hossen	Rampal	Rampal	Bagerhat
Abul Hossain	Bashtoli	Rampal	Bagerhat
Atiar thakur	Bashtoli	Rampal	Bagerhat
Sattar shikh	Bashtoli	Rampal	Bagerhat
Bacchu	Bashtoli	Rampal	Bagerhat
Sharmin Akter		Rampal	Bagerhat
Ujjal Mondol		Rampal	Bagerhat
Proshanto	APCM	Rampal	Bagerhat
Sanjoy gupta		Rampal	Bagerhat

## Northern Bangladesh Region (NBR)

### Biral AP:

Respondent Name	Respondent Type	Address	Upazilla/A P	District	Phone Number
Md. Mizanur Rahman		varadangi, vandara	Biral	Dinajpur	1744609023
Anil Chondro Roy		betura, vandara	Biral	Dinajpur	1755222305
Dulal Chondro Deb		Ramchandrapur, vandara	Biral	Dinajpur	1767178882
Md. Nazmul Islam		boro tilain, vandara	Biral	Dinajpur	1745506469
Md. Belal Hossain		doikotbari, vandara	Biral	Dinajpur	1744228297
Md. Rofikul Islam		betura, vandara	Biral	Dinajpur	1751463445
Subas Chondro		sorkar, Dhormopur	Biral	Dinajpur	1761703835
Provat Chondro		dokkhin gobinpur, Dhormopur	Biral	Dinajpur	1794811494
Pulin Chondro Sarkar		dokkhin Rampur, Dhormopur	Biral	Dinajpur	1713786453
Nitay Chondro		Enayetpur, Dhormopur	Biral	Dinajpur	1763236218
Rabeya Rahman		Bamongaw, Dhormopur	Biral	Dinajpur	1757060927
Belal Hossain		Purbo moheshpur, biral	Biral	Dinajpur	1757955862
Mst. Momotaz Begum		Biral	Biral	Dinajpur	1772195443
Parvin		Biral	Biral	Dinajpur	
Soleman Ali		Biral	Biral	Dinajpur	1920268708
Horidas Roy		Shohorgram	Biral	Dinajpur	1773612777
Zahidul		Shohorgram	Biral	Dinajpur	1718094048
Mst. Raziya		Laxmipur	Biral	Dinajpur	1755462452
Rahsida		Laxmipur	Biral	Dinajpur	
Md. Akramul Haque		Biral	Biral	Dinajpur	1718626399
Abdurb Rahim	ULO	Biral	Biral	Dinajpur	1714461249
Fazlur Rahman		betura, vandara	Biral	Dinajpur	1736892607
Mahibul Islam		Ranipukur	Biral	Dinajpur	1750779971
Rabiul Islam		Biral	Biral	Dinajpur	1759064050

Siten Chondro		L.V.C.D.E dhormopur	fotehpur, Biral	Dinajpur	1740977726
Raziul Islam		Biral	Biral	Dinajpur	1721879265
Prokash Chondro	PO	Biral	Biral	Dinajpur	
Proshanto	PO	Biral	Biral	Dinajpur	1755620893

#### Birampur AP:

Respondent Name	Respondent Type	Address	Upazilla/AP	District
Minhaj		Birampur	Birampur	Dinajpur
Md.Anisur Rahman	A.P.P	Birampur	Birampur	Dinajpur
Joseph Mondy	P.O	Birampur	Birampur	Dinajpur
Dulal	C.F	Senora	Birampur	Dinajpur
Kashababu	VCD	Birampur	Birampur	Dinajpur
Saidul	UPG	Birampur	Birampur	Dinajpur
Mahabur	JPO	Birampur	Birampur	Dinajpur
Ariful Islam	JPO	Birampur	Birampur	Dinajpur
Selima	Farmer	Bakura	Birampur	Dinajpur
Aduri	Farmer	Bakura	Birampur	Dinajpur
Bulbuli	Farmer	Pukuri ghat	Birampur	Dinajpur
Rickta	Farmer	Pukuri ghat	Birampur	Dinajpur
Korban	Retailer	Dosar	Birampur	Dinajpur
Salma	Farmer	Khajapur	Birampur	Dinajpur
Choyti Rani	Farmer	Khajapur	Birampur	Dinajpur
Sumaiya	Farmer	Nor gram	Birampur	Dinajpur
Mst. Mehera Banu	Farmer	Chkun	Birampur	Dinajpur
Ferdauasi	Farmer	Ferapara	Birampur	Dinajpur
Sulekha	Farmer	Raton pur	Birampur	Dinajpur
Ashrafun Nesa	Farmer	Monnapara	Birampur	Dinajpur
Md. Dulal Hossain	Farmer	Monnapara	Birampur	Dinajpur
Shamsul Alom	Farmer	Raton pur	Birampur	Dinajpur
Liton Chondro	Farmer	Raton pur	Birampur	Dinajpur
Radhika Rani	Farmer	Raton pur	Birampur	Dinajpur
Md. Torikul Islam	Farmer	Habibpur	Birampur	Dinajpur
Mostofa Kamal	Farmer	Mahmudpur	Birampur	Dinajpur
Md. Golam Mostofa	Farmer	Mahmudpur	Birampur	Dinajpur
Mosharof Hossain	Farmer	Mahmudpur	Birampur	Dinajpur
Golam Mostofa	Farmer	Shagaihata	Birampur	Dinajpur
Tozammel Hossain	Farmer	Jotjoyram	Birampur	Dinajpur
Md. Mostahab	Farmer	Jotjoyram	Birampur	Dinajpur
Md. Ariful Islam	Farmer	Habibpur	Birampur	Dinajpur
Alom Mondol	Farmer	Purbopara	Birampur	Dinajpur
Idris Ali	Doctor	Birampur	Birampur	Dinajpur
Zahidul Islam	Farmer	Mahmudpur	Birampur	Dinajpur
Anisur rahman	APC	Birampur	Birampur	Dinajpur
Minhaj		Fulbari	Birampur	Dinajpur

### Birganj AP:

Respondent Name	Respondent Type	Address	Upazilla/AP	District
Based	Farmer	Krisninogor, Mohonpur Union	Birganj	Dinajpur
Nasir Uddin	Farmer	Krisninogor, Mohonpur Union	Birganj	Dinajpur
Chan Meya	Farmer	Krisninogor, Mohonpur Union	Birganj	Dinajpur
Zobbar	Farmer	Krisninogor, Mohonpur Union	Birganj	Dinajpur
Salam	Farmer	Krisninogor, Mohonpur Union	Birganj	Dinajpur
kuddus	Farmer	Krisninogor, Mohonpur Union	Birganj	Dinajpur
Resvi Alom	Doctor	Sojolpur	Birganj	Dinajpur
Shojib	Retailer	Santibag	Birganj	Dinajpur
Sirajul Islam	Accountant	Birganj	Birganj	Dinajpur
Preyom Roy	E.D.	Laboni Foundation	Birganj	Dinajpur
Royel		Sujalpur	Birganj	Dinajpur
Razzak	Retailer	Sujalpur	Birganj	Dinajpur
Monirul		Sujalpur	Birganj	Dinajpur
Monir	Handicraft	Sujalpur	Birganj	Dinajpur
Mominur	Handicraft	Sujalpur	Birganj	Dinajpur
Fulmeya	Handicraft	Sujalpur	Birganj	Dinajpur
Ontos	Handicraft	Sujalpur	Birganj	Dinajpur
Rofiqul	Handicraft	Sujalpur	Birganj	Dinajpur
Mozibor	Handicraft	Sujalpur	Birganj	Dinajpur
Md. Firoz Alom	R.R	Sujalpur	Birganj	Dinajpur
Chonchol Roy	R.R	Sujalpur	Birganj	Dinajpur
Afsana Mostari		Birganj	Birganj	Dinajpur
Mostafizur Rahman	U.A.O	Birganj	Birganj	Dinajpur
Md. Yunus Ali	V.S.	Birganj	Birganj	Dinajpur
Orun Chondro Roy	A.E.O	Birganj	Birganj	Dinajpur
Tofajjol Hossain	S.A.A.O	Birganj	Birganj	Dinajpur
Md. Korim	U.D.A.C.A	Birganj	Birganj	Dinajpur
Sonjit Kumar Pal	S.A.A.O	Birganj	Birganj	Dinajpur
Md. Shajahan	S.A.A.O	Birganj	Birganj	Dinajpur
Promoth Roy	S.A.A.O	Birganj	Birganj	Dinajpur

### Dhamoirhat AP:

Respondent Name	Respondent Type	Address	Upazilla/AP	District
Chameli Rani		Dhamoirhat	Dhamoirhat	Naogaon
Raima Begum		Dhamoirhat	Dhamoirhat	Naogaon
Helal		Dhamoirhat	Dhamoirhat	Naogaon
Kashem		Dhamoirhat	Dhamoirhat	Naogaon
Shopon Hamda		Dhamoirhat	Dhamoirhat	Naogaon
Patrash		Dhamoirhat	Dhamoirhat	Naogaon
Jolil		Dhamoirhat	Dhamoirhat	Naogaon
Junas		Dhamoirhat	Dhamoirhat	Naogaon
Abdul Kashem		Dhamoirhat	Dhamoirhat	Naogaon
Sohel Rana		Dhamoirhat	Dhamoirhat	Naogaon
Md. Dulal		Dhamoirhat	Dhamoirhat	Naogaon
Natha Niyel		Dhamoirhat	Dhamoirhat	Naogaon
Nomita		Dhamoirhat	Dhamoirhat	Naogaon
Anjoli		Dhamoirhat	Dhamoirhat	Naogaon

Mala Rani		Dhamoirhat	Dhamoirhat	Naogaon
Habibir Rahman		Dhamoirhat	Dhamoirhat	Naogaon
Rumila		Dhamoirhat	Dhamoirhat	Naogaon
A. Rahman		Dhamoirhat	Dhamoirhat	Naogaon
Shoriful Islam		Dhamoirhat	Dhamoirhat	Naogaon
Abu Yousuf		Dhamoirhat	Dhamoirhat	Naogaon
Md. Kayeser Iqbal		Dhamoirhat	Dhamoirhat	Naogaon
Md. Rabiul Islam		Dhamoirhat	Dhamoirhat	Naogaon
Md. Emran Ali		Dhamoirhat	Dhamoirhat	Naogaon
Md. Masud Rana		Dhamoirhat	Dhamoirhat	Naogaon
Md. Anim Rahman		Dhamoirhat	Dhamoirhat	Naogaon
Gloria		Dhamoirhat	Dhamoirhat	Naogaon
Mamel		Dhamoirhat	Dhamoirhat	Naogaon
Nobriup		Dhamoirhat	Dhamoirhat	Naogaon
Md. Momenur		Dhamoirhat	Dhamoirhat	Naogaon
Preber		Dhamoirhat	Dhamoirhat	Naogaon
Md. Mabud		Dhamoirhat	Dhamoirhat	Naogaon
Zahidul Islam		Dhamoirhat	Dhamoirhat	Naogaon
Markush		Dhamoirhat	Dhamoirhat	Naogaon
Dilip		Dhamoirhat	Dhamoirhat	Naogaon
Mukul Boiragi		Dhamoirhat	Dhamoirhat	Naogaon

#### Fulbari AP:

Respondent Name	Respondent Type	Address	Upazilla/AP	District
Khokon		Senora	Fulbari	Dinajpur
Samioul		Senora	Fulbari	Dinajpur
Md. Anisur Rahman	A.P.P	Fulbari	Fulbari	Dinajpur
Joseph Mondy	P.O		Fulbari	Dinajpur
Dulal	C.F	Senora	Fulbari	Dinajpur
Kashababu	VCD		Fulbari	Dinajpur
Saidul	UPG		Fulbari	Dinajpur
Mahabur	JPO		Fulbari	Dinajpur
Ariful Islam	JPO		Fulbari	Dinajpur
Selima	Farmer	Bakura	Fulbari	Dinajpur
Aduri	Farmer	Bakura	Fulbari	Dinajpur
Bulbuli	Farmer	Pukuri ghat	Fulbari	Dinajpur
Rickta	Farmer	Pukuri ghat	Fulbari	Dinajpur
Korban	Retailer	Dosar	Fulbari	Dinajpur
Salma	Farmer	Khajapur	Fulbari	Dinajpur
Choyti Rani	Farmer	Khajapur	Fulbari	Dinajpur
Sumaiya	Farmer	Nor gram	Fulbari	Dinajpur

#### Ghoraghat AP:

Respondent Name	Respondent Type	Address	Upazilla/AP	District
Md. Rubel		Shingra	Ghoraghat	Dinajpur
Md. Nazrul Islam		Ghoraghat	Ghoraghat	Dinajpur
Aslam		Palsha	Ghoraghat	Dinajpur
Chittironjon Mondol		Shingra	Ghoraghat	Dinajpur
chondon Sarkar		Shingra	Ghoraghat	Dinajpur
Hamida		Pourosova	Ghoraghat	Dinajpur

Al-Imran		Shingra	Ghoraghat	Dinajpur
Mst. Khadiza		Shingra	Ghoraghat	Dinajpur
Md. Shajahan		Shingra	Ghoraghat	Dinajpur
Mizanur		Bulakipur	Ghoraghat	Dinajpur
Md. Momin		Shingra	Ghoraghat	Dinajpur
Dulal Meya		Chadpara, Shingra	Ghoraghat	Dinajpur
Shri Nironjon		Shingra	Ghoraghat	Dinajpur
Md. Sazu Meya		Nondonpur, Ghoraghat	Ghoraghat	Dinajpur
Monajjol Haque		Joyrampur, Bulakipur	Ghoraghat	Dinajpur
Alek Meya		Shampur, Ghoraghat	Ghoraghat	Dinajpur
Polash		3no Shingra	Ghoraghat	Dinajpur
Akramul Haque		Shingra	Ghoraghat	Dinajpur
Sobuj		Rishighat, Shingra	Ghoraghat	Dinajpur
Abu Taher		Bashmuri, 2no pasha	Ghoraghat	Dinajpur
Bimol Chondro		Collegepara, Ghoraghat	Ghoraghat	Dinajpur
Md. Akhlas	Upazila Agriculture officer	Ghoraghat	Ghoraghat	Dinajpur
Mamunor Rashid	U. L O	Ghoraghat	Ghoraghat	Dinajpur
Md. Fahim		3no Shingra	Ghoraghat	Dinajpur
Md. Mofizar		Bulakipur	Ghoraghat	Dinajpur

#### Godagari AP:

Respondent Name	Respondent Type	Address	Upazilla/ AP	District
Mst. Saleha Khatun		Terpara	Goadagari	Rajshahi
Helal Uddin		Bauli	Goadagari	Rajshahi
Jalal Uddin		Bauli	Goadagari	Rajshahi
Azizur Rahman		Sakhalipara	Goadagari	Rajshahi
Nurul Huda		Nolotri	Goadagari	Rajshahi
Saifuddin		Nolotri	Goadagari	Rajshahi
Md. Khalek		Vobalipur	Goadagari	Rajshahi
Md. Zulfikar		Khetur	Goadagari	Rajshahi
Shri Shamol		Horishonkorpur	Goadagari	Rajshahi
Shri Ronzit Roy		Goadagari	Goadagari	Rajshahi
Md. Shofikul		Goadagari	Goadagari	Rajshahi
Md. Fahad Badsha		Bidir pur	Goadagari	Rajshahi
Mahabur Alom		Bidir pur	Goadagari	Rajshahi
Rakibul Islam		Bidir pur	Goadagari	Rajshahi
Md. Zakareya		Bidir pur	Goadagari	Rajshahi
Md. Rokibul Islam		Dorga para	Goadagari	Rajshahi
Shamim		Bidir pur	Goadagari	Rajshahi
Mst. Ismotara Khatun		Bidir pur	Goadagari	Rajshahi
Abdul Muttalib		Goadagari	Goadagari	Rajshahi
Md. Taufikur Rahman		Goadagari	Goadagari	Rajshahi
Md. Ashikur Rahman		Goadagari	Goadagari	Rajshahi
Md. Monirul Islam		Goadagari	Goadagari	Rajshahi

#### Kaharole AP:

Respondent Name	Respondent Type	Address	Upazilla/ AP	District
Md. Ashrafur Islam		Sujondro pur	Kaharole	Dinajpur
Md. Mizanur Rahman		Sujondro pur	Kaharole	Dinajpur
Sumon Chondro Das		Uchit pur	Kaharole	Dinajpur

Thakur Debkormo		sultanpur	Kaharole	Dinajpur
Md. Hasir Uddin		Ghorchondra	Kaharole	Dinajpur
Md. Nozrul Islam		Sundoil	Kaharole	Dinajpur
Provas Chondro		Eshan pur	Kaharole	Dinajpur
Shamol Chondro		Eshan pur	Kaharole	Dinajpur
Green Chondro		Poreshorpur	Kaharole	Dinajpur
Md. Momotaz Ali		Nezeyya	Kaharole	Dinajpur
Md. Mostafizur Rahman		Panisail	Kaharole	Dinajpur
Hemonto Kumar		Noyabad	Kaharole	Dinajpur
Rahul Chondro		Eshan pur	Kaharole	Dinajpur
Ashim Kumar		Eshan pur	Kaharole	Dinajpur
Khokon Chondro		Mitro Bati	Kaharole	Dinajpur
Md. Malek Rahman		Sundoil	Kaharole	Dinajpur
Jesmin		Chipikura	Kaharole	Dinajpur
Momota Rani		Eshan pur	Kaharole	Dinajpur
Kamon Rani		Eshan pur	Kaharole	Dinajpur
Rishita Rani		Sundoil	Kaharole	Dinajpur
Sabina Aktar		Rampur	Kaharole	Dinajpur
Jotindronath Roy		Sundoil	Kaharole	Dinajpur
Surjo kanto Roy		Sundoil	Kaharole	Dinajpur
Md. Tarek Hossain	Doctor		Kaharole	Dinajpur
Orun Kumar	Doctor		Kaharole	Dinajpur
Md. Shamim	U.A. O.		Kaharole	Dinajpur
Nibedita	U.W. O.		Kaharole	Dinajpur

#### Kishorgonj AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District
Hannan	farmer	Monthona	kisorgonj	Nilphamari
Abdul jalil	Agriculture officer	Kishor ganj , nilphamary	kisorgonj	Nilphamari
Abdul kader	Fermer	Ismail, kishorgonj, Nilphamary	kisorgonj	Nilphamari
Fatema	farmer	Monthona	kisorgonj	Nilphamari
Anamul haque	Agriculture officer	Kishor ganj , nilphamary	kisorgonj	Nilphamari
Abdul aij	farmer	Monthona	kisorgonj	Nilphamari
Nur Amin	Fermer	Ismail, kishorgonj, Nilphamary	kisorgonj	Nilphamari
Vorot mohanto	retailer	shamoli bij vandar	kisorgonj	Nilphamari
Abdul hannan	farmer	Monthona	kisorgonj	Nilphamari
Samad	retailer	m/s samad treaders	kisorgonj	Nilphamari
Lebu mia	farmer	Monthona	kisorgonj	Nilphamari
Ferdos hosen	farmer	Monthona	kisorgonj	Nilphamari

### Mithapukur AP:

Respondent Name	Respondent Type	Address	Upazilla/ AP	District
Md. Salim	Farmer	Noyani, Foridpur	Mithapukur	Rangpur
Abdul Hamid	Farmer	Noyani, Foridpur	Mithapukur	Rangpur
Md. Liton	Farmer	Rasulpur	Mithapukur	Rangpur
Md. Sazu	Farmer	Rasulpur	Mithapukur	Rangpur
Md. Shopon	Farmer	Rasulpur	Mithapukur	Rangpur
Mst. Tanzil Begum	Farmer	Rasulpur	Mithapukur	Rangpur
Mst. Rahena Begum	Farmer	Noyani, Foridpur	Mithapukur	Rangpur
Upondronath	Farmer	Chitoli	Mithapukur	Rangpur
Shujota Rani	Farmer	Chitoli	Mithapukur	Rangpur
Rupali Rani	Farmer	krishnopur	Mithapukur	Rangpur
Afjal Hossain	Farmer	Kosba	Mithapukur	Rangpur
Sazu Meza	Farmer	Noyani, Foridpur	Mithapukur	Rangpur
Mst. Helena Begum	Farmer	Mushapur	Mithapukur	Rangpur
Goutom Kumar	Farmer	Aladipur	Mithapukur	Rangpur
Prodip Kumar	Farmer	Chitoli	Mithapukur	Rangpur
Hira	Farmer	vobani pur	Mithapukur	Rangpur
Abdur Razzak	Farmer	Chitoli	Mithapukur	Rangpur
Mst. Mollika Parvin	Farmer	Mithapukur	Mithapukur	Rangpur
Md. Mominur Rahman	Farmer	Mithapukur	Mithapukur	Rangpur
Md. Kamrujjman Tuhin	Farmer	Joyontipur	Mithapukur	Rangpur
Nazmul Huda	Farmer	Sultan pur	Mithapukur	Rangpur
Polash Chondro	Farmer	Chitoli	Mithapukur	Rangpur
Hafizur Rahman	Farmer	Tulshipur	Mithapukur	Rangpur

### Nilphamari Sadar AP:

Respondent Name	Respondent Type	Address	Upazilla/ AP	District
Onil Chondro	Farmer	Nittanondi	Nilphamari Sador	Nilphamari
Otoul Chondro Roy	Farmer	Tobgabari	Nilphamari Sador	Nilphamari
Razendronath	Farmer	Tobgabari	Nilphamari Sador	Nilphamari
Md. Mamun	Farmer	Tobgabari	Nilphamari Sador	Nilphamari
Shohidar Rahman	Farmer	Notkhana	Nilphamari Sador	Nilphamari
Milon Chondro Roy	Farmer	Polashbari	Nilphamari Sador	Nilphamari
Birondronath Shorma	Chairman	Polashbari	Nilphamari Sador	Nilphamari
Jomuna Rani	Farmer	Notkhana	Nilphamari Sador	Nilphamari
Roushonara	Farmer	Harowua	Nilphamari Sador	Nilphamari
Shabitri Rani	Farmer	Khokshabari	Nilphamari Sador	Nilphamari
Mst. Kohinur	Farmer	Khokshabari	Nilphamari Sador	Nilphamari
Shatin Chondro	Farmer	Khokshabari	Nilphamari Sador	Nilphamari
Hori Roy	Farmer	Khokshabari	Nilphamari Sador	Nilphamari
Md. Monirujman	Farmer	Tupamari	Nilphamari Sador	Nilphamari
Rasel	Farmer	Khokshabari	Nilphamari Sador	Nilphamari
Nur Hossain	Farmer	Bakaha Para	Nilphamari Sador	Nilphamari
Rubina Begum	Farmer	Khokshabari	Nilphamari Sador	Nilphamari
Minal	Farmer		Nilphamari Sador	Nilphamari
Md. Luthfor Rahman	Farmer		Nilphamari Sador	Nilphamari
Raton Kumar	Farmer		Nilphamari Sador	Nilphamari
Musfikur	SAAO		Nilphamari Sador	Nilphamari
Chitto Ronjon Roy	CPF	Torla Bari	Nilphamari Sador	Nilphamari



### Paba AP:

Respondent Name	Respondent Type	Address	Upazilla/ AP	District
Md. Idderis		Deber para	Paba	Rajshahi
Md. Mozibor Rahman		Shahapur	Paba	Rajshahi
Md. Nasim Islam		Shahapur	Paba	Rajshahi
Md. Shoriful Islam		Shahapur	Paba	Rajshahi
Yasin Ali		Dhormohata	Paba	Rajshahi
Mst. Sagira Begum		Sairpukur	Paba	Rajshahi
Md. Ataour Rahman		Dhormohata	Paba	Rajshahi
Helal		Afipara	Paba	Rajshahi
Shohidul Islam		Dhormohata	Paba	Rajshahi
Sonarul Islam		Paba	Paba	Rajshahi
Mst. Doly Begum		Paba	Paba	Rajshahi
Rima Begum		Shapur	Paba	Rajshahi
Nasima Begum		Shapur	Paba	Rajshahi
Md. Monirul Islam		Shapur	Paba	Rajshahi
Md. Rohidul Islam		Daruma	Paba	Rajshahi
Md. Rokibul Islam		Daruma	Paba	Rajshahi
Saklayen		Paba	Paba	Rajshahi
Md. Hafizur Rahman		Shujuripara	Paba	Rajshahi
Shri Kumar Milon		Paba	Paba	Rajshahi
Md. Ashraful		Daruma	Paba	Rajshahi
Arshad Ali		Daruma	Paba	Rajshahi
Mst. Shapla Brgum		Shapur	Paba	Rajshahi
Md. Abdus Salam		Paba	Paba	Rajshahi
Md. Rabioul Islam		Daruma	Paba	Rajshahi
Abdul Bari		Paba	Paba	Rajshahi

### Pirganj AP:

Respondent Name	Respondent Type	Address	Upazilla/ AP	District
Abdus Sattar		Pat gram, 7 no. Union	Pirganj	Rangpur
Joylan Abedin		Pat gram, 7 no. Union	Pirganj	Rangpur
Md. Abdul Mojib		Pirganj	Pirganj	Rangpur
Nisen Chondro		Osmanpur, pirgonj	Pirganj	Rangpur
Shri Mukul Chondro		Osmanpur, pirgonj	Pirganj	Rangpur
Agostina Soren		Chotra, 14 no. chotra	Pirganj	Rangpur
Md. Aktarul		Satua, pirgonj	Pirganj	Rangpur
Patras kirtey		Satua, pirgonj	Pirganj	Rangpur
Raza		pirgonj	Pirganj	Rangpur
Zorina		Kishorgonj, pirgonj	Pirganj	Rangpur
Sekendar Ali		Kangurpara, chotra	Pirganj	Rangpur
Nurunoshi meya		Ontopur, chotra	Pirganj	Rangpur
Md. Aminul Islam		Ghatiyalpara, chotra	Pirganj	Rangpur
Md. Faraijul Islam		tiormari, tukureya	Pirganj	Rangpur
Md. Alomgir Hossain		pirgonj	Pirganj	Rangpur
Rebeka Yesmin		pirgonj	Pirganj	Rangpur
Shofikul Islam		Chotra	Pirganj	Rangpur
Mst. Asma Begum		Chotra	Pirganj	Rangpur
Golam Azom		Sonatola, chotra	Pirganj	Rangpur

Sadhon Das		pirgonj	Pirganj	Rangpur
Md.Anower Hossain		pirgonj	Pirganj	Rangpur

#### Rangpur AP:

Respondent Name	Respondent Type	Address	Upazilla/ AP	District	Phone Number
Israt Jahan Doli	C. B. O (chairman)	Lakipara, 17 no word	Rangpur Sadar	Rangpur	1779962984
Bobita Rani		Norsundor para, 17 no word	Rangpur Sadar	Rangpur	1786898181
Israt Jahan Keya	C. B. O	Mistripara	Rangpur Sadar	Rangpur	1716158366
Rupa Begum		Keranipara, 18 no word	Rangpur Sadar	Rangpur	1786888827
Santa Islam		Jummapara, 23 no word	Rangpur Sadar	Rangpur	1723249019
Md. Nuru Zaman	Farmer	salbon, Botla	Rangpur Sadar	Rangpur	1723096925
Md. Tofajjol Hossain	Business	salbon, Botla	Rangpur Sadar	Rangpur	1720582274
Abdus Salam	Farmer	Satgara, sobujpara	Rangpur Sadar	Rangpur	1924106905
Md. Roshid Meza	Farmer	Satgara, sobujpara	Rangpur Sadar	Rangpur	1744977536
Mst. Saheda Begum	Farmer	Botla para	Rangpur Sadar	Rangpur	1741462535
Mst. Jukekha Begum	Farmer	Botla para	Rangpur Sadar	Rangpur	1774006314
Mst. Beauty Begum	Farmer	Botla para	Rangpur Sadar	Rangpur	1770711662
Mst. Mahmuda Begum	Farmer	Kher Bari, 25 no word	Rangpur Sadar	Rangpur	1794862648
Mst. Shefali Begum	Farmer	Botla 25 no word	Rangpur Sadar	Rangpur	1988820370
Mst. Nurzahan	Farmer	Ispahani Camp 26 no word	Rangpur Sadar	Rangpur	
Kulsum Begum	Sewing	Patbari 26 no word	Rangpur Sadar	Rangpur	1833598394
Helena Begum	Sewing	Patbari 26 no word	Rangpur Sadar	Rangpur	1934758501
Md. Lal Meza	Faria	Mondol para 26 no word	Rangpur Sadar	Rangpur	1871420172
Md. Khalek	Business	Parbotipur 17 no word	Rangpur Sadar	Rangpur	1755168404
Md. Malek	Business	Mularol 25 no word	Rangpur Sadar	Rangpur	1712112560
Mst. Tahamina Shirin	U. Y. D. O	C. O Bazar	Rangpur Sadar	Rangpur	1717089446
Ashik Kumar	P. O. (value chain)	G. B. K	Rangpur Sadar	Rangpur	1725088674
Asadujman Sarkar	A. M (I. S. D. C. L)	Goupto para	Rangpur Sadar	Rangpur	1723657143

Md. Saiful Islam	Agriculture Officer	Rangpur, Sador	Rangpur Sador	Rangpur	1716963236
Rafiqul Islam	Compounder	26no word	Rangpur Sador	Rangpur	1946345580
Md. Sazu Meza	Compounder	17no word	Rangpur Sador	Rangpur	1744608459
Hafizul Islam	Compounder	27no word	Rangpur Sador	Rangpur	1749940110

#### Tanore AP:

Respondent Name	Respondent Type	Address	Upazilla/AP	District
Shova	Famer	Golla Para	Tanore	Rajshahi
Md. Insan Ali	Famer	Manik Konna	Tanore	Rajshahi
Laboni Das	Famer	Tanore Hindu Para	Tanore	Rajshahi
Shukhi Das	Famer	Tanore Hindu Para	Tanore	Rajshahi
Khokon Halder	Fish Faria	Golla Para	Tanore	Rajshahi
Mithun Halder	Fish Faria	Golla Para	Tanore	Rajshahi
Nasima	Handicraft	Salam Pur	Tanore	Rajshahi
Md. Aftab Uddin	Famer	Kundail	Tanore	Rajshahi
Shri Dipok Kumar	Business		Tanore	Rajshahi
Kadir	Business		Tanore	Rajshahi
Hasan	Famer	Manik konna	Tanore	Rajshahi
Nasir	Famer	Vagna	Tanore	Rajshahi
Altab	Business		Tanore	Rajshahi
Kamal	Business	Mundumala	Tanore	Rajshahi
Protima	Famer	Salam pur	Tanore	Rajshahi
Lotib	Famer	Jogisho	Tanore	Rajshahi

#### Thakurgaon AP:

Respondent Name	Respondent Type	Address	Upazilla/AP	District	Phone	Sector
Abdur Rahim	Doctor		Thakurgaon Sador	Thakurgaon	1716068760	Service
Shri Manob Kumar	Compounder		Thakurgaon Sador	Thakurgaon	1713729704	Service
Nur Zaman Babu	Business		Thakurgaon Sador	Thakurgaon	1770807390	Shop Kipper
Md. Momotaz Uddin	Bank Officer		Thakurgaon Sador	Thakurgaon	1731436159	
Md. Atikur Rahman	Farmer	Purbo Begun Bari	Thakurgaon Sador	Thakurgaon	1780748003	Country chicken
Shri Roton Kumar	Retailer	Begun Bari	Thakurgaon Sador	Thakurgaon	1713785311	Vagatable
Susomoy Mankhin	P.O.		Thakurgaon Sador	Thakurgaon	1755619627	
Parul Begum	P.O.		Thakurgaon Sador	Thakurgaon	1715545019	
Sushil Chondro	P.O.		Thakurgaon Sador	Thakurgaon	1755618654	
Munni Begum	Farmer	Paik para	Thakurgaon Sador	Thakurgaon	1773241996	Vagatable

Mst. Ahiya Begum	Farmer	Paik para	Thakurgaon Sador	Thakurgaon		Cow Dairy
Shamsuzuha	Retailer	Paik para	Thakurgaon Sador	Thakurgaon	1776857017	Vagatable
Md.Kauser ali	Doctor	Pokati Hat	Thakurgaon Sador	Thakurgaon	1724677842	Service
Kollan Kumar	Farmer	Pokati Hat	Thakurgaon Sador	Thakurgaon	1718241338	Vagatable
Nasirul Haque	Retailer	Pokati Hat	Thakurgaon Sador	Thakurgaon	1717313142	Vagatable
Md.Aminul Islam	Retailer	Nargun	Thakurgaon Sador	Thakurgaon	1712743889	Vagatable
Abul Hossain	Business	Begun Bari	Thakurgaon Sador	Thakurgaon	1750920513	Shop Kipper
Shri Vorod Roy	Farmer	Begun Bari	Thakurgaon Sador	Thakurgaon	1750920513	Vagatable
Md.Zibril	E.S.D.O		Thakurgaon Sador	Thakurgaon	1768954884	

## Greater Mymensingh Region (GMR)

### Jolchotro AP:

Respondent Name	Respondent Type	Address	Upazilla/AP	District
Manik	APC	Jalchatra AP	Modhupur	Tangail
Leya S. Sarkar	PO	Jalchatra AP	Modhupur	Tangail
Andrew ondol	PO	Jalchatra AP	Modhupur	Tangail
Subastin Mondol	FO	Jalchatra AP	Modhupur	Tangail
Sukanto	PO	Jalchatra AP	Modhupur	Tangail
Md.Jubayed	PO	Jalchatra AP	Modhupur	Tangail

Aleya	CBO	Jalchatra AP	Modhupur	Tangail
Bipul	CBO	Jalchatra AP	Modhupur	Tangail
Sumita	CBO	Jalchatra AP	Modhupur	Tangail
Somu Mong	CBO	Jalchatra AP	Modhupur	Tangail
Shopna	CBO	Jalchatra AP	Modhupur	Tangail
Md. Hafizur	CBO	Pochisha	Modhupur	Tangail
Nazma Sarkar	Chairman	Madhupur	Modhupur	Tangail
Mohammad	Fisharis Officer	Madhupur	Modhupur	Tangail
Nur Mohammad		Jangaleya	Modhupur	Tangail
Mateyar Rahman	Business	Jolsotro	Modhupur	Tangail
Md. Firoz		Golabari	Modhupur	Tangail
Mst. Shanta Islam		Oronghola	Modhupur	Tangail
Jakir Hossain	CBO	Oronghola	Modhupur	Tangail
Mst. Nasima	CBO	Oronghola	Modhupur	Tangail
Mazeda	CBO	Oronghola	Modhupur	Tangail
Momina	CBO	Oronghola	Modhupur	Tangail
Md. Shahadat		Jangaleya	Modhupur	Tangail
Shahin Shikdar	Whole Seller	Jangaleya	Modhupur	Tangail
Md. Nazrul	Whole Seller	Jangaleya	Modhupur	Tangail

#### Mymensingh Sadar AP:

Respondent Name	Respondent Type	Address	Upazilla/ AP	District
Md. Alomgir	Retailer	Char Isshordia	Mymensingh	Mymensingh
Najmul Islma	Retailer	Khagdohor	Mymensingh	Mymensingh
Abu Sayed	Farmer	Khagdohor	Mymensingh	Mymensingh
Najirul	Farmer	2 no. word pouroushova	Mymensingh	Mymensingh
Md. Ishak Ali	Farmer	Khagdohor	Mymensingh	Mymensingh
A. Barek	Business	Char Borguna	Mymensingh	Mymensingh
D. Md. Mosiur Rahman	Veterinarian	Ba, kri, B, Mymensingh	Mymensingh	Mymensingh
Faruk Ahmmmed	Retailer	2 no. word	Mymensingh	Mymensingh
Md. Basek Sarker	Retailer	Boyra	Mymensingh	Mymensingh
Md. Nurul Amin	Business	Boyra	Mymensingh	Mymensingh
Sheikh Jamil Ahammed	Deputy Assistant Agriculture Officer	Upazila Agriculture Office	Mymensingh	Mymensingh
Mst. Hafija	Housewife	Boyra	Mymensingh	Mymensingh
Mst. Shahida	Housewife	Boyra	Mymensingh	Mymensingh
Sultana Begum	Handicraft	Kachijuli	Mymensingh	Mymensingh

Asmaul Hosna	Handicraft	Tin kona pukurpar	My mensi ngh	My mensi ngh
Fatema Begum	Sewing	Kashor	My mensi ngh	My mensi ngh
Rowshon Jahan	C.S	Jubo Unnoun office, sadar mymensingh	My mensi ngh	My mensi ngh
Majeda Begum	Dristi Bohumukhi Somobay somiti	Akua Model para	My mensi ngh	My mensi ngh
Jannatul Ferdous	Handicraft	Sankipara shes mor	My mensi ngh	My mensi ngh
Sahera Begum	Manob bondhon bohumukhi S.S.L	Gohailkandi	My mensi ngh	My mensi ngh
Aleya Khatun	Handicraft	Sankipara shes mor	My mensi ngh	My mensi ngh
Mohulima Akter Morjina	Handicraft	Akua uttar para	My mensi ngh	My mensi ngh
Abit Sarker	Business	Kachijuli	My mensi ngh	My mensi ngh
Jhontu	Business	Pouro kacha bazar	My mensi ngh	My mensi ngh
Md. Shamim	Business	Pouro kacha bazar	My mensi ngh	My mensi ngh
Fojlul Haque	Business	Isshordiya	My mensi ngh	My mensi ngh
Md. Sita	Business	Chor Isshordiya	My mensi ngh	My mensi ngh
Narayon Chandro Sarker	Services	Gramus	My mensi ngh	My mensi ngh
Md. Sukhon	Business	Kashor	My mensi ngh	My mensi ngh
Md. Jamal uddin	A.I technician	Chor kalibari	My mensi ngh	My mensi ngh
Rafiqul Islam	APC TS-Liv	Mymensingh APC	My mensi ngh	My mensi ngh
Abdul Barek	PO	Mymensingh AP	My mensi ngh	My mensi ngh
Lina Janubil	PO	Mymensingh AP	My mensi ngh	My mensi ngh

#### Muktagacha AP:

Respondent Name	Respondent Type	Address	Upazilla/ AP	District
Kitab Ali		Joyda	Muktagasa	Mymensingh
Abdur Razzak		Joyda	Muktagasa	Mymensingh
Kartik Robidash		Goyari	Muktagasa	Mymensingh
Jogesh Robidas		Goyari Uttar	Muktagasa	Mymensingh

Azizul Haq		Goyari Uttar	Muktagasa	Mymensingh
Shahidullah		Goyari Uttar	Muktagasa	Mymensingh
Rikta mojumdar		Languniya	Muktagasa	Mymensingh
Moiful Akter		Chak languniya	Muktagasa	Mymensingh
Ashraful islam		Goyari dokkhin	Muktagasa	Mymensingh
Rafikul Islam		Joyda	Muktagasa	Mymensingh

### Central Eastern Region (CER):

#### Dhaka East AP:

Respondent Name	Respondent Type	Address	Upazilla/AP	District
Afful Islam raj		Shajad Pur	Dhaka East	Dhaka
Jahangir Alam	Co-operative	Shajad Pur	Dhaka East	Dhaka
Srabon Razario		Barua	Dhaka East	Dhaka
Md. Ruhul Amin Sarker		Jagannathpur	Dhaka East	Dhaka
Dr. Md. Rigan		Urban APC	Dhaka East	Dhaka
Md. Noor-E-Elahi		Dokkhinkhan	Dhaka East	Dhaka

Nitty Adhikary	MTCO	Gulshan	Dhaka East	Dhaka
Azmul Huda	Manager	Nur-e chala	Dhaka East	Dhaka
Debabrata	PC	Tarango	Dhaka East	Dhaka
Afroja Akter	Supervisor	Tarango	Dhaka East	Dhaka
Abdul Talum		Badda	Dhaka East	Dhaka
Rafi		Badda	Dhaka East	Dhaka
Farida Yeasmin		Borua	Dhaka East	Dhaka
Rahima		Borua	Dhaka East	Dhaka
Fatema		Borua	Dhaka East	Dhaka
Bithika Boruya		Jogonnathpur	Dhaka East	Dhaka
Topoti Gomej		Jogonnathpur	Dhaka East	Dhaka
Taslima		Maysed	Dhaka East	Dhaka
Shamoli Rani Das		Badda	Dhaka East	Dhaka
Md. Rofikul		Jogonnathpur	Dhaka East	Dhaka
Md. Hanif		Badda	Dhaka East	Dhaka
Nitai Sarkar		Badda	Dhaka East	Dhaka
Nasima		Badda	Dhaka East	Dhaka
Md. Ali Hossain		Badda	Dhaka East	Dhaka
Md. Abdus Salam		Badda	Dhaka East	Dhaka
Md. Sujon Khadem		Badda	Dhaka East	Dhaka
Joseph Mondol		Norda	Dhaka East	Dhaka
Khristo Boiragi		Badda	Dhaka East	Dhaka
Beauty Roy			Dhaka East	Dhaka
Ashin Das			Dhaka East	Dhaka
Kanan Bairagi			Dhaka East	Dhaka
Borun Sarker			Dhaka East	Dhaka
Sonny			Dhaka East	Dhaka
Alia S Alo			Dhaka East	Dhaka
Manuel Tudu			Dhaka East	Dhaka
Komonashiss Nakrek			Dhaka East	Dhaka
Shuvro Rego			Dhaka East	Dhaka
Preetom Rodrigues			Dhaka East	Dhaka
Michael Gomes			Dhaka East	Dhaka
Yeain Ali			Dhaka East	Dhaka
Sheto Costa		DEA	Dhaka East	Dhaka

#### Sylhet AP:

Respondent Name	Respondent Type	Address	Upazilla/AP	District
Basona Akter	ULO	Sylhet Sadar	Sylhet	Sylhet
Anowar Hossain	Farmer	Pathantula,islampur, porabari	Sylhet	Sylhet
Rijvi	Soyabin Mill	Laldighir par	Sylhet	Sylhet
Shahjahan	Ghas chashi	Laldighir par	Sylhet	Sylhet
Md. Moni	pharmacy	Mirza jangal sylet	Sylhet	Sylhet
Jakir	pharmacy	Mirza jangal sylet	Sylhet	Sylhet
Putul	Farmer	mohiyar chor	Sylhet	Sylhet
Kulsuma	Farmer	mohiyar chor	Sylhet	Sylhet



Mahbub alom	Doctor	Mirza jangal sylet	Sylhet	Sylhet
Rajia begom	Farmer	tukur gao	Sylhet	Sylhet
Shimila	Farmer	tukur gao	Sylhet	Sylhet
Sabina	Farmer	tukur gao	Sylhet	Sylhet
Kheya	Farmer	tukur gao	Sylhet	Sylhet
Shefali	Farmer	tukur gao	Sylhet	Sylhet
Md.Babul miya	Farmer	tukur gao	Sylhet	Sylhet

#### Gowainghat AP:

Respondent Name	Respondent Type	Address	Upazilla/AP	District
Khasrul Ahmed	Retailer	Soti	Gowainghat	Sylhet
Helal Uddin	Farmer	Soti	Gowainghat	Sylhet
Kala Mia	Fisherman	Soti	Gowainghat	Sylhet
Raton Kumar	Farmer	Soti	Gowainghat	Sylhet
Sadik Ahmed	Fisherman	Soti	Gowainghat	Sylhet
Jamal Uddin	Farmer	Soti	Gowainghat	Sylhet
Nurul Rahman	Agriculture Officer	Goayeenghat	Gowainghat	Sylhet
Parven Akter	NGO	Soti	Gowainghat	Sylhet
Jia uddin	Farmer	Soti	Gowainghat	Sylhet
Aklima Begum	Farmer	Alir gram	Gowainghat	Sylhet
Rubina Begum	Handicraft	Purna nagar	Gowainghat	Sylhet
Masuma Begum		Purna nagar	Gowainghat	Sylhet
Anisur rahman	Retailer	Alir gram	Gowainghat	Sylhet
Jahangir Alam	Farmer	Alir gram	Gowainghat	Sylhet
Abdul Matin	Farmer	Alir gram	Gowainghat	Sylhet
Borun Das	Farmer	Zumma	Gowainghat	Sylhet
Abul Hossain	Farmer	Zumma	Gowainghat	Sylhet
Alim uddin	Farmer	Purna nagar	Gowainghat	Sylhet
Akhtaruzzaman	Farmer	Purna nagar	Gowainghat	Sylhet
Amin uddin	Ultrapoor		Gowainghat	Sylhet
Pabel Ahmed	Ultrapoor	Soti	Gowainghat	Sylhet
Lokman Ahmed	C.F	Labu	Gowainghat	Sylhet
Nurul Huda	U.P	Alir gram	Gowainghat	Sylhet
Nur hori das	Member	Alir gram	Gowainghat	Sylhet
Belal uddin	Farmer	Pukash	Gowainghat	Sylhet
Komor Uddin	Farmer	Alir gram	Gowainghat	Sylhet
Azad Rahman		Pirijpur	Gowainghat	Sylhet
Boshir Uddin		Purna nagar	Gowainghat	Sylhet
Masuk Ahmed	Student	kartik pur	Gowainghat	Sylhet
Biswajit saha	TP,SPE Live	A.P.C	Gowainghat	Sylhet
Faju Rahman		GDA	Gowainghat	Sylhet

Ashik	P.O	Dowapta	Gowainghat	Sylhet
Dulal Ahmed		Dowapta	Gowainghat	Sylhet
Nikolas		Dowapta	Gowainghat	Sylhet

Respondent Name	Respondent Type	Address	Upazilla/ AP	District
Gopi bormon	Fish Seller	Boro khola	Tahirpur	Sunamganj
Shobdol Bormon	Fish Seller	Moddho Tahirpur	Tahirpur	Sunamganj
Harun or Rashid	Fish Seller	Gobindoshree	Tahirpur	Sunamganj
Habibur Rahman	Farmer	Moddho Tahirpur	Tahirpur	Sunamganj
Rubel Mia	Farmer	Ujan Tahirpur	Tahirpur	Sunamganj
Shamsuzzaman	Farmer	Noagaon	Tahirpur	Sunamganj
Azad Mia	Fish Seller	Noagaon	Tahirpur	Sunamganj
Shafikul islam	Seed Seller	Nagarpur	Tahirpur	Sunamganj
Sonai mia	Vegetable Seller	Volakhali	Tahirpur	Sunamganj
Rafik Mia	Seed Seller	Ujan Tahirpur	Tahirpur	Sunamganj
Kala Mia	Vegetable Seller	Ujan Tahirpur	Tahirpur	Sunamganj
Nurul Afsar	Fish Seller	Ujan Tahirpur	Tahirpur	Sunamganj
Najmul Huda	Farmer	Patari	Tahirpur	Sunamganj
Shamsul Kabir	BCIC	Vati Tahirpur	Tahirpur	Sunamganj
Rupom Akhondo	Farmer	Ratan shree	Tahirpur	Sunamganj
Shafikul Islam	Vegetable Seller	Anowarpur	Tahirpur	Sunamganj
Sahan Sah	Vegetable Seller	Ujan Tahirpur	Tahirpur	Sunamganj
Shamsul Haque	Fish Seller	Vati Tahirpur	Tahirpur	Sunamganj
Lutfor Rahman	UCDF	Vati Tahirpur	Tahirpur	Sunamganj
Lokman Hossain	UPGF	Balijuri	Tahirpur	Sunamganj
Swapna Rani	VCDF	Boro khola	Tahirpur	Sunamganj
Masum Parvez	UPGF	Volakhali	Tahirpur	Sunamganj
Nilufa Yeasmin	UPGF	Kamarbondo	Tahirpur	Sunamganj
Nur Momin	UPGF	Ujan Tahirpur	Tahirpur	Sunamganj
Shawkot	UPGF	Ratan shree	Tahirpur	Sunamganj
Mizanur Rahman	UPGF	Moddho Tahirpur	Tahirpur	Sunamganj
Chandra shikhor	P.O	Tahirpur	Tahirpur	Sunamganj
Sarif uddin	U.C	Uddipon	Tahirpur	Sunamganj
Summedur Rahman	CER, WVB		Tahirpur	Sunamganj
Biswajit saha	Sylhet APC WVB		Tahirpur	Sunamganj
Jahangir Alam	Sarbi		Tahirpur	Sunamganj

## 9. AP wise list of of people interviewed for assessment

Central Eastern Region (CER):

Tahirpur AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Rejaul Karim	Area Manager	Tahirpur, Bisomborpur	Tahirpur	sunamganj	1730348434	Country chicken & Duck
Abdur Rashid	MF Manager	Balijuri bazar branch	Tahirpur	sunamganj	1725527459	Country chicken & Duck
Somapon Chakma	Veterinary sarjen	Tahirpur	Tahirpur	sunamganj	1715265038	Country chicken & Duck
Abdul kayum	NATP	Anowarpur, Balijuri,	Tahirpur	sunamganj	1757951841	Country chicken & Duck
Golap miah	Farmer, Ghash chashi	Shahidabad, Badhaghat, Tahirpur	Tahirpur	sunamganj	1736656606	Country chicken & Duck
Rokibul	Egg Business	Shahidabad, Badhaghat, Tahirpur	Tahirpur	sunamganj	1737610035	Country chicken & Duck
Ashrafuzzaman Moni	pharmacy	Moddhobazar	Tahirpur	sunamganj	1718251228	Country chicken & Duck
Liton Roy	Chicken busness	Palashbari, bada ghat, bishomvorpur	Tahirpur	sunamganj	1912235523	Country chicken & Duck
Amir Ali	Doctor		Tahirpur	Sunamgonj	1727886056	service
Kayoum	Doctor		Tahirpur	Sunamgonj	1757951841	service
Zahangir	Doctor		Tahirpur	Sunamgonj	1712462966	service
Mahmud Ali	Faria		Tahirpur	Sunamgonj	1771058510	Country chicken & Duck
Babul Meya	Faria		Tahirpur	Sunamgonj	1722145812	Country chicken & Duck
Nur Alom	Faria		Tahirpur	Sunamgonj	1719895453	Country chicken & Duck
Afiz Ali	Farmer		Tahirpur	Sunamgonj	1743505290	Country chicken & Duck
Shova Begum	Farmer	Uzan Tahirpur	Tahirpur	Sunamgonj	1793539883	Cow Dairy
Alomgir Hossain	Farmer	Uzan Tahirpur	Tahirpur	Sunamgonj	1722673475	Cow Dairy
Aleya Khatun	Farmer	Uzan Tahirpur	Tahirpur	Sunamgonj	1737459588	Cow Dairy
Kolpona Begum	Farmer	Uzan Tahirpur	Tahirpur	Sunamgonj	1969894238	Cow Dairy

Sadika Aktar	Farmer	Uzan Tahirpur	Tahirpur	Sunamgonj	1716055714	Cow Dairy
Sorupa Begum	Farmer	Uzan Tahirpur	Tahirpur	Sunamgonj	1747319905	Cow Dairy
Atikur Reza	Business	Uzan Tahirpur	Tahirpur	Sunamgonj	1782818238	Pharmacy
Tazul Islam	Business	Uzan Tahirpur	Tahirpur	Sunamgonj	1724692617	Pharmacy
Sabikun Nahar	Farmer	Balizuri	Tahirpur	Sunamgonj	1756508175	Cow Dairy

### Sylhet AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Bazlur Rahman	Ghas chashi	Damali para sonali	Sadar	Sylhet	1911613739	Country chicken & Duck
Akhtar Hossain	Ghas chashi	Shahpur, Toker Bazar	Sadar	Sylhet	1730659166	Country chicken & Duck
Foni Vushon Das	Ghas chashi	Damali Para , Hazipara, Lavly Road	Sadar	Sylhet	1712651042	Country chicken & Duck
Basona Akter	ULO	Sylhet Sadar	Sylhet	Sylhet	1983122625	Country chicken & Duck
Anowar Hossain	Farmer	Pathantula, islampur, porabari	Sylhet	Sylhet	1712273556	Cow & Dairy
Rijvi	Soyabin Mill	Laldighir par	Sylhet	Sylhet	1671373357	Country chicken & Duck
Shahjahan	Ghas chashi	Laldighir par	Sylhet	Sylhet	1710361287	Country chicken & Duck
Md. Moni	pharmacy	Mirza jangal sylet	Mirza jangal	Sylhet	1712902488	Retailer
Jakir	pharmacy	Mirza jangal sylet	Mirza jangal	Sylhet	1715240981	Retailer
putul	Farmer	mohiyar chor	Mirza jangal	Sylhet		Cow & hen Rearing
kulsuma	Farmer	mohiyar chor	Mirza jangal	Sylhet		Cow & hen Rearing
mahbub alom	Doctor	Mirza jangal sylet	Mirza jangal	Sylhet	1711287533	service
Rajia begom	Farmer	tukur gao	Mirza jangal	Sylhet	1752440997	Cow & hen Rearing
shimila	Farmer	tukur gao	Mirza jangal	Sylhet	1752440997	Cow & hen Rearing
sabina	Farmer	tukur gao	Mirza jangal	Sylhet	1760212182	Cow & hen Rearing
kheya	Farmer	tukur gao	Mirza jangal	Sylhet	1767770413	Cow & hen Rearing
Shefali	Farmer	tukur gao	Mirza jangal	Sylhet	1735593901	Cow & hen Rearing
md. Babul miya	Farmer	tukur gao	Mirza jangal	Sylhet	1715719551	Cow & hen Rearing

# Laksham AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Pronoti Debnath	farmer	Debipur, Bakoi, Laksam, comilla	Laksam	Comilla	1775294692	Cow & Dairy
Selina Begum	farmer	Debipur, Bakoi, Laksam, comilla	Laksam	Comilla	1735178930	Cow & Dairy
Mosammot Begum	farmer	Debipur, Bakoi, Laksam, comilla	Laksam	Comilla	1852714152	Cow & Dairy
Shilpi Rani	farmer	Debipur, Bakoi, Laksam, comilla	Laksam	Comilla	1829274542	Cow & Dairy
Priti Rani	farmer	Debipur, Bakoi, Laksam, comilla	Laksam	Comilla	1721725802	Cow & Dairy
Protima Rani	farmer	Debipur, Bakoi, Laksam, comilla	Laksam	Comilla	1747961887	Cow & Dairy
Alo Rani	farmer	Debipur, Bakoi, Laksam, comilla	Laksam	Comilla	1710536672	Cow & Dairy
Archona Debnath	farmer	Debipur, Bakoi, Laksam, comilla	Laksam	Comilla		Cow & Dairy
Sokhina Begum	farmer	Debipur, Bakoi, Laksam, comilla	Laksam	Comilla		Cow & Dairy
Monowara Begum	farmer	Debipur, Bakoi, Laksam, comilla	Laksam	Comilla		Cow & Dairy
Barek Hossain	Faria	Debipur, Bakoi, Laksam, comilla	Laksam	Comilla	1715709762	Cow & Dairy
Abdul Momin	retailer, Medicine	Azharul Enterprise, Bakoi Bazar, Laksam, comilla	Laksam	Comilla	1716871955	Cow & Dairy
Shah Jalal	faria	Debipur, Bakoi, Laksam, comilla	Laksam	Comilla	1718402921	Cow & Dairy
Ananda	retailer	Ananda mistanno vander, laksam bazar, comilla	Laksam	Comilla	1712761081	Cow & Dairy
Sumon	retailer	M/S sumon & brothers, laksam bazar, comilla	Laksam	Comilla	1815497028	Cow & Dairy
Sabira khatun	Farmer	Khunta, laksam, Comilla	Laksam	Comilla	1828389286	Vegetable
Runa khatun	Farmer	Khunta, laksam, Comilla	Laksam	Comilla	1835638971	Country chicken & Duck
Habibur Rahman	Retailer, Seed	Khunta, laksam, Comilla	Laksam	Comilla	1711481506	Vegetable
Shah Alam	Retailer, chicken	Khunta, laksam, Comilla	Laksam	Comilla	1740360941	Country chicken & Duck

### Kamlapur AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Mohira	Beutishian	Mugda, Kamlapur, Dhaka.	Kamlapur	Dhaka	1937080870	Beuty
Selina Begum	Tailor	Mugda, Kamlapur, Dhaka.	Kamlapur	Dhaka	1917697903	Tailoring
Jahanara Begum	Tailor	Mugda, Kamlapur, Dhaka.	Kamlapur	Dhaka	1916240802	Tailoring
Shahanaj Begum	Computer	Mugda, Kamlapur, Dhaka.	Kamlapur	Dhaka	1980898688	Computer
Tanjima Parvin	Gvt. Institute	T. J. U. Officer, Department of Youth Development	Khilgaon	Dhaka	01914329152	Vocational Training (Driving, Computer, Beauti Parlor, Tailoring)
Tariqul Islam	Private Training Center	Khilgaon Chowdhuri Para, Dhaka	Khilgaon	Dhaka	01926307960	Vocational Training (Driving, Computer, Beauti Parlor, Tailoring)
Alli Hosain	Input Supplier	Uttor Gulaobag , Dhaka	Komlapur	Dhaka	1915584597	Tailoring
Aseke rasul mofijul	Input Supplier	Uttor Gulaobag , Dhaka	Komlapur	Dhaka	1673282442	Tailoring
Nayeem	Retailer	Pukur par, Manik Nagar, Kamlapur, Dhaka	Manik Nagar	Dhaka	1947808121	Beuty
Uzzal Hoaain	Retailer	Allahar Dan, Manik Nagar. Dhaka	Manik Nagar	Dhaka	1987423607	small Butique
Afia Fashion	Retailer	Pukur par, Manik Nagar, Kamlapur, Dhaka	Manik Nagar	Dhaka		Small Butique
Kazi Bonnya Ahmed	Gvt. Institute	T. J. U. Officer, Department of Youth Development	Rampura	Dhaka	01712858129	Vocational Training (Beauti Parlor, Tailoring, Small Boutique)

### Gowainghat AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Nurul Amin	Business	Goayanghat Bazar	Goayanghat	Sunamgonj	1748305455	Pharmacy
Kamal Uddin	Farmer	Zatugram	Goayanghat	Sylhet	1722379535	Cow Dairy
Ainul Haque	Farmer	Zatugram	Goayanghat	Sylhet	1738698306	Cow Dairy
Aiobur Rahman	Farmer	Zatugram	Goayanghat	Sylhet	1744316682	Cow Dairy
Mohibur Rahman	Farmer	Zatugram	Goayanghat	Sylhet	1727826883	Cow Dairy
Abadur Rahman	Farmer	Zatugram	Goayanghat	Sylhet	1758155928	Cow Dairy
Khalik	Farmer	Zatugram	Goayanghat	Sylhet		Cow Dairy
Forid Uddin	Farmer	Zatugram	Goayanghat	Sylhet	1759611177	Cow Dairy
Hares	Farmer	shoti,goayen ghat,sylet	Goayen ghat	Sylhet	1740473720	Cow & hen Rearing
shamsujjam	Farmer	shoti,goayen ghat,sylet	Goayen ghat	Sylhet	1918794017	Cow & hen Rearing
Helal	Farmer	shoti,goayen ghat,sylet	Goayen ghat	Sylhet	1765664508	Cow & hen Rearing
aftab	Farmer	shoti,goayen ghat,sylet	Goayen ghat	Sylhet	1965352484	Cow & hen Rearing
ajmot	Farmer	shoti,goayen ghat,sylet	Goayen ghat	Sylhet	1763302532	Cow & hen Rearing
kobir	Farmer	shoti,goayen ghat,sylet	Goayen ghat	Sylhet	1735530744	Cow & hen Rearing
Emam	Farmer	shoti,goayen ghat,sylet	Goayen ghat	Sylhet	1779153672	Cow & hen Rearing
Amir	Doctor	shoti,goayen ghat,sylet	Goayen ghat	Sylhet	1765943251	service
aftab	Doctor	shoti,goayen ghat,sylet	Goayen ghat	Sylhet	1929780976	service
salek ahmed	Egg saler	shoti,goayen ghat,sylet	Goayen ghat	Sylhet	1936194307	Retailer
ashok	Retailer	shoti,goayen ghat,sylet	Goayen ghat	Sylhet	1716784209	Retailer
Ashraf	pharmacy	goayen ghat bazzar	Goayen ghat	Sylhet	1713940933	Retailer
mobarak	pharmacy	goayen ghat bazzar	Goayen ghat	Sylhet	1715240981	Retailer

### Dhaka Shishu AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Shamsun Nahar	Producer	Adabor, Mohammadpur, Dhaka.	Adabor	Dhaka	1922001149	Tailoring
Najma Jaman	Producer	Adabor, Mohammadpur, Dhaka.	Adabor	Dhaka	1918987313	Tailoring
Shahanaj Begum	Producer	Adabor, Mohammadpur, Dhaka.	Adabor	Dhaka	1795136641	Tailoring
Rawshon Ara	Producer	Adabor, Mohammadpur, Dhaka.	Adabor	Dhaka	1682064645	Tailoring
Md. Mamun Hossain	Tailor	Adabor, Mohammadpur, Dhaka.	Adabor	Dhaka	1724521526	Tailoring
Sunon	Input Supplier	Adabor, Dhaka	Adabor	Dhaka	1922855229	Tailoring
Rubel	Input Supplier	Adabor, Dhaka	Adabor	Dhaka	1915189901	Tailoring
Lutfar Badshah	Driver	Kreshimarket, Mohammedpur, Dhaka	Moham madpur	Dhaka	1711780024	Driving
Md. Moazzem Hossain Gazi	Government Institute	A. D, Department of Youth Development, Rampura	Moham madpur	Dhaka	01716148188	Vocational Training (Tailoring, Driving)
Farida Begum	Producer	Mohammadpur, Dhaka	Moham madpur	Dhaka	01911182930	Tailoring
Sopna Rani Chando	Producer	Mohammadpur, Dhaka	Moham madpur	Dhaka	01675291002	Tailoring
Selina Aktar	Producer	Mohammadpur, Dhaka	Moham madpur	Dhaka	01932004743	Tailoring
Moksed Begum	Producer	Mohammadpur, Dhaka	Moham madpur	Dhaka	01716369887	Tailoring



### Dhaka East AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Hasina Begum	Producer	Hosen market, Uttarbadda, Dhaka.	Shahjadpur	Dhaka	1743957789	Handicraft
Monowara Begum	Producer	Hosen market, Uttarbadda, Dhaka.	Shahjadpur	Dhaka		Small Boutique
Marzia Begum	Producer	Hosen market, Uttarbadda, Dhaka.	Shahjadpur	Dhaka		Tailoring
Nasrin Begum	Producer	Hosen market, Uttarbadda, Dhaka.	Shahjadpur	Dhaka	1855438958	Tailoring
Jannatul Ferdous	Survive	Hosen market, Uttarbadda, Dhaka.	Shahjadpur	Dhaka		Beuty
Mst. Riya Akter	Survive	Hosen market, Uttarbadda, Dhaka.	Shahjadpur	Dhaka	1919397859	Beuty
Mamotaj Begum	Producer	Hosen market, Uttarbadda, Dhaka.	Shahjadpur	Dhaka	1744885894	Small Boutique
Jasim Uddin	Retailer	Hossen Market, Utarbadda	Shahjadpur	Dhaka	1926880063	Tailoring
Sagor Ali	Retailer	Hossen Market, Utarbadda	Shahjadpur	Dhaka	1620113889	Tailoring
Imran Hossain	Tailors	Hossen Market, uttarbadda	Shahjadpur	dhaka	1731953664	Tailoring

**Bandarban AP:**

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Rokhsana	Farmer	Bandarban sadar, Bandarban	Bandarban	Bandarban	1828869014	Country chicken & Duck
Baby akter	Farmer	Bandarban sadar, Bandarban	Bandarban	Bandarban	1828869066	Country chicken & Duck
Anowara begum	Farmer	Bandarban sadar, Bandarban	Bandarban	Bandarban	1839417457	Country chicken & Duck
Sharmin	Farmer	Bandarban sadar, Bandarban	Bandarban	Bandarban	1813910871	Country chicken & Duck
Sheli akter	Farmer	Bandarban sadar, Bandarban	Bandarban	Bandarban	1877229651	Country chicken & Duck
Nasima Begum	Farmer	Bandarban sadar, Bandarban	Bandarban	Bandarban	1836924267	Country chicken & Duck
Kahinur	Farmer	Bandarban sadar, Bandarban	Bandarban	Bandarban		Country chicken & Duck
Bibi ayasha	Farmer	Bandarban sadar, Bandarban	Bandarban	Bandarban		Country chicken & Duck
Juli akter	Farmer	Bandarban sadar, Bandarban	Bandarban	Bandarban	1882905860	Country chicken & Duck
Komvu akter	Farmer	Bandarban sadar, Bandarban	Bandarban	Bandarban	1877539062	Country chicken & Duck
Jannatul Ferdous	Farmer	Bandarban sadar, Bandarban	Bandarban	Bandarban	1882284000	Country chicken & Duck
Sonadon Chakma	Farmer	Prumongu Headman para, Bandarban	Bandarban	Bandarban		Banana
Mongkhakhl a	Farmer	Prumongu Headman para, Bandarban	Bandarban	Bandarban		Banana
Buddhodan Chakma	Farmer	Prumongu Headman para, Bandarban	Bandarban	Bandarban		Banana
Bipul Chakma	Farmer	Prumongu Headman para, Bandarban	Bandarban	Bandarban	1554419484	Banana
Sumoti chakma	Farmer	Prumongu Headman para, Bandarban	Bandarban	Bandarban		Banana
Pritimoy chakma	Farmer	Prumongu Headman para, Bandarban	Bandarban	Bandarban	1771058971	Banana
Gunolal chakma	Farmer	Prumongu Headman para, Bandarban	Bandarban	Bandarban	1832531838	Banana
Rubel chakma	Farmer	Prumongu Headman para, Bandarban	Bandarban	Bandarban	1532144527	Banana

Shantashil chakma	Farmer	Prumongu Headman para, Bandarban	Bandarban	Bandarban	1557461195	Banana
Lalbihari chakma	Farmer	Prumongu Headman para, Bandarban	Bandarban	Bandarban	1559317717	Banana
Sonjit chakma	Faria	Prumongu Headman para, Bandarban	Bandarban	Bandarban	1557461195	Banana
Razib Shaha	Retailer	M/S Rajib store, Balaghata Bazar, Bandarban	Bandarban	Bandarban	1820400327	Banana
Tarikul Islam	Retailer, chicken	Bandarban sadar, Bandarban Bazar	Bandarban	Bandarban	1557394471	Country chicken & Duck
Najmul Islam	Retailer, chicken	Bandarban sadar, Bandarban Bazar	Bandarban	Bandarban	183008048	Country chicken & Duck
Taher Mia	Retailer, chicken , cow feed	Bandarban sadar, Bandarban Bazar	Bandarban	Bandarban	1556744044	Country chicken & Duck
Sumon Das	Veterinari, Retailer	Bandarban sadar, Bandarban Bazar	Bandarban	Bandarban	1820400035	Country chicken & Duck
Owasim	Banana Retailer	Fulsova market, Bandarban Bazar	Bandarban	Bandarban	1837832451	Banana
Saddam	Seed ,& fertilizer Retailer	khawja biz vander, Bandarban Bazar	Bandarban	Bandarban	1843188002	Banana
Ruhul Amin	Retailer, chicken , cow feed	Khunta, laksam, Comilla	Bandarban	Comilla	1711166694	Country chicken & Duck

## Southern Bangladesh Region (SBR):

### Bhandaria AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector	AP Name
Boidonath Roy	Farmer	Doikotbari	Bhandaria	Dinajpur	1942156650	Cow rearing	Bhandaria
Aumil chondro ROY	Farmer	Batura	Bhandaria	Dinajpur	1755222305	Cow rearing	Bhandaria
Dulal Chondro Deb	Farmer	Ramchandropur	Bhandaria	Dinajpur	1767178882	Cow rearing	Bhandaria
Anowara Begom	Farmer	Batura	Bhandaria	Dinajpur	1953070860	Country chicken & Duck	Bhandaria
Momotaz Begom	Farmer	Batura	Bhandaria	Dinajpur	1944352483	Country chicken & Duck	Bhandaria
Lota Roy	Farmer	Batura	Bhandaria	Dinajpur	1738240323	Country chicken & Duck	Bhandaria
Rafikul Islam	Farmer	Batura	Bhandaria	Dinajpur	1751463445	Cow rearing	Bhandaria
Polash Chondro	Farmer	Batura	Bhandaria	Dinajpur	1776967843	Cow rearing	Bhandaria
Md. Mujahit	Farmer	Batura	Bhandaria	Dinajpur	1773234734	Cow rearing	Bhandaria
Md. Fazlur Rahman	Farmer	Batura	Bhandaria	Dinajpur	1736892607	Cow rearing	Bhandaria
Saleha Begum	Farmer	Vill- baria, Vita Post-Vita baria	Bhandaria	Pirojpur	01760260741	Country chicken & Duck	Bhandaria
Forida Begum	Farmer	Vill- baria, Vita Post-Vita baria	Bhandaria	Pirojpur	01795953715	Country chicken & Duck	Bhandaria
Rani Begum	Farmer	Vill- baria, Vita Post-Vita baria	Bhandaria	Pirojpur	01760013841	Country chicken & Duck	Bhandaria
Shahinur Begum	Farmer	Vill- baria, Vita Post-Vita baria	Bhandaria	Pirojpur	01745464804	Country chicken & Duck	Bhandaria
Jesmin Begum	Farmer	Vill- baria, Vita Post-Vita baria	Bhandaria	Pirojpur	01725349709	Country chicken & Duck	Bhandaria
Rokea Begum	Farmer	Vill- baria, Vita Post-Vita baria	Bhandaria	Pirojpur	01725349709	Country chicken & Duck	Bhandaria
Kamruzzaman Sikder	Retailer	Sikder and sons farmacy, vandari lonch ghat	Bhandaria	Pirojpur	01774942351	Country chicken & Duck	Bhandaria
Elias Akondo	Retailer	Akondo Store, kapaler hat, vitabari union	Bhandaria	Pirojpur	01720548083	Country chicken & Duck	Bhandaria

### Assasuni AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Rajibul Hassan	Government Institute	Upazila Agriculture Office, Asashuni	Ashasuni	Satkhira	01749428852	Vegetable
Mizanur Rahman	Government Institute	Upazila Livestock Office, Asashuni	Ashasuni	Satkhira	01717861344	Country Chicken & Duck & Dairy
Debesh Debnath	NGO	Asashuni, Satkhira	Ashasuni	Satkhira	01736304608	Poultry, Vegetable, Dairy
Nasima Begum	Farmer	Bewla, Budhhata, Asashuni, Satkkhira, Khulna.	Ashasuni	Satkhira	1772790269	Vegetable
Mostakim	Farmer	Bewla, Budhhata, Asashuni, Satkkhira, Khulna.	Ashasuni	Satkhira	1751753239	Vegetable
Golam sorowar	Farmer	Bewla, Budhhata, Asashuni, Satkkhira, Khulna.	Ashasuni	Satkhira	1759467129	Vegetable
Maya Rani Mandal	Producer	Paithali, Budhhata, Asashuni, Satkkhira, Khulna.	Ashasuni	Satkhira	1765874436	Cow Rearing
Latika Rani	Producer	Paithali, Budhhata, Asashuni, Satkkhira, Khulna.	Ashasuni	Satkhira	1726008364	Cow Rearing
Minoti Rani	Producer	Paithali, Budhhata, Asashuni, Satkkhira, Khulna.	Ashasuni	Satkhira	1776802697	Cow Rearing
Kabita Mandol	Producer	Paithali, Budhhata, Asashuni, Satkkhira, Khulna.	Ashasuni	Satkhira	1727033176	Cow Rearing
Varoti Biswas	Producer	Paithali, Budhhata, Asashuni, Satkkhira, Khulna.	Ashasuni	Satkhira	1743675128	Cow Rearing
Nomita Rani	Producer	Paithali, Budhhata, Asashuni, Satkkhira, Khulna.	Ashasuni	Satkhira	1746131222	Cow Rearing
Swapna Rani	Producer	Paithali, Budhhata, Asashuni, Satkkhira, Khulna.	Ashasuni	Satkhira	1794498421	Cow Rearing
Sattaya Ranjon	Retailer	Digonto Traders, Budhhata	Ashasuni	Satkhira	1739004334	Vegetable
Saidul Islam	Retailer	Sordar krishi Enterprise	Ashasuni	Satkhira	1765011435	Vegetable

Kamrul Islam	Market Forward	Bewla, Budhhata, Asashuni, Satkhira, Khulna.	Ashasuni	Satkhira	1738449335	Vegetable
AB. Wahab	Market Forward	Budhhata, Asashuni, Satkhira, Khulna.	Ashasuni	Satkhira		Vegetable
Samsul islam	Market Forward	Paithali, Budhhata, Asashuni, Satkhira, Khulna.	Ashasuni	Satkhira	2729745771	Vegetable
Anuwar Hosen	Input Supplier	Budhhata, Asashuni, Satkhira, Khulna.	Ashasuni	Satkhira	1850276120	Vagetable+ Cow Rearing
Ismael Talukdar	Input Supplier	Budhhata, Asashuni, Satkhira, Khulna.	Ashasuni	Satkhira	1787383322	Vagetable+ Cow Rearing
Afsar Hossain	farmer	Debhata, Satkhira	Ashasuni	Satkhira	1753090803	Vegetable
Selim Hossain	farmer	Debhata, Satkhira	Ashasuni	Satkhira	1720524832	Vegetable
Mr. Jasim uddin	Agriculture officer	Debhata, Satkhira	Debhata	Satkhira	1717008820	Vegetable
Bushnu Pada Biswas	Live stock officer	Debhata, Satkhira	Debhata	Satkhira	1712124107	Live stock
Mujibor Rahman	farmer	Parulia, Debhata, satkhira	Debhata	Satkhira	1746482757	Country chicken & Duck
Habibor Rahman	farmer	Parulia, Debhata, satkhira	Debhata	Satkhira	1711381023	Vegetable

### Rampal AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Alomgir Miya	Market Forward	Shrefoltala, Jhonjhonia, Rampal, Bagerhat.	Rampal	Bagerhat		Fishery
Nojir Ahammed	Market Forward	Shrefoltala, Jhonjhonia, Rampal, Bagerhat.	Rampal	Bagerhat	1755616797	Fishery
Abdul Sukur	Market Forward	Shrefoltala, Jhonjhonia, Rampal, Bagerhat.	Rampal	Bagerhat		Vegetable
Forid Miya	Market Forward	Shrefoltala, Jhonjhonia, Rampal, Bagerhat.	Rampal	Bagerhat	1710123720	Vegetable
Jillur Miya	Market Forward	Shrefoltala, Jhonjhonia, Rampal, Bagerhat.	Rampal	Bagerhat	1739010111	Vegetable
MD. Kholilur Rahaman	Input Supplier	Islamabad, Bashdoli, Rampal, Bagerhat	Rampal	Bagerhat	1724220033	Vegetable
Kurshed alom	Input Supplier	Bawla, Rampal, Baberhat	Rampal	Bagerhat	1717994661	Fishery
Shek hemayat Alli	Input Supplier	Borshen, Rampal, Bagerhat	Rampal	Bagerhat		Fishery
Hojrot Alli	Input Supplier	Kandda para, Rampal, Bagerhat	Rampal	Bagerhat	1730346876	Fishery
Mofiz Miya	Input Supplier	Chutolmari, Rampal, Bagerhat	Rampal	Bagerhat		Fishery
Md. Nasrullah Millat	Gvt. Institute	Upazila Agriculture Office, Rampal	Rampal	Bagerhat	01739345622	Vegetable
Ripon Kanti Gosh	Gvt. Institute	Upazila Fisheries Office, Rampal	Rampal	Bagerhat	01739355622	Carp Fish
Md. Zahidur Rahman	Gvt. Institute	Upazila Livestock Officer, Rampal	Rampal	Bagerhat	01913813656	Country chicken & Duck
Ranu Begum	Farmer	Shrefoltala, Jhonjhonia, Rampal, Bagerhat.	Rampal	Bagerhat	1956858008	Vegetable
Hasna Begum	Farmer	Shrefoltala, Jhonjhonia, Rampal, Bagerhat.	Rampal	Bagerhat	1962711282	Vegetable
Arifa Begum	Farmer	Shrefoltala, Jhonjhonia, Rampal, Bagerhat.	Rampal	Bagerhat	1960974518	Vegetable

Sabina Akter	Farmer	Shrefoltala, Jhonjhonia, Rampal, Bagerhat.	Rampal	Bagerhat	1944227630	Vegetable
Jafor Sarder	Fish Farmer	Shrefoltala, Jhonjhonia, Rampal, Bagerhat.	Rampal	Bagerhat	1911188119	Fishery
Iqbal Sheikh	Fish Farmer	Shrefoltala, Jhonjhonia, Rampal, Bagerhat.	Rampal	Bagerhat	1930520603	Fishery
Shohidul Islam	Fish Farmer	Shrefoltala, Jhonjhonia, Rampal, Bagerhat.	Rampal	Bagerhat	1920282128	Fishery
Taslima Begum	Fish Farmer	Shrefoltala, Jhonjhonia, Rampal, Bagerhat.	Rampal	Bagerhat	1740469059	Fishery
Nurani Begum	farmer	Talbunia, Shrefoltala, Rampal, Bagerhat	Rampal	Bagerhat	1863716518	Country chicken & Duck
Parul Begum	farmer	Talbunia, Shrefoltala, Rampal, Bagerhat	Rampal	Bagerhat	1869695803	Country chicken & Duck
Munjila Begum	farmer	Talbunia, Shrefoltala, Rampal, Bagerhat	Rampal	Bagerhat	1917828998	Country chicken & Duck
Mostafizar Rahman	farmer	Islamabad, Bashdoli, Rampal, Bagerhat	Rampal	Bagerhat	1713908276	Country chicken & Duck
Forkan Islam	farmer	Islamabad, Bashdoli, Rampal, Bagerhat	Rampal	Bagerhat	1717009944	Country chicken & Duck
Kohinur Hossain	farmer	Islamabad, Bashdoli, Rampal, Bagerhat	Rampal	Bagerhat	1751553401	Country chicken & Duck
Imran Hossain	Faria	Elahipur ,Foila, Rampal, Bagerhat	Rampal	Bagerhat	1999776299	Country chicken & Duck
Shah Alam	Faria	Elahipur ,Foila, Rampal, Bagerhat	Rampal	Bagerhat	1846371611	Country chicken & Duck



**Pirojpur AP:**

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Md. Motaleb	Farmer	6 no Shorik tola pirojpur	Pirojpur	Pirojpur	1720808132	Vegetable
Shohorum shek	Farmer	7 no Shorik tola pirojpur	Pirojpur	Pirojpur	1765628099	Vegetable
Md. Faruk shek	Farmer	8 no Shorik tola pirojpur	Pirojpur	Pirojpur	1720808132	Vegetable
Md. Kuddus Hawladar	Farmer	9 no Shorik tola pirojpur	Pirojpur	Pirojpur	1729960341	Vegetable
Torikul islam	Farmer	10 no Shorik tola pirojpur	Pirojpur	Pirojpur	1770495484	Vegetable
A. Barek Sordar	Farmer	11 no Shorik tola pirojpur	Pirojpur	Pirojpur	1746768949	Vegetable
Rubel Sordar	Retailer	12 no Shorik tola pirojpur	Pirojpur	Pirojpur	1960655478	Vegetable Faria
A. Haque Hawladar	Retailer	13 no Shorik tola pirojpur	Pirojpur	Pirojpur	1792569140	Vegetable Faria
A. Barek Sordar	Retailer	13 no Shorik tola pirojpur	Pirojpur	Pirojpur	1746768949	Vegetable
Shathi roy	Farmer	14 no Shorik tola pirojpur	Pirojpur	Pirojpur	1746768949	Cow rearing
Anita Rani Dakua	Farmer	Dakua bari, Uttar Shikarpur, 4 no. woad	Pirojpur Sadar	Pirojpur	01776423544	Cow rearing (dairy)
Jahangir Sheikh	Farmer	Sharik tola, sheikh bari, 6 no. sharik tola	Pirojpur Sadar	Pirojpur	01779443813	Cow rearing (dairy)
Mamun Khan	Farmer	Sharik tola, kha bari, shariktola	Pirojpur Sadar	Pirojpur	01790583065	Cow rearing (dairy)
Nasrin Begum	Farmer	Dokkhin ranipur, Khondokar bari, shariktola	Pirojpur Sadar	Pirojpur	01739288995	Cow rearing (dairy)
Rajiya Begum	Farmer	Uttar ranipur, matha para	Pirojpur Sadar	Pirojpur	01944968989	Cow rearing (dairy)
Mst. Jakia Begum	Farmer	Dokkhin ranipur, matha para, shariktola	Pirojpur Sadar	Pirojpur	01712455817	Cow rearing (dairy)
Shiuli Begum	Farmer	Kobiraj bari, Shariktola gram, shariktola	Pirojpur Sadar	Pirojpur	01739657703	Cow rearing (dairy)
Md. Barek Sarder	Retailer	Bareker dokan, Shariktola bazar, shariktola	Pirojpur Sadar	Pirojpur	01746768491	Country chicken & Duck

Sonjoy kumar	Farmer	D. dhawa	Vandariya	Pirojpur	1775803063	Vegetable
Sulaiman Fokir	Farmer	Rash sorsha Dhawa	Vandariya	Pirojpur	1726164399	Vegetable
Noren Chondro Halder	Farmer	Purbo dhawa	Vandariya	Pirojpur	1710621983	Vegetable
Roton sorkar	Farmer	Rash sorsha Dhawa	Vandariya	Pirojpur	1746090873	Vegetable
Sourob Ram	Farmer	D. dhawa	Vandariya	Pirojpur	1713959682	Vegetable
Jakir hosen	Retailer	Mesars Molla vandar	Vandariya	Pirojpur	1750436363	Vegetable
Md. Babul	Retailer	Mayer doya	Vandariya	Pirojpur	1715541428	Vegetable

**Barisal AP:**

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Mukta akter	service	10 w Razzak sriti kolone	Sadar	Barisha I	1947690250	Tailor
Farjana	service	Razzak sriti Kolone	Sadar	Barisha I	1930409112	Tailor
Meherun nesa	service	Razzak sriti Kolone	Sadar	Barisha I	1931387529	Tailor
Ajoy	Retailer	Ajoy anter prize	Sadar	Barisha I	1917327760	Vegetable
Ferdousi Begum	Farmer	Razzak Sriti colony - KDC	Barisal Sadar	Barisha I	1930409112	Country chicken & Duck
Mst. Shahanaj	Farmer	Razzak Sriti colony - KDC	Barisal Sadar	Barisha I	01745986108	Country chicken & Duck
Mst. Eva	Farmer	Razzak Sriti colony - KDC	Barisal Sadar	Barisha I	01930409112	Country chicken & Duck
Mst. Sonia	Farmer	Razzak Sriti colony - KDC	Barisal Sadar	Barisha I	01754453320	Country chicken & Duck
Mst. Soma	Farmer	Razzak Sriti colony - KDC	Barisal Sadar	Barisha I	01953000754	Country chicken & Duck

**Kotalipara AP:**

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Voben Hazra	Farmer	Narayon khana	kotalapara	Gopalganj	18433762463	Cow, Dairy
Iftakher khan	Farmer	Narayon khana	kotalapara	Gopalganj	17398004459	Cow, Dairy
Dabit Hazra	Farmer	Narayon khana	kotalapara	Gopalganj	17895165355	Cow, Dairy
Shunil somadar	Farmer	Narayon khana	kotalapara	Gopalganj	19677520076	Cow, Dairy
Basonti Somadar	Farmer	Narayon khana	kotalapara	Gopalganj	17358457876	Cow, Dairy
Mansura Begum	Farmer	Narayon khana	kotalapara	Gopalganj	17358574876	Cow, Dairy
Firoz	diller		kotalapara	Gopalganj	19376434906	Country chicken & Duck
Hemeyat Uddin	D. L. S (Livestock)		kotalapara	Gopalganj	17219988257	Cow, Dairy, Duck,

## Kachua AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Dr. Debendra Nath Sarkar	Government Institute	Upazila Livestock Office, Kachua	Kachua	Bagerhat	01712534446	Country Chicken & Duck & Dairy
Sunil Boiragi	Farmer	Khalishakhali, Maghiya, Kachua, Bagerhat.	Kachua	Bagerhat	1749443688	Country chicken & Duck
Probodh Mredha	Farmer	Khalishakhali, Maghiya, Kachua, Bagerhat.	Kachua	Bagerhat	1771456733	Country chicken & Duck
Tripti Biswas	Farmer	Khalishakhali, Maghiya, Kachua, Bagerhat.	Kachua	Bagerhat	1726279859	Country chicken & Duck
Abdul Gaffar	Farmer	Khalishakhali, Maghiya, Kachua, Bagerhat.	Kachua	Bagerhat	1738369283	Country chicken & Duck
Sadhon Dash	Farmer	Khalishakhali, Maghiya, Kachua, Bagerhat.	Kachua	Bagerhat	1724265046	Country chicken & Duck
Supona Hawlader	Farmer	Khalishakhali, Maghiya, Kachua, Bagerhat.	Kachua	Bagerhat	1700820623	Country chicken & Duck
Shipu Bapary	Farmer	Khalishakhali, Maghiya, Kachua, Bagerhat.	Kachua	Bagerhat	1926321572	Country chicken & Duck
Parven Akter	Producer	Tengrakhali, Kachua, Bagerhat.	Kachua	Bagerhat	1920392957	Cow Rearing
Kader sheikh	Producer	Tengrakhali, Kachua, Bagerhat.	Kachua	Bagerhat	1987584454	Cow Rearing
Arif sheikh	Producer	Tengrakhali, Kachua, Bagerhat.	Kachua	Bagerhat	1829331861	Cow Rearing
Monsur ali sheikh	Producer	Tengrakhali, Kachua, Bagerhat.	Kachua	Bagerhat	1949889284	Cow Rearing
Gopinath Shaha	Retailer	Ruposhri Mistanna vandar, Kachua	Kachua	Bagerhat	1758184156	Cow Dairy
Turun sha	Input Supplier	Tengra khali, kucha, bagerhat	Kachua	Bagerhat	1718015110	Cow Rearing
Roni khundo	Input Supplier	Tengra khali, kucha, bagerhat	Kachua	Bagerhat	1706820306	Cow Rearing
Viboti Bushon	Input Supplier	kholsakhali, kucha, bagerhat	Kachua	Bagerhat	1981827576	Cow Rearing

## Greater Mymensingh Region (GMR):

### Jhenaigati AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Barek	Faria	Varua bazar	Jhinaigathi	dhaka	1718774677	Vegetable
Sazahan	Business	Varua bazar	Jhinaigathi	dhaka	1953903372	Vegetable
Korim	Business	Varua bazar	Jhinaigathi	dhaka	1933284348	Vegetable
Md. Moklesur Rahman	Farmer	Baroua	Jhinaigathi	Sharpur	1748960455	Vegetable
Md. Helal	Farmer	Baroua	Jhinaigathi	Sharpur	1768262117	Vegetable
Golam Mostofa	Farmer	Baroua	Jhinaigathi	Sharpur		Vegetable
Rahima Begum	Farmer	Baroua	Jhinaigathi	Sharpur	1991015631	Vegetable
Mahmuda Begum	Farmer	Baroua	Jhinaigathi	Sharpur	1994594581	Vegetable
Anowera Khatun	Farmer	Baroua	Jhinaigathi	Sharpur	1925696262	Vegetable
Abu Hares	Farmer	Baroua	Jhinaigathi	Sharpur	1980886115	Vegetable
Mst. Shirina	Farmer	Rangteya	Jhinaigathi	Sharpur	1936466225	Country chicken & Duck
Monowora	Farmer	Rangteya	Jhinaigathi	Sharpur	1799526494	Country chicken & Duck
Shufia	Farmer	Rangteya	Jhinaigathi	Sharpur	1750132228	Country chicken & Duck
Sheuley Begum	Farmer	Rangteya	Jhinaigathi	Sharpur	1918807296	Country chicken & Duck
Zohura	Farmer	Rangteya	Jhinaigathi	Sharpur	1823027106	Country chicken & Duck
Fatema	Farmer	Rangteya	Jhinaigathi	Sharpur	1767878025	Country chicken & Duck
China	Farmer	Rangteya	Jhinaigathi	Sharpur	1940341362	Country chicken & Duck
Sultan ahmad	Faria	Varua bazar	Jhinaigathi	Sharpur	1950189370	Vegetable
Nazrul	Farmer	Varua bazar	Jhinaigathi	Sharpur	1914360277	Vegetable
Badsha	Farmer	Varua bazar	Jhinaigathi	Sharpur	1937304401	Vegetable
Rafiqul Islam	Farmer	Varua bazar	Jhinaigathi	Sharpur	1935671397	Vegetable
Kamrus	Faria	Varua bazar	Jhinaigathi	Sharpur	1927651561	Vegetable
Lechu	Faria	Varua bazar	Jhinaigathi	Sharpur	1999615940	Vegetable
Abdul Alim	Business	Varua bazar	Jhinaigathi	Sharpur	1916707060	service
Hamidul	Business	Varua bazar	Jhinaigathi	Sharpur	1713511442	service
Sirajul Islam	Business	Potapnogor	Jhinaigathi	Sharpur	1827571002	service
Zihad	Business	Potapnogor	Jhinaigathi	Sharpur	1988223689	Vegetable
Dulal Hossain	Business	Potapnogor	Jhinaigathi	Sharpur	1915095143	Vegetable
Shazahan	Business	Potapnogor	Jhinaigathi	Sharpur	1911315973	Vegetable

Polas kanto	D. L S(Livestock)		Jhinaigathi	Sharpur	1716381977	Country chicken & Duck
Dipok kumar	D. L S(Livestock)		Jhinaigathi	Sharpur	1718821928	Country chicken & Duck
Anower Hossain	Business	Varua bazar	Jhinaigathi	Tangail	1840663262	Vegetable

Sribordhi AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Rupa	Farmer	Chandapara, shingaboruna	Shribordi	Sharpur	1852788079	Vegetable
Salema Begum	Farmer	Chandapara, shingaboruna	Shribordi	Sharpur	1622635828	Vegetable
Rekha	Farmer	Chandapara, shingaboruna	Shribordi	Sharpur		Vegetable
Billal Hossain	Farmer	Chandapara, shingaboruna	Shribordi	Sharpur	1857635828	Vegetable
Mainul	Farmer	Chandapara, shingaboruna	Shribordi	Sharpur	1812146415	Vegetable
Nazma Begum	Farmer	Chandapara, shingaboruna	Shribordi	Sharpur	1823901710	Vegetable
Sakhaout Hossain	Farmer	Chandapara, shingaboruna	Shribordi	Sharpur	1969528460	Vegetable
Mst.Khadiza	Farmer	Chandapara, shingaboruna	Shribordi	Sharpur	1973396966	Vegetable
Wohab	Farmer	Chandapara, shingaboruna	Shribordi	Sharpur	1813825262	Vegetable
Delower Hossain	Farmer	Chandapara, shingaboruna	Shribordi	Sharpur	1836265552	Vegetable
Abu meya	Farmer	Chandapara, shingaboruna	Shribordi	Sharpur	1868969204	Vegetable
Saddam Hossain	Farmer	Meghadol	Shribordi	Sharpur	1827736290	Cow,Dairy
Monu Meya	Farmer	Meghadol	Shribordi	Sharpur	1829304534	Cow,Dairy
Tafsar ali	Farmer	Meghadol	Shribordi	Sharpur	1627942750	Cow,Dairy
Zohirul	Farmer	Meghadol	Shribordi	Sharpur	1884663084	Cow,Dairy
Alom meya	Farmer	Meghadol	Shribordi	Sharpur	1966356602	Cow,Dairy
Apple meya	Farmer	Meghadol	Shribordi	Sharpur	1945454630	Cow,Dairy
Asadullah	Farmer	Kornojhura	Shribordi	Sharpur	1811003164	Cow,Dairy
Akram Hossain	Farmer	Meghadol	Shribordi	Sharpur	1857346628	Cow,Dairy
Korban ali	Farmer	Meghadol	Shribordi	Sharpur	1884662394	Cow,Dairy
Ibrahim Ali	Farmer	Meghadol	Shribordi	Sharpur	1820836745	Cow,Dairy
Noyon meya	Farmer	Meghadol	Shribordi	Sharpur	1884662394	Cow,Dairy
Jakirul Islam	Farmer	Meghadol	Shribordi	Sharpur	1827246659	Cow,Dairy
Majnu	Farmer	Meghadol	Shribordi	Sharpur	1904992516	Cow,Dairy
Nur Habib	Farmer	Meghadol	Shribordi	Sharpur	1997436895	Cow,Dairy
Arshad	Farmer	Meghadol	Shribordi	Sharpur	1991737101	Cow,Dairy
Azahar ali	Farmer	Meghadol	Shribordi	Sharpur	1625619659	Cow,Dairy
Liton	Doctor	Kornojhura	Shribordi	Sharpur	1812130426	service
Monirujman	Doctor	Kornojhura	Shribordi	Sharpur	1838997698	service
Mahfuz	Doctor	Kornojhura	Shribordi	Sharpur	1865854623	service
Sahjahan	Doctor	Kornojhura	Shribordi	Sharpur	1768337583	service
Ibrahim Ali	Farmer	Nobinpur	Shribordi	Sharpur	1832995855	Cow,Dairy
Arshad	Doctor	Nobinpur	Shribordi	Sharpur	1776784200	Cow,Dairy
Ataur Rahman	Faria	chitoleya	Shribordi	Sharpur	1865877591	Country chicken & Duck



Abdul Barek	D.L.S (Livestock)		Shribordi	Sharpur	1718356424	Cow. Dairy, Va gitable
Nazmul Hasan	U.A.O		Shribordi	Sharpur	1717094208	Cow. Dairy, Va gitable

#### Sherpur AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Momin	Faria	Tilkandi	Pakoreya	Sherpur	1830386643	Country chicken & Duck
Nurul Islam	Farmer	Tilkandi	Pakoreya	Sherpur	1713564483	Country chicken & Duck
Suza Meza	Farmer	Tilkandi	Pakoreya	Sherpur	1942349960	Country chicken & Duck
Fozail Hossain	Farmer	Tilkandi	Pakoreya	Sherpur	1864465019	Country chicken & Duck
Sojib meza	Farmer	Tilkandi	Pakoreya	Sherpur	1916921735	Country chicken & Duck
Nurul Islam	Farmer	Tilkandi	Pakoreya	Sherpur	1830386643	Country chicken & Duck
Bhuya	Doctor	Tilkandi	Pakoreya	Sherpur	1711052837	service
Khokon meza	Faria	Tilkandi	Pakoreya	Sherpur	1881147688	Country chicken & Duck
Babul	Faria	Tilkandi	Pakoreya	Sherpur	1919723972	Country chicken & Duck
Gazlu	Business	Mominakanda	Pakoreya	Sherpur	1774979933	Pharmacy
Amzad Hossain	Business	Nobinagor	Pakoreya	Sherpur	1718632448	Pharmacy
Sohel rana	Farmer	Dobarchor	Sadar Sherpur	Sharpur	1885826922	Vegetable
Aminul Islam	Farmer	Dobarchor	Sadar Sherpur	Sharpur	1633763304	Vegetable
Abdul Malik	Farmer	Dobarchor	Sadar Sherpur	Sharpur	1831812985	Vegetable
Chompa Begum	Farmer	Dobarchor	Sadar Sherpur	Sharpur	1718052686	Vegetable
Sabina Islam	Farmer	Dobarchor	Sadar Sherpur	Sharpur	1849516895	Vegetable
Ruma Begum	Farmer	Dobarchor	Sadar Sherpur	Sharpur	1834018533	Vegetable
Shahida Begum	Farmer	Dobarchor	Sadar Sherpur	Sharpur	1861909534	Vegetable
Moslem	Farmer	Dobarchor	Sadar Sherpur	Sharpur	0183738038 5	Vegetable

**Muktagacha AP:**

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Momtaz Begum	Farmer	purbo para kha bari, simla gram, mankon union	Muktagacha	Mymensingh	01966258664	Cow rearing (dairy)
Shamima Begum	Farmer	uttarbari, chapuria gram, mankon union	Muktagacha	Mymensingh	01788664234	Cow rearing (dairy)
Sudip Chandra Dash	Retailer	Adorsho Mistanno vandar, padur bari bazar	Muktagacha	Mymensingh	01723479062	Cow rearing (dairy)
Sotten Chanra Deb	Retailer	Ripon store, main road, padur bari bazar	Muktagacha	Mymensingh	01832644538	Cow rearing (dairy)
Najmul Hasan	Retailer	Tuhin madical, main road, padur bari bazar	Muktagacha	Mymensingh	01743566859	Cow rearing (dairy)
Sojib Rayhan	Retailer	Muktagasa, May menshing	Muktagacha	Mymensingh	01916132051	Vegetable
Dipen Chandra Sarker	Retailer	Muktagasa, May menshing	Muktagacha	Mymensingh	01733886399	Vegetable
Haradon Nonda	Farmer	Gobindopur	Muktagasa	Mymensingh	1718797080	Vegetable
Monika Nonda	Farmer	Gobindopur	Muktagasa	Mymensingh	1746653049	Vegetable
Chaina Nonda	Farmer	Gobindopur	Muktagasa	Mymensingh	1732321698	Vegetable
Md.Arshad	Farmer	Purabara dao gao	Muktagasa	Mymensingh	1752788368	Vegetable
Suruj ali	Farmer	Purabara dao gao	Muktagasa	Mymensingh	1761568051	Vegetable
mofajjal	Farmer	Purabara dao gao	Muktagasa	Mymensingh	1725371237	Vegetable
Maleka Khatun	Farmer	Shampur jogonnath para	Muktagasa	Mymensingh	1945671556	Vegetable
Aysha khatun	Farmer	Shampur jogonnath para	Muktagasa	Mymensingh	1916546164	Vegetable
Renuara	Farmer	Shampur jogonnath para	Muktagasa	Mymensingh	1745356122	Vegetable
Md. Mofijul islam	Farmer	Boiragi para	Muktagasa	Mymensingh	1938773826	Vegetable
Tofij ali mondol	Farmer	Nalakhali	Muktagasa	Mymensingh	1759978385	Vegetable
alpona	Farmer	Nalakhali	Muktagasa	Mymensingh	1759978385	Vegetable
atab ali	Farmer	Nalakhali	Muktagasa	Mymensingh	1731416382	Vegetable

Md. Mukul	Farmer	Gorgiya	Muktag asa	Mymen shing	1938773 826	Vegetable
Saiful islam	Retailer	Kali bari Bazzar	Muktag asa	Mymen shing	1739890 691	Vegetable Faria
Harunur rashid	Retailer	Checheya Bazzar	Muktag asa	Mymen shing	1717701 356	Vegetable Faria
Saidul islam	Retailer	Modina trader Checheya bazzar	Muktag asa	Mymen shing	1710085 361	Retailer

### Muktagacha South AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Anowara Begum	Farmer	Noyabari, chapuria gram, mankon union	Muktagacha	Mymensingh	017888 03369	Cow rearing (dairy)
Rejia khatun	Farmer	Noyabari, chapuria gram, mankon union	Muktagacha	Mymensingh	017725 65405	Cow rearing (dairy)
Khaleda Begum	Farmer	Noyabari, chapuria gram, mankon union	Muktagacha	Mymensingh	017257 57705	Cow rearing (dairy)
Khodeja Begum	Farmer	Noyabari, chapuria gram, mankon union	Muktagacha	Mymensingh	019861 15750	Cow rearing (dairy)
Malta Nondi	Retailer	Nondi bari, gobindopur, kashempur union	Muktagacha	Mymensingh	017651 47459	Country chicken & Duck
Lavli Chokroborti	Retailer	Doctor bari, gobindopur, kashempur union	Muktagacha	Mymensingh	017594 76196	Country chicken & Duck
Shipa Nondi	Farmer	Nondi bari, gobindopur, kashempur union	Muktagacha	Mymensingh	017045 16934	Country chicken & Duck
Monoti Rani	Farmer	Robidash bari, porabari, dawgha union	Muktagacha	Mymensingh	017876 16770	Country chicken & Duck
Shanta Rani	Farmer	Robidash bari, porabari, dawgha union	Muktagacha	Mymensingh	017091 17455	Country chicken & Duck
Shefali Dash	Retailer	Robidash bari, porabari, dawgha union	Muktagacha	Mymensingh	017097 60778	Country chicken & Duck
Subroto Sarkar	Retailer	Arpita boylar haouse, kalibari bazar, mugha union	Muktagacha	Mymensingh	017135 28628	Country chicken & Duck
Al - Amin	Retailer	Al-amin poltry fed, kalibari bazar mugha union	Muktagacha	Mymensingh	017146 80959	Country chicken & Duck

**Jolchotro AP:**

Respondent Name	Respondent Type	Full Address	Upazila	District	Phone Number	Sector
Kobil Uddin	Farmer	Mazid Nagar, Jalchatra, Modhupur,	Modhupur	Tangail	1719529838	Fruite
Mosharof	farmer	Mazid Nagar, Jalchatra, Modhupur,	Modhupur	Tangail	1717183377	Fruite
Sukur Ali	Retailer, painapple	Jalchatra Bazar, Modhupur, Tangail	Modhupur	Tangail	1757270136	Fruite
Mokhlesur	Retailer, Veterinary	Mohin Pharmacy ,Jalchatra Bazar,	Modhupur	Tangail	1763605965	Cow & Duck
Shirajul Islam	Farmer	Lokdeo gram, Golabari, Modhupur, Tangail	Modhupur	Tangail	1724277514	Vegetable
Shajahan Ali	Farmer	Lokdeo gram, Golabari, Modhupur, Tangail	Modhupur	Tangail	1760711555	Vegetable
Mofij uddin	Farmer	Lokdeo gram, Golabari, Modhupur, Tangail	Modhupur	Tangail	1778237282	Vegetable
Rafiz	Farmer	Lokdeo gram, Golabari, Modhupur, Tangail	Modhupur	Tangail		Vegetable
Hasmot	Farmer	Lokdeo gram, Golabari, Modhupur, Tangail	Modhupur	Tangail	1751671640	Vegetable
Hamid	Farmer	Lokdeo gram, Golabari, Modhupur, Tangail	Modhupur	Tangail	1770363777	Vegetable
Md. Motiar rahman	Retailer	M/S Monira Traders, mdhupur Bazar	Modhupur	Tangail	1712883757	Vegetable
Md. Lutfur Rahman	Retailer	M/S Dulal Pharmecy & feed, Modhupur Bazar	Modhupur	Tangail	1733879062	Country chicken & Duck
Md. Fazlur Rahman	Retailer	M/S Siyam Seed store, Modhupur Bazar	Modhupur	Tangail	1719088176	Vegetable
Babul Ahmed	Holseller	M/S Airin Traders, Modhupur Bazar	Modhupur	Tangail	1778402821	Vegetable
Shamsul Haque	Holseller	M/S Shamim Traders, Modhupur Bazar	Modhupur	Tangail	1926180257	Vegetable
Md.Abul Kalam	Retailer	Murgi dokan, Modhupur Bazar	Modhupur	Tangail	1739391579	Country chicken & Duck

### Mymensingh AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Omor Ali	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1713503277	Cow & Dairy
Mojamme l Haque	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1843613802	Cow & Dairy
Uzzal Mia	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1720198620	Cow & Dairy
Masuk Mia	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1816672729	Cow & Dairy
Juyel Mia	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1774176398	Cow & Dairy
Chan Mia	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1771586088	Cow & Dairy
Rahmot	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1747883416	Cow & Dairy
Moksedul	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1876869605	Cow & Dairy
Motaleb	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1733279133	Cow & Dairy
Kitab Ali	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1885418950	Cow & Dairy
Masud Morol	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1954122486	Cow & Dairy
Rafiqul islam	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1845576354	Cow & Dairy
Mofazzol	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1752676455	Cow & Dairy
Kamrun Nahar	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1839116732	Country chicken & Duck
Helena Akter	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1736198129	Country chicken & Duck
Nurzahan	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1953233898	Country chicken & Duck
Rokeya	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1780400819	Country chicken & Duck
Sumaiya	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1740870771	Country chicken & Duck
Alamin	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1926519104	Country chicken & Duck
Monira Moni	Farmer	Char Barobila ( puthamara ) Char Iswardia	May menshing	Mymensingh	1864521239	Country chicken & Duck
Biswanath Pal	Retailer	Shomvuganj Bazar, May menshing	May menshing	Mymensingh	1716810875	Cow & Dairy

Porona Begum	Producer	Akoa, 8 no. Akoa, May menshing	May menshing	Mymenshing	1676201893	Cow & Dairy
Nasima Begum	Producer	Shomvuganj May menshing Bazar,	May menshing	Mymenshing	1951587202	Cow & Dairy
Sumona Akter	Producer	Shomvuganj May menshing Bazar,	May menshing	Mymenshing	1969770080	Cow & Dairy
Hamida Begum	Producer	Shomvuganj May menshing Bazar,	May menshing	Mymenshing	1739590062	Cow & Dairy
Aklima Akter	Producer	Shomvuganj May menshing Bazar,	May menshing	Mymenshing	1778673814	Cow & Dairy
Jesmin Akter	Producer	Shomvuganj May menshing Bazar,	May menshing	Mymenshing	1929108173	Cow & Dairy
Rupa Akter	Producer	Shomvuganj May menshing Bazar,	May menshing	Mymenshing	1715364422	Cow & Dairy
Shohag	Retailer, feed, cow, chicken	M/S Shohag Store, Gopalpur Bazar, Mymenshingh	Mymenshing	Mymenshing	1862807093	Country chicken & Duck
Jashim Uddin	Retailer, Milk	M/S Shohag Store, Gopalpur Bazar, Mymenshingh	Mymenshing	Mymenshing	1839813606	Cow & Duck
Uzzal	Retailer, chicken	shomvuganj Bazar, May menshing	Mymenshing	Mymenshing	1947394608	Country chicken & Duck
Sham Kishore	Retailer, Suit, bokrom	Shoishob Store, Houker market May menshing sadar	Mymenshing	Mymenshing	1918565072	Tailoring
Jamal Hossain	Retailer, Suit, bokrom	Shoishob Store, Houker market May menshing sadar	Mymenshing	Mymenshing	1725154687	Tailoring

## Northern Bangladesh Region (NBR):

### Nilphamari AP:

Respondent Name	Respondent Type	Full Address	Upazila	District	Phone Number	Sector
shirin Akther	Farmer	khoksha Bari, Nilphamari, Nilphamari	Nilphamari	Nilphamari	1720689377	Country chicken & Duck
shongita rani	Farmer	khoksha Bari, Nilphamari, Nilphamari	Nilphamari	Nilphamari	1717966049	Country chicken & Duck
Eyasin	Forward market	koijali para, jol dhaka,, Nilphamari	Nilphamari	Nilphamari	1774514875	cow rearing
mofijul islam	Forward market	bahali para,, jol dhaka,, Nilphamari	Nilphamari	Nilphamari	1764708213	cow rearing
Konika roy	Farmer	brammon para	Nilphamari	Nilphamari	1781053194	Cow rearing, Country chicken Rearing
Sreemoti. Non dini Roy	Farmer	brammon para	Nilphamari	Nilphamari	1703233639	Cow rearing, Country chicken Rearing
Md. Mahabul	Faria	Ramgonj Hat	Ramgonj	Nilphamari	1762177581	Cow Buy & sell
Jiyarul Islam	Faria	Ramgonj Hat	Ramgonj	Nilphamari	1797780204	Cow Buy & sell
Md. Moyen Uddin	Faria	Ramgonj Hat	Ramgonj	Nilphamari	1738381621	Hen Buy & Sell
Md. Moksudul Islam	Faria	Ramgonj Hat	Ramgonj	Nilphamari	1717605746	Hen Buy & Sell

### Paba AP:

Respondent Name	Respondent Type	Full Address	Upazila	District	Phone Number	Sector
Md. Amirul Islam	farmer	Berpara	Paba	Rajshahi	1708566489	Cow rearing
Arifa Begom	farmer	Berpara	Paba	Rajshahi	1713704441	Country chicken & Duck
Siddik	farmer	Berpara	Paba	Rajshahi	01918839543	Cow rearing
Ful Mohammad	farmer	Berpara	Paba	Rajshahi	1725086256	Cow rearing
Dost Mohammad	farmer	Berpara	Paba	Rajshahi	1719362634	Cow rearing
Hasan	Faria	Horipur	Paba	Rajshahi	1721726137	Vegetable Faria
Md. Rubel	Faria	Horipur	Paba	Rajshahi	1947242793	Vegetable Faria
Subas	Faria	Horipur	Paba	Rajshahi	1624248876	Vegetable Faria



Salim Aktar	Doctor	Horipur	Paba	Rajsha hi	17354787 57	Cow rearing
Masud	Doctor	Horipur	Paba	Rajsha hi	17167318 80	Cow rearing
Bokul	Doctor	Horipur	Paba	Rajsha hi	17926322 90	Cow rearing
Md.Antazul	Foria	Horipur	Paba	Rajsha hi	19872307 16	Cow rearing
Bablur Rahman	Retailer	Horipur	Paba	Rajsha hi	17258738 31	Vegetable
Maruf chudhuri	Retailer	Horipur	Paba	Rajsha hi	17910382 96	Vegetable
Romjan	Foria	Horipur	Paba	Rajsha hi	17820374 93	Cow rearing
Sohag	farmer	Horipur	Paba	Rajsha hi	17374956 84	Cow rearing
kobir	farmer	Horipur	Paba	Rajsha hi	17289507 80	Cow rearing
Sumon	Pharmac y	damkura	Paba	Rajsha hi	18275007 41	Cow rearing
Abul Kalam	Retailer	damkura	Paba	Rajsha hi	17408146 87	Vegetable
Abdul Gaffar	Retailer	damkura	Paba	Rajsha hi	18480958 90	Vegetable
eaad ali	farmer	assgram	Paba	Rajsha hi	18517893 48	Vegetable
majedul islam	farmer	assgram	Paba	Rajsha hi	19895484 18	Vegetable
josna begom	farmer	assgram	Paba	Rajsha hi	19977931 60	Cow & Dairy
bokul	farmer	damkura	Paba	Rajsha hi	19895484 18	Vegetable
sima	farmer	damkura	Paba	Rajsha hi	01706649 184	Cow & Dairy
Md. Tokim uddin	Cow faria	Damkura, north Poba	Paba	Rajsha hi	17264348 19	Country chicken & Duck
Gazimuddin	Cow faria	shormunsala, Darusa, Paba.	Paba	Rajsha hi	17882882 04	Country chicken & Duck

### Godagari AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
ziaur rahman	Farmer	kakhoner hat,godagari,rajshahi	Godagari	Rajshahi	1733794490	Vegetable
nurul islam	Farmer	kakhoner hat,godagari,rajshahi	Godagari	Rajshahi	1624464358	Vegetable
mojjamel	Farmer	kakhoner hat,godagari,rajshahi	Godagari	Rajshahi	1718840269	Vegetable
parvej	Farmer	kakhoner hat,godagari,rajshahi	Godagari	Rajshahi	1795888181	Vegetable
rafiquel Islam	Farmer	kakhoner hat,godagari,rajshahi	Godagari	Rajshahi	1828169815	Vegetable
Bajlur sheikh	Forward market	kakhoner hat,godagari,rajshahi	Godagari	Rajshahi	1736533719	milkman
Alom sharder	Farmer	narayanpara,bagmara,rajshahi	Godagari	Rajshahi	1722054600	Vegetable
Rabiul islam	Farmer	narayanpara,bagmara,rajshahi	Godagari	Rajshahi	1740975192	Vegetable
hira	Forward market	kakhoner hat,godagari,rajshahi	Godagari	Rajshahi	1799394992	Vegetable
Mominul haq	Input Supplier	kakhoner hat,godagari,rajshahi	Godagari	Rajshahi	1744595256	Vegetable
Durul	Input Supplier	kakhoner hat,godagari,rajshahi	Godagari	Rajshahi	1720465808	Cow & Dairy
tauraj hosen	farmer	ayhy	Godagari	Rajshahi	1726345361	Vegetable
khaleque hossain	farmer	ayhy	Godagari	Rajshahi	1750860758	Vegetable
joy	retailer	ayhy	Godagari	Rajshahi	1740995651	input supplier
eadul haque	farmer	ayhy	Godagari	Rajshahi	1750697213	Vegetable
anamul haque	farmer	ayhy	Godagari	Rajshahi	1776198021	Vegetable
kamal	farmer	ayhy	Godagari	Rajshahi	1712678797	Vegetable
romes ray	farmer	ayhy	Godagari	Rajshahi	1784289528	Vegetable
Md.Ezazul haque	Cow faria	Dakni para, Kakon hat	Godagari	Rajshahi	1767532440	Country chicken & Duck
Md. Khairul islam	Cow faria	Dakni para, Kakon hat	Godagari	Rajshahi	1971326115	Country chicken & Duck
Akter Hossain	Cow faria	Imamgonj, Godagari	Godagari	Rajshahi	1631700485	Country chicken & Duck

### Thakurgaon AP:

Respondent Name	Respondent Type	Full Address	Upazilla/ AP Name	District	Phone Number	Sector	AP Name
Golam Kausar	Pharmacy	Ranigonj	Chilmari	Rangpur	1717410883	Cow rearing	Thakurgaon
Anamul haque	Cow faria	Dasuria, Pabna, Cow Seller	Dasuria	Pabna	1745233900	Cow & Dairy	Thakurgaon
Md. Siraj Hossain	Cow faria	Dasuria, Pabna, Cow Seller	Dasuria	Pabna	1778808402	Cow & Dairy	Thakurgaon
Taslima Begom	Farmer	Purbonargun	Thakurgaon	Thakurgaon	1713766353	Cow rearing	Thakurgaon
Monira Begom	Farmer	Purbonargun	Thakurgaon	Thakurgaon	1765234845	Cow rearing	Thakurgaon
Mira Rani	Farmer	Purbonargun	Thakurgaon	Thakurgaon	1713813535	Cow rearing	Thakurgaon
Momota Begom	Farmer	Purbonargun	Thakurgaon	Thakurgaon	1737851772	Country chicken & Duck	Thakurgaon
Shilpi Begom	Farmer	Purbonargun	Thakurgaon	Thakurgaon	1788212761	Country chicken & Duck	Thakurgaon
Baby Begom	Farmer	Purbonargun	Thakurgaon	Thakurgaon	1705864935	Cow rearing	Thakurgaon
Minu Begom	Farmer	Purbonargun	Thakurgaon	Thakurgaon	1750919509	Cow rearing	Thakurgaon
Rekha	Farmer	Purbonargun	Thakurgaon	Thakurgaon	1733074068	Cow rearing	Thakurgaon
Shahriar Mannan	Vetenary dr.	Thakurgaon sadar	Thakurgaon	Thakurgaon	1684846366	Live stock	Thakurgaon
Dr. Abdur Rahim	Officer	Sadar	Thakurgaon	Thakurgaon	1716068760	Live stock	Thakurgaon
Sohorab	ALO	Nargun, Begun bari, Rohiman pur	Thakurgaon	Thakurgaon	1740048620	Live stock	Thakurgaon
Supen Chandra Ray	Retailer	Satata Pharmacy	Thakurgaon	Thakurgaon	1712314246	Cow & Dairy, Chicken, Duck	Thakurgaon
Hem Chandra Ray	Retailer	Khochabari Bazar	Thakurgaon	Thakurgaon	1713688457	Cow & Dairy, Chicken, Duck	Thakurgaon
Md. Sohag Islam	Retailer	Kismot doulotpur Majhpara	Thakurgaon	Thakurgaon	1796052496	Cow & Dairy, Chicken, Duck	Thakurgaon
Abdur Rauf	Cow faria	Begun bari	Thakurgaon	Thakurgaon	1723429853	Cow & Dairy	Thakurgaon
Ansarul Islam	Cow faria	Nischintapur,	Thakurgaon	Thakurgaon	1761309260	Cow & Dairy	Thakurgaon

### Tanore AP:

Respondent Name	Respondent Type	Full Address	Upazila	District	Phone Number	Sector	AP Name
Samsunahar	farmer	Jogisho	Tanore	Rajshahi	1788162742	Country chicken & Duck	Tanore
Shirina	farmer	Jogisho	Tanore	Rajshahi	1755225961	Country chicken & Duck	Tanore
Hasina	farmer	Jogisho	Tanore	Rajshahi	1781373307	Cow rearing	Tanore
Sahara	farmer	Jogisho	Tanore	Rajshahi	1720966285	Country chicken & Duck	Tanore
Johura	farmer	Jogisho	Tanore	Rajshahi	1720966285	Country chicken & Duck	Tanore
Kamal	Foria	Jogisho	Tanore	Rajshahi	1703502467	Egg buy and sale	Tanore
Md.Alal Chudhuri	Pharmacy	Thanamor	Tanore	Rajshahi	1739879535	Cow rearing	Tanore
Md.Sekendar ali	Doctor	tanore	Tanore	Rajshahi	1718313781	Service	Tanore
Papul	Bussines	Tanore Bazzar	Tanore	Rajshahi	1712504178	Pharmacy	Tanore
Sofiul islam	Doctor	Tanore Bazzar	Tanore	Rajshahi	1796941214	service	Tanore
Md.Anarul islam	Doctor	Tanore Bazzar	Tanore	Rajshahi	1748996310	service	Tanore

### Rangpur AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
jahidul islam	farmer	daroga para	rangpur	rangpur	1741659976	Cow & Dairy
raihanul islam khokon	retailer	bus tarminal bodorganj	rangpur	rangpur	1711065398	input supplier
md shamim haque	retailer	ptc road tarminal	rangpur	rangpur	1710870481	input supplier
fojlar rahman	farmer	pirjabad	rangpur	rangpur	1740140255	Cow & Dairy

**Pirganj AP:**

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Md. Masudur Rahman	Live stock officer	Gopinathpur, Raypur	Pirganj	Rangpur	1715271633	Country chicken & Duck
Motiar Rahman	Village dr.	johura pharmacy, near by live stock office	Pirganj	Rangpur	1707822721	Country chicken & Duck
Lipi tudu	Farmer	Patgram adibashi para	Pirganj	Rangpur	1726720357	Cow rearing, Country chicken Rearing
Alijabed Shoren	Farmer	Patgram adibashi para	Pirganj	Rangpur	1701535600	Cow rearing, Country chicken Rearing
Mostarina Khatun	Farmer	Patgram adibashi para	Pirganj	Rangpur	1744842410	Cow rearing, Country chicken Rearing
Selina Tudu	Farmer	Patgram adibashi para	Pirganj	Rangpur	1773610506	Cow rearing, Country chicken Rearing
Masum a	Doctor	Patgram adibashi para	Pirganj	Rangpur	1735632248	service
sultan	Doctor	Patgram adibashi para	Pirganj	Rangpur	1704215356	service
Jabur ali	Doctor	folirbil	Pirganj	Rangpur	1737131784	service
Ismail	Doctor	folirbil	Pirganj	Rangpur	1751316667	service
Shantona rani	Farmer	Boiragi para, pirgonj, rangpur	Pirgonj	Rangpur	1740126053	country chicken & cow rearing
konika rani	Farmer	Boiragi para, pirgonj, rangpur	Pirgonj	Rangpur	1755197045	country chicken & cow rearing
Bijli rani	Farmer	Boiragi para, pirgonj, rangpur	Pirgonj	Rangpur	1767271584	country chicken & cow rearing
Usha rani	Farmer	Boiragi para, pirgonj, rangpur	Pirgonj	Rangpur	1710578609	country chicken & cow rearing
Jesmin parvin	Farmer	Boiragi para, pirgonj, rangpur	Pirgonj	Rangpur	1740424162	country chicken & cow rearing
Rawsonara	Farmer	Boiragi para, pirgonj, rangpur	Pirgonj	Rangpur	1764950210	country chicken & cow rearing
Dr. masud	input supplier	Boiragi para, pirgonj, rangpur	Pirgonj	Rangpur	1735632243	country chicken & cow rearing

**Mithapukur AP:**

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
harun	Farmer	shalti gopalpur, mithapukur, Rangpur	Mithapukur	Rangpur	1737392680	cow rearing
Dr. Liton	input supplier	shalti gopalpur, mithapukur, Rangpur	Mithapukur	Rangpur	1773161180	cow rearing
Md. masud Rana	input supplier	shalti gopalpur, mithapukur, Rangpur	Mithapukur	Rangpur	1719710389	cow rearing
Harun or Rashid	Ghashi	shalti gopalpur, mithapukur, Rangpur	Mithapukur	Rangpur	1737392680	Cow & Dairy
Sabuj Miah	Ghashi	shalti gopalpur, mithapukur, Rangpur	Mithapukur	Rangpur	1767264598	Cow & Dairy
Rafiqul Alam	Live stock officer	Mithapukur, Rangpur	Mithapukur	Rangpur	1712727439	Country chicken & Duck
Sree. Porimol Chondro	Farmer	Vobanipur	Mithapukur	Rangpur	1725933837	Cow rearing, Goat rearing
Shopon chondro bormon	Farmer	Vobanipur	Mithapukur	Rangpur	1750666914	Cow rearing, Goat rearing
Konika	Farmer	Vobanipur	Mithapukur	Rangpur	1706810210	Cow rearing, Goat rearing
Kumari Shorosoti	Farmer	Vobanipur	Mithapukur	Rangpur	1783020196	Cow rearing, Goat rearing
Kolpona rani	Farmer	Vobanipur	Mithapukur	Rangpur	1705990797	Cow rearing, Goat rearing
Akramul haque	Farmer	Ranipukur	Mithapukur	Rangpur	1721399089	Cow rearing, Goat rearing
Golam robbani	Farmer	Ranipukur	Mithapukur	Rangpur	1751181855	Cow rearing, Goat rearing
Md. Nuruzzaman	Farmer	Ranipukur	Mithapukur	Rangpur	1725472208	Cow rearing, Goat rearing
Md. Kamruzzaman	Farmer	Ranipukur	Mithapukur	Rangpur	1832952891	Cow rearing, Goat rearing
Md. Ashraf Alom	Farmer	Ranipukur	Mithapukur	Rangpur	1780316255	Cow rearing, Goat rearing
anarul islam	Farmer	Ranipukur	Mithapukur	Rangpur	1788157409	Ghash

### Kishoregonj AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
vorot mohanto	retailer	shamoli bij vandar	kisorgo nj	Nilphamari	1738728162	input supplier
samad	retailer	m/s samad treaders	kisorgo nj	Nilphamari	1722998311	input supplier
abdul hannan	farmer	Monthona	kisorgo nj	Nilphamari	1773197106	corn
fatema	farmer	Monthona	kisorgo nj	Nilphamari	1717368168	Cow & Dairy
hannan	farmer	Monthona	kisorgo nj	Nilphamari	1773197106	corn
lebu mia	farmer	Monthona	kisorgo nj	Nilphamari	1745638290	corn
abdul ajij	farmer	Monthona	kisorgo nj	Nilphamari	1773197016	corn
ferdos hosen	farmer	Monthona	kisorgo nj	Nilphamari	1782278975	corn
Nur Amin	Fer-mar	Ismail, kishorgonj, Nilphamary	kisorgo nj	Nilphamari	1761112100	Cow & Dairy
Abdul kader	Fer-mar	Ismail, kishorgonj, Nilphamary	kisorgo nj	Nilphamari	1706703884	Maize
Abdul jalil	Agriculture officer	Kishor ganj , nilphamary	kisorgo nj	Nilphamari	1787939649	Cow & Dairy
Anamul haque	Agriculture officer	Kishor ganj , nilphamary	kisorgo nj	Nilphamari	1865027222	Cow & Dairy

# Kaharole AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Md. Mizanur Rahman	Business	Kaharol Bazzar Amtola, Peace pharmacy	Kaharole	Dinajpur	1742554562	Pharmacy
Ziarul Islam	Farmer	Mukundopur	Kaharole	Dinajpur	1740875238	Cow rearing, Country chicken Rearing
Mst. Khadija Begum	Farmer	Mukundopur	Kaharole	Dinajpur	1734832960	Cow rearing, Country chicken Rearing
Md. Ashraf ul haque	Farmer	Mukundopur	Kaharole	Dinajpur	1734234486	Cow rearing, Country chicken Rearing
Md. Abdul malek	Farmer	Mukundopur	Kaharole	Dinajpur	1737465596	Cow rearing, Country chicken Rearing
Md. Torikul Islam	Farmer	Mukundopur	Kaharole	Dinajpur	1718942471	Cow rearing, Country chicken Rearing
Sree. Ashwani rani	Farmer	Sundoil	Kaharole	Dinajpur	1750212896	Cow rearing, Country chicken Rearing
Dipali Rani	Farmer	Sundoil	Kaharole	Dinajpur	1722970706	Cow rearing, Country chicken Rearing
Sreemoti. Rani roy	Farmer	Sundoil	Kaharole	Dinajpur	1742193183	Cow rearing, Country chicken Rearing
Sreemoti. Ruma Rani	Farmer	Sundoil	Kaharole	Dinajpur	1774485667	Cow rearing, Country chicken Rearing
Sree. Dulali Rani	Farmer	Sundoil	Kaharole	Dinajpur	1771960822	Cow rearing, Country chicken Rearing
Khali Kumar	input supplier	Chinama Hall road, kharul, Dinajpur	Kaharole	Dinajpur	1734051430	cow rearing



**Ghoraghat AP:**

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Ujjol kormokar	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1747898828	Cow rearing
Gopal kormokar	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1741346210	Vegetable
Bivishion	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1782693774	Cow rearing
Mst.Beauty Begom	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1745053106	Cow rearing
Sonaly kormokar	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1707540225	Cow rearing
Sukomol kormokar	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1707540225	Cow rearing
Sundori kormokar	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1755707786	Cow rearing
Renubala	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1731534533	Cow rearing
Shondharani	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1731534533	Cow rearing
Ashia Begom	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1775251157	Cow rearing
Saheda Begom	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1775251157	Cow rearing
Tanjila Begom	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1775251157	Cow rearing
Laily Begom	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1772800354	Cow rearing
Sobeda Begom	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1776103340	Cow rearing
Rubina Begom	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1717447208	Cow rearing
Amiza Begom	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1729942103	Cow rearing
Bedina Begom	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1734284660	Cow rearing
Bulbuli Kormokar	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1741346210	Cow rearing
Laboni Kormokar	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1797585122	Cow rearing
Purnima Kormokar	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1729345808	Cow rearing
Anower Hossain	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1743663179	Vegetable

Audhir Kormokar	farmer	Kamar para (shagorpur)	Ghoraghat	Dinajpur	1737983810	Cow rearing
khaledul islam	farmer	risighat	ghoraghat	Dinajpur	1738214803	Vegetable
anisur rahman	farmer	risighat	ghoraghat	Dinajpur	1737809896	Cow & Dairy
mijanur rahman	wholesaler	ranigonj	ghoraghat	Dinajpur	1737202372	Vegetable
mominul islam	retailer	ranigonj	ghoraghat	Dinajpur	1725094045	Vegetable
sajahan mia	retailer	ranigonj	ghoraghat	Dinajpur	1722159679	Vegetable
polas	farmer	risighat	ghoraghat	Dinajpur	1713782867	Vegetable
moynul	farmer	risighat	ghoraghat	Dinajpur	1721917297	Vegetable
solaiman	farmer	risighat	ghoraghat	Dinajpur	1798982927	Vegetable
kader ali	farmer	risighat	ghoraghat	Dinajpur	1773354971	Vegetable
razzak mia	farmer	risighat	ghoraghat	Dinajpur	1738559793	Cow & Dairy
akramul haque	farmer	risighat	ghoraghat	Dinajpur	1737015985	Cow & Dairy
shobuz	farmer	risighat	ghoraghat	Dinajpur	1725444524	Vegetable
shumon	farmer	risighat	ghoraghat	Dinajpur	1736332639	Vegetable

#### Fulbari AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Golera	Farmer	Forida bad	Fulbari	Dinajpur	1776715721	cow rearing
Gita rani	Farmer	Forida bad	Fulbari	Dinajpur	1773960598	cow rearing
Dr.joydal abdin	Input Supplier	madilahat, madila, fulbari,	Fulbari	Dinajpur	1727916079	cow rearing
Rupkumar	Forward market	madilahat, madila, fulbari,	Fulbari	Dinajpur	1762807123	cow rearing
Nikhil	Forward market	madilahat, madila, fulbari,	Fulbari	Dinajpur	1754171832	cow rearing
shawon	input supplier	kalibari bazar, upzila road, fulbari	Fulbari	Dinajpur	1745248675	cow rearing

Jakir Hossen	Egg Business	Madila hat, Labib store	Fulbari	Dinajpur	1774968748	Egg seller
Shah alom	Egg Business	Fulbari hat	Fulbari	Dinajpur	1741461491	Egg seller
Shah alom	Bussines	folbari hat	Fulbari	Dinajpur	1741461491	Egg Buy & sell
Md.Rezaul korim	Bussines	madila hat	Fulbari	Dinajpur	1722841835	Pharmacy
Dr.Ranajit chandra shing	Veterinary sarjen	Fulbari hat	Fulbari	Dinajpur	1723357678	Country chicken & Duck
Dr. Md owaliul islam	Live stock officer	Fulbari hat	Fulbari	Dinajpur	1712220755	Country chicken & Duck
Shaheen Sarker	Veterinary pharmacy	Madila hat, fulbari, Dinajpur	Fulbari	Dinajpur	1716324892	Country chicken & Duck
Dr. Md Rezaul	Village dr.	Madila hat, fulbari, Dinajpur	Fulbari	Dinajpur	1722841835	Country chicken & Duck
Md. Roushon jamil	Farmer	Madila hat, fulbari, Dinajpur	Fulbari	Dinajpur	1737109572	Country chicken & Duck
Halim Asraf	DAE	Madila hat, fulbari, Dinajpur	Fulbari	Dinajpur	1717975074	Country chicken & Duck
Mizanur Rahman	Retailer	Egg Shop, Madlahat	Fulbari	Dinajpur	1744860586	Country chicken & Duck

#### Biral AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
hem chondro sen	retailer	khocha bari	Birjol	Dinajpur	1713688457	Country chicken & Duck
parboti rani	farmer	borani bazer	Birjol	Dinajpur	1774229483	Cow & Dairy
porimol	farmer	pirojpur	birol	Dinajpur	1767822806	Cow & Dairy
shamol sarkar	pharmacy	kaliaganj	birol	Dinajpur	1754953090	cow+country chicken
mijanur rahman	farmer	betura	birol	Dinajpur	1744609023	Cow & Dairy
khokon	retailer	birol	birol	Dinajpur	1723333182	deyry fead and medicin
Porimol	Farmer	Kaliagonj	Birjol	Dinajpur	1767822806	Cow rearing
Subas	Farmer	Kaliagonj	Birjol	Dinajpur	1761703835	Cow rearing

Provat Chondro	Farmer	Kaliagonj	Birol	Dinajpur	179481 1494	Cow rearing
Somesh Chondro	Farmer	Kaliagonj	Birol	Dinajpur	196304 1180	Cow rearing
Pulin Chorndro	Farmer	Kaliagonj	Birol	Dinajpur	171378 6453	Cow rearing
Rabeya Begom	Farmer	Kaliagonj	Birol	Dinajpur	175706 0927	Country chicken & Duck
Shantona Rani	Farmer	Kaliagonj	Birol	Dinajpur	178800 3175	Country chicken & Duck
Basonti Rani	Farmer	Kaliagonj	Birol	Dinajpur	173814 9772	Cow rearing
Ghumesh Chondro	Farmer	Kaliagonj	Birol	Dinajpur	176145 4142	Cow rearing
Mukta Parvin	Farmer	Kaliagonj	Birol	Dinajpur	174358 4081	Cow rearing
Dulal Chondro Sarkar	Farmer	Kaliagonj	Birol	Dinajpur	174942 6429	Cow rearing
Nukul Chandra sarker	Village dr.	kaliagonj	Birol	Dinajpur	174609 8894	Cow & Dairy,Chicken, Duck
Shaheen	Ferमार	Robipur	Birol	Dinajpur	173318 9279	Cow & Dairy
Alauddin Mohuri	Ferमार	Birol, Dinajpur	Birol	Dinajpur	172055 3607	Country chicken & Duck
Azizur dr.	Village dr.	Birol, Dinajpur	Birol	Dinajpur	171374 9235	Cow & Dairy,Chicken, Duck
Ataur Rahman	Chiken faria	jharopukur	Birol	Dinajpur	173582 4064	Country chicken & Duck
Sajedur Rahman	Ferमार	Bala pukur, South Ramon chandrapur	Birol	Dinajpur	171491 0580	Country chicken & Duck
Abdur Rahim	Asst. ULA	Birol, Dinajpur	Birol	Dinajpur	171446 1249	Country chicken & Duck
Dr. Abdus salam	Vetenary dr.	Birol, Dinajpur	Birol	Dinajpur	176092 2093	Country chicken & Duck

**Birganj AP:**

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Md. Elias	Farmer	Ghorabanda	Birganj	Dinajpur	1719828653	Cow rearing, Country chicken Rearing
Md. Jewel Islam	Farmer	nichpara	Birganj	Dinajpur	1723250020	goat rearing
Parbin begum	Farmer	Guraband, Paltapur, Birgong, Dinajpur	Birganj	Dinajpur	1719828653	cow Rearing
Mijanur Rahman	Farmer	Guraband, Paltapur, Birgong, Dinajpur	Birganj	Dinajpur	1719828653	cow Rearing
Elias Alli	Farmer	Guraband, Paltapur, Birgong, Dinajpur	Birganj	Dinajpur	1719828653	cow Rearing
Arifa Bugem	Farmer	Guraband, Paltapur, Birgong, Dinajpur	Birganj	Dinajpur	1719828653	cow Rearing
rafiqueel Islam	Farmer	Guraband, Paltapur, Birgong, Dinajpur	Birganj	Dinajpur	1719828653	cow Rearing
Ms. Sorifa bugem	Farmer	nijpra, Nijpara, Birgong, Dinajpur	Birganj	Dinajpur	1761450422	goat rearing
sufia Bugem	Farmer	nijpra, Nijpara, Birgong, Dinajpur	Birganj	Dinajpur	1785536191	goat rearing
Ms. Hobiron	Farmer	nijpra, Nijpara, Birgong, Dinajpur	Birganj	Dinajpur	1742132515	goat rearing
Ms. Obiron	Farmer	nijpra, Nijpara, Birgong, Dinajpur	Birganj	Dinajpur	1767110228	goat rearing
Ms. Rabeya	Farmer	nijpra, Nijpara, Birgong, Dinajpur	Birganj	Dinajpur	1773086859	goat rearing
Ms. Kulsum	Farmer	nijpra, Nijpara, Birgong, Dinajpur	Birganj	Dinajpur	1750191672	goat rearing
Ms. Johura	Farmer	nijpra, Nijpara, Birgong, Dinajpur	Birganj	Dinajpur	1797981058	goat rearing
Bilkis Bugem	Farmer	nijpra, Nijpara, Birgong, Dinajpur	Birganj	Dinajpur	1738841346	goat rearing
Mollika Bugem	Farmer	nijpra, Nijpara, Birgong, Dinajpur	Birganj	Dinajpur	1723250020	goat rearing
Dr. Kamrul islam	inpute supplier	Guraband, Paltapur, Birgong, Dinajpur	Birganj	Dinajpur	1735015977	Cow+goat Rearing
Dr. Dilusyar	inpute supplier	Guraband, Paltapur, Birgong, Dinajpur	Birganj	Dinajpur	1737831313	Cow+goat Rearing
Md. Deluwar Hosssain	inpute supplier	rampur, Birgong, Dinajpur	Birganj	Dinajpur	1740626316	Vegetable
Md. Mofassar ul islam	Business	Birgonj Thana market Poshu sashto kollan	Birganj	Dinajpur	1783090805	Pharmacy
Md. Suruzzaman	Faria	moddom vogdoma	Birganj	Dinajpur	1723198786	Milk buy & sell

**Birampur AP:**

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Mst. Sultana	farmer	Chok Horidas pur	Birampur	Dinajpur	1737620674	Country chicken & Duck
Rozina	farmer	Chok Horidas pur	Birampur	Dinajpur	1918068711	Country chicken & Duck
Minara	farmer	Chok Horidas pur	Birampur	Dinajpur	1773610880	Cow rearing
Nursapa	farmer	Chok Horidas pur	Birampur	Dinajpur	1751221728	Cow rearing
Rotna	farmer	Chok Horidas pur	Birampur	Dinajpur	1773428917	Cow rearing
Shefali	farmer	Chok Horidas pur	Birampur	Dinajpur	1737635129	Cow rearing
Rakib	Foria	Chok Horidas pur	Birampur	Dinajpur	1773010264	Cow rearing
Farid	farmer	Chok Horidas pur	Birampur	Dinajpur	1750264071	Cow rearing
Abdul Hamid	Retailer	shripur	Birampur	Dinajpur	1785424539	Cow rearing
Robiul Islam	Foria	Islampur	Birampur	Dinajpur	1714862644	Goat Rearing
Shirajul Islam	Foria	Chok Horidas pur	Birampur	Dinajpur	1796793220	Cow rearing
Babu	Foria	Islampur	Birampur	Dinajpur	1791889580	Cow rearing
Muktar Rahman	Foria	Borobailshira	Birampur	Dinajpur	1731244393	Country chicken & Duck
Nur Hossain	Foria	Borobailshira	Birampur	Dinajpur	1742005669	Country chicken & Duck
Manik	Pharmacy	Ghatpar	Birampur	Dinajpur	1727003657	Cow rearing
Mohinur Islam	Foria	Chok Horidas pur	Birampur	Dinajpur	1729115879	Cow rearing
sopna	farmer	mahmudpur	birampur	Dinajpur	1796075199	goat rearing
morjina	farmer	mahmudpur	birampur	Dinajpur	1737393833	Country chicken & Duck
jul haque	foria	birampur	birampur	Dinajpur	1850473499	Country chicken & Duck
rejaul islam	foria	birampur	birampur	Dinajpur	1780643925	Cow & Dairy
sultan mahmud	foria	birampur	birampur	Dinajpur	1774485003	Country chicken & Duck
shahajan ali	foria	birampur	birampur	Dinajpur	1767087788	goat
tarekujjaman	retailer	kolabagan	birampur	Dinajpur	1764828884	pharmacy
maria begom	farmer	mahmudpur	birampur	Dinajpur	01750731185	goat rearing

morjina	farmer	mahmudpur	biramp ur	Dinajp ur	173739383 3	goat rearing
bulbuli	farmer	mahmudpur	biramp ur	Dinajp ur	178670173 6	goat rearing
tohinur	farmer	mahmudpur	biramp ur	Dinajp ur	174475608 3	goat rearing
rupali rani	farmer	mahmudpur	biramp ur	Dinajp ur	173927369 6	goat rearing
Hasan Mahmud Hayat	MF Manager	Chad pur, birampur	biramp ur	Dinajp ur	171248894 0	MFI
Humayon	Pharmacy	Bustarminal	Biramp ur	Rangp ur	178405452 0	Cow rearing

### Dhamoirhat AP:

Respondent Name	Respondent Type	Full Address	Upazilla	District	Phone Number	Sector
Shanti Rani	Farmer	Hat nogor	Dhamoirhat	Nawgaon	1723960654	Cow rearing, Goat rearing, Contry Duck
Bina rani	Farmer	Hat nogor	Dhamoirhat	Nawgaon	1770449986	Cow rearing, Goat rearing, Contry Duck
Lokki Rani Papon	Farmer	Hat nogor	Dhamoirhat	Nawgaon	1710502943	Cow rearing, Goat rearing, Contry Duck
Kolpona rani	Farmer	Hat nogor	Dhamoirhat	Nawgaon	1742360809	Cow rearing, Goat rearing, Contry Duck
Mohima pahan	Farmer	Hat nogor	Dhamoirhat	Nawgaon	1761026287	Cow rearing, Goat rearing, Contry Duck
Ashraful	Faria	Hat nogor	Dhamoirhat	Nawgaon	1724521496	Dairy man
Ohab	Doctor	Hat nogor	Dhamoirhat	Nawgaon	1745364472	service
Ariful	Doctor	Hat nogor	Dhamoirhat	Nawgaon	1727592269	service
Md. Emran Ali	ULO	Dhamoirhat, Nawgaon	Dhamoirhat	Nawgaon	1716373972	Country chicken & Duck
Md. Selim Reza	Agriculture officer	Dhamoirhat, Nawgaon	Dhamoirhat	Nawgaon	1724349770	Country chicken & Duck
rahima beagum	Farmer	khatapara, soilpee, dhamurhat, naogaon	Dhamurhat	Nawgaon	1744772603	Country Chicken & Gaot rearing
shirna Akter	Farmer	khatapara, soilpee, dhamurhat, naogaon	Dhamurhat	Nawgaon	1714407175	Country Chicken & Gaot rearing
munjuvara	Farmer	khatapara, soilpee, dhamurhat, naogaon	Dhamurhat	Nawgaon	1738541672	Country Chicken & Gaot rearing
Peyara Bugem	Farmer	khatapara, soilpee, dhamurhat, naogaon	Dhamurhat	Nawgaon	1759388636	Country Chicken & Gaot rearing
hosnara	Farmer	khatapara, soilpee, dhamurhat, naogaon	Dhamurhat	Nawgaon	1790346071	Country Chicken & Gaot rearing
bkash	Forword market	khatapara, soilpee, dhamurhat, naogaon	Dhamurhat	Nawgaon	1739713777	cow&goat
banadik matti	Imput Supplier	khatapara, soilpee, dhamurhat, naogaon	Dhamurhat	Nawgaon	1758808548	cow&goat
Abu kahar	Imput Supplier	dhamurhat, dhamurpurashava	Dhamurhat	Nawgaon	1768798713	cow&goat
shekandar	Forword market	chack jadu, dhamurhat, naogaon	Dhamurhat	Nawgaon	1796108835	Goat
Mijanur Rahman	Forword market	nimtala more, dhamurhat, naogaon	Dhamurhat	Nawgaon	1718070890	milkman
atabul	Forword market	soilpi, dhamurhat, naogaon	Dhamurhat	Nawgaon	1751247188	milkman



## 10. Terms of Reference

### Terms of Reference for Hiring External Consultant for

#### Value Chain Assessment at National Level

#### World Vision Bangladesh

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##### 1. Introduction and background

World Vision is an international humanitarian relief and development organization serving children, their families and communities to alleviate poverty in Bangladesh primarily through Livelihood, Education, Health and Nutrition programs, emergency relief and advocacy and campaign.

World Vision's vision is "Our vision for every child, life in all its fullness; our prayer for every heart, the will to make it so". World Vision Bangladesh is currently operating through 51 Area Programs (APs) in 22 districts under 15 Area Program Clusters (APCs).

World Vision Bangladesh (WVB) operates its agriculture, food security and economic development program as titled Food Security and Economic Development (FSED) Technical Approach (TA) where final precondition is "Economic activities generate consistent household income above the GoB poverty line". This program will operate across multiple APs in rural and urban settings to implement WV Bangladesh's strategic plan "Diversify agricultural production, expand non-farm microenterprises and improve market access" along with intervention strategies for youth employment, thus developing sustainable economic wellbeing<sup>46</sup> and contributing to achieving SO 4<sup>47</sup> "Increase community resilience" in the WV Bangladesh Strategy 2016-2020<sup>48</sup>. Furthermore, this program will contribute to the CWBOs, namely Adolescents ready for economic opportunity; Parents or caregivers provide well for their children; and Children are well nourished; and CWBTs 1: Children report an increased level of well-being; 2: Increase in children (aged 0-5 years) who are well nourished; and 5: Increase in the ability of parents, caregivers and communities to sustainably provide for their children.

World Vision Bangladesh thus seeks a consultant to conduct detailed value chain assessment in 18 districts at village levels for both on farm and off-farm based potential sectors identification. Through the study, relevant stakeholders engaged in potential farm and non-farm livelihood options will be assessed to identify the market system dynamics; viable products, market information, unavailable support service issues and financial services inclusion etc.

The consultant requires developing both value chain assessment planning tools, study tools and a framework for value chain development interventions implementation based on VCD model of WVB.

1.2 Rational for conducting (Greater Mymensingh Region, Central Eastern Region, Southern Bangladesh Region and Northern Bangladesh Region) Nation-wide Value Chain Assessment:

World Vision Bangladesh is going to implement The Livelihoods Technical Program in 15 APCs with 41 APs. As LEAP3 journey begins, Value chain development program is continuing for both on farm and non-farm sub-sectors total in 36 APs who have plan to assess the potential sub-sectors through in-depth VCA. Livelihood's TP is designed to implement the value chain interventions to address dis-enabling market environment factors for rural poor producers. Sub-sector assessment including in-depth VCA will support the livelihood TP to build linkage between need based sub-sector interventions and the potential markets ultimately contributing to following outputs:

- Value chain assessment will identify the promising sub-sectors in particular APs and in-depth VCA for APs, APCs and WVB
- It will also validate the potentiality of the existing value chain interventions with recommendations. It will identify potential markets, actors and their roles in value chain, i.e. sub-sectors wise market map as well as scope of WVB to make effective linkage/win-win relationship to make the program viable.
- Support the target groups to establish/upgrade enterprises as these have considerable potential to improve their situation
- Bridge the gaps between the target groups and markets by exploring market opportunities and strategies and way outs to address market constraints and obstacles.

In four target regions, there are some common characteristics like small scale agricultural production, non-inclusive market system, limited access to technical and generic services etc. This assessment will reveal up the opportunities, strengths, challenges of potential sectors in these particular areas and coordination scopes with value chain/market actors (both public and private) at national level.

As a child focus organization, the assessment will intentionally find out the child protection issues that greatly influence child development ultimately contributing to Child Well-being at community level. Overall, as organization, the value chain assessment report will reflect key intervention areas as per need of TP based VCD activities, role of value chain/market actors, GOB and WVB in adding value to existing support services in potential sectors' market systems through designing inclusive business models.

## 2 Value Chain Assessment Summary

Livelihood Technical Program, FY 18' - FY 20'

Title	Value Chain Assessment in four regions (Greater Mymensingh Region, Central Eastern Region, Southern Bangladesh Region and Northern Bangladesh Region) of Bangladesh
Assessment Type	Market support System, value chain, dis (enabling) business environment, service functions, demographic, environmental,

	social, political, stakeholders and citizen services of four (4) regions
Primary Methodologies	The assessment would be led by external consultant in consultation with Technical Support Team, World Vision Bangladesh. Both quantitative and qualitative analysis will be done through credible secondary data collection. At the same time primary data will be collected through relevant tools such as, FGDs, KIs, SWOT, participatory market map, Case Study/Success story etc. can be used. In the entire process of the assessment respective NO, APs, APCs and regional colleagues will be engaged.
Assessment Start and End Dates	Start –October 15, 2017 End – December 20, 2017
Anticipated Assessment Report Release Date	December 31 , 2017

## 2. Value Chain Assessment Study objectives:

- To identify potential value chains (sub-sector for both farm and non-farm) for poor producers and explore value chain activities (input supply, production, processing, selling etc.) in targeted APs
- In depth ‘ Sub-sector Analysis’ needs to be conducted (at least 2 sub-sector analysis per region) as per WVB working area production capacity and market potentiality
- To explore potential non-farm income generating activities (IGA) and technical, vocational skills as per market demand for ultra-poor households
- To analysis the support services (e.g. business development, finance, infrastructure/transport, climatic issues etc.)
- To assess the Dis (enabling) environment (e.g. policy and regulations, natural resources, market trends, consumer behavioral issues, infrastructure, technology/research, groups/associations etc.)
- To identify potential sub-sectors and cost benefit analysis for potential value chains for four regions (CER, GMR, NBR and SBR) of Bangladesh
- To generate a short list of profitable and technically feasible sub-sectors (district/AP wise)
- To assess the resources, skills, technology and capacities of small holder farmers related to agricultural and non-agricultural value chains in urban and rural areas of Bangladesh
- To identify and elaborate opportunities and constraints for enhancing the participation of small holder farmers/producers in market system to increase production, quality and strengthen household resilience
- To assess Child Well-Being (CWB) at HH level and ‘ Women Power’ in market at APC levels
- To explore ‘ Private Sector Engagement’ potentiality to provide value added service for poor producers in potential sub-sectors.
- To explore Youth friendly promising value chains for both rural and urban context.
- To explore ‘ Youth Engagement’ potentiality in value chain activities, identify most effective entry points for integrations for youth in potential Value Chains (VCs) in four regions.

- To explore ‘ Ecological suitability’ of suggested sub-sectors.
- To explore pro-poor bio-technology (bio-fertilizer, bio-pesticides etc.) potential for rural and urban poor small business (both farm and non-farm) holders.
- To analyse potential natural and man-made risks in target areas market system and explore pro-poor rural and urban mitigation mechanism
- To recommend a pro-poor value chain development model and market mapping tool
- To explore strategies for increasing competitiveness of the markets and strengthening the resilience of the market system

### 3. Value chain assessment schedule:

The VCA proposal should be accompanied by a detail assessment plan and a detail schedule prepared by the VCA team/organization and it would be presented to WVB before field test. To do the assessment the selected organization is responsible to collect information, report preparation and all other necessary action.

### 4. Value chain assessment time frame:

Task	Timeline
Conduct literature review and identify information gaps to be filled through field assessments	October 15 – 18, 2017
Develop a plan for conducting the value chain assessment	October 19 – 22 , 2017
Provide study protocols and data collection instruments	October 26, 2017
Data collection	November 02 – 30, 2017
Data Analysis and Reporting	December 01 – December 20
Final Report	December 31, 2017

### 5. Tasks and Deliverables

To achieve the objectives the study, the value chain assessment consultant is expected to do the following:

1. Liaise with the WV team to define the geographic and population target for the assessment
2. Conduct literature review to compile relevant information for analyzing the existing value chains and market system status of the target population and identify information gaps that need to be filled through primary data collection.
3. Develop a protocol for collection of relevant primary data and coordinate with the assessment team to plan data collection, analysis and reporting. Data collection for the value chain assessment is expected to be largely quantitative, qualitative, stemming from key informant interviews.

The value chain assessment will clearly identify the various stakeholders/market actors involved in a given context, their competitive advantage and resources and their potential impact upon value chain activities. This should include review of value chain approach based development initiatives, public services and private sector engagements in target areas and identification of best practices and programming challenges.

The assessment should also analyze the participation of poor households in market systems and outline financial analysis/economic modeling to justify selection of given crop, non-crop (livestock, fisheries and household agro-forestry) and off-farm interventions. Recommendations for technical and generic services focused activity detailing should follow principles of the Value Chain Development Approach whereby a holistic understanding of a given context is necessary to ensure that activities and interventions will effectively address intended Livelihood Technical Plan (TP) of FY 18' -20' goals.

6. Value chain assessment methodology:

Value Chain Assessment would be done separately for selected APs. The VCA will be conducted by professional and experienced consulting/value chain assessment firms/organization.

The Value Chain Assessment should follow both the quantitative and qualitative methods for data/information collection. WVB will provide necessary background information for the assessment. Apart from this, local government, organized producer groups, non-Government organizations, public sector representatives, other stakeholders and the community people need to be involved in the value chain assessment process to ensure the active participation of all partners throughout the process. The whole assessment accomplishment process will have to ensure the following steps-

1. Ensure participation of WVB as well as program staff and community level members (inside of APs impact area) different stakeholders to assess the value chain, enhance empowerment and ownership with active participation.
2. Develop assessment methodology by the consultation with WVB management.
3. Develop appropriate tools/methods incorporating with the active participation of WVB and local community.
4. Translation of assessment tools/methods in local language i.e., Bengali as where necessary.
5. If necessary, should have to done the pre-testing questionnaire at the field conditions and updates with appropriate questions and recommendations.
6. Collect data by using tools from planned primary and secondary sources. Use both statistical & other appropriate techniques as demanding situation for collecting quantitative and qualitative data.
7. Ensure report with error free data, assessment observations, findings and analysis obtained from other analytical computer packages.
8. Finalize report after incorporating feedback from World Vision management (Program APs, APCs and Regional Field Offices, National Office and Livelihood technical support team).
9. Submit the final report (a set of two hard copies with soft copies) to the respective APs as well as TP Manager, Regional Field Director, Technical Director along with all primary tables, databases annexure.

7. Consultant/field enumerator recruitment and capacity building:

The field enumerators/data collection team should be selected and appointed by consulting farm/organization. The authorized consulting farm/organization responsible to trained them and makes them potential.

8. Reporting language:

English

9. Develop value chain assessment proposal by interested consulting farm/organization:

The consulting farms should produce a proposal for value chain study based on this TOR and submit the same to World Vision Bangladesh within stipulated timeframe. The proposal should be in two parts:

- Technical proposal that should demonstrate the detailed methodology that the farm is proposing for the value chain assessment, methods and procedures of data collection as deemed relevant for the assessment and certification of the consultants and key personnel in favour of the farm/organization.
- Financial proposal that should demonstrate statement of all necessary expenses in line of human resource mobilization, schedule of work program, remunerations for consultants and other human resources, accommodation costs, travel costs (community and external), food and snacks, training/orientation/meeting/FGD/HH and feedback session costs, field-test costs, logistics/printing and costs related tools etc.

10. Confidentiality and copyright:

All papers shared with the assessment farm/organization and with his/her team are confidential to WVB. It is strictly restricted that without permission of WVB authority, the assessment farm/organization should not share/copy any information to others also not for use to external stakeholders. The conducted value chain assessment owned by WVB and they should possess its copy right.

11. Profile of the consultant:

The Consultant should have:

- Proven eight (8) years+ experience of conducting national level value chain Assessments, project development, project baseline, evaluation etc. preferably for designing or implementation of Value chain development/market development approach based programs
- Good understanding of World Vision Bangladesh' s Approaches and models to assess potential value chains thus market system analysis
- Relevant educational qualifications with at least a Master' s or higher level degree in one or more of the following areas: business administration, economic development, agriculture and

livelihood, gender, sociology, or any other social sciences appropriate for the assessment in question

- Proven experience in conducting assessment and participatory approaches by using qualitative and quantitative survey/assessment methods.
- Proven experience on analysis and production of socio-economic impact studies.
- More committed to do for the poor community and ready to more community level movement.
- Excellent verbal and written communication skills in English
- Be highly dependable in meeting deliverables in a timely manner and be able to handle sensitive information with the highest degree of integrity and confidentiality.

## 12. Income TAX & VAT:

World Vision Bangladesh will deduct applicable TAX & VAT as per government rules and regulations on the total agreed amount and will deposit to GoB.

## 13. Payment Procedure:

- 40% at the time of tools, methodology, questionnaire submission
- 60% at final report submission

## 14. Reporting guidelines:

The focal person of the consulting firm will provide regular updates to mentioned livelihood technical program management. The final report of the value chain study should be produced in English as per outline given below and be submitted in both hard and soft form (CD version) to the mentioned program and AP Managers.

### Reporting Format:

- Executive summary
- Introduction
- Background
- Objectives and methodology
- Categorize potential value chain subsectors
- Potential value chain subsectors opportunities and threats
- What subsectors are highly potential and fit for the respective APs (cost benefit analysis)
- Necessary action can be taken by the WVB and the community to establish a pro-poor value chain development model as per livelihood Technical Plan
- Elaborate the market actors, their roles, forward & backward linkages, process of market information collection and how it will be disseminated to the community, cost benefit analysis of the specific potential sub sectors, business potentiality, market mapping, HH income from agricultural and non-agricultural production, production planning, entrepreneurship development, employment creation etc.
- Identified constraints, opportunity and missing service for both supply and demand side
- Identified potential and profitable products, markets and others relevant value chain actors
- Detail activity plan according to interventions for each value chain in APs as per Livelihood TP

- Role of WVB and the community to establish sustainable income generation by mainstreaming value chain approach
- Capacity building for entrepreneurial development and inclusive growth impact through market system analysis
- Information of the training centers for entrepreneurial development to make a collaboration program and probable suggestions of the cost shearing within the community and WVB
- Conclusions, strategies and recommendations
- Lessons learnt from the assessment
- Annexure including table presentation of all data collected and summary of qualitative data by projects
- Others if any to be mentioned

#### 15. Selection procedure of the assessment consultation firm/organization:

World Vision of Bangladesh have decided to select an specific external consultant for this assessment based on evidence based experience of conducting ‘ Assessments, baseline study, evaluation and project design and development’ for World Vision. This assessment will be thus contracted with \_\_\_\_\_ Ltd. in order to deliver required deliverables.

The firm should provide relevant and appropriate evidences in support of their credibility and information provided for qualifying themselves.

#### 16. Points of communication:

In all respects, mentioned Livelihood TP Manager and National Value Chain Development Coordinator and Regional Technical Program Coordinators should be the contact persons for the assessment work and should represent WVB in his/ her capacity.

##### 17.1 Contact person:

Sl. No.	Name	Designation	Duty Station	Mobile No.	E-mail address
1.	Erica Shuvra Halder	National Co-ordinator, Value Chain Development	National Office, Dhaka	+8801730341449	Erica_halder@wvi.org
2.	Md. Ashrafur Islam	Regional Technical Program Coordinator - Livelihood	Northern Bangladesh Region	+8801755619044	MdAshrafur_Islam@wvi.org
3.	Jnanottor Chakma	Regional Technical Program Coordinator- Livelihood	Northern Bangladesh Region	+8801767873913	
4.	Md. Ruhul Amin	Regional Technical Program Coordinator - Livelihood	Greater Mymensingh Region	+880175559837	Mohammad_Ruhul_Amin@wvi.org



5.	Md. Mushfequr Rahman	Regional Technical Program Coordinator - Livelihood	Central Eastern Regional Office	+8801755619348	MdMushfequr_Rahman@wvi.org
6.	Malaya K. Biswas	Regional Technical Program Coordinator - Livelihood	<i>Southern Bangladesh Region (SBR)</i>	+8801730728355	MalayaK_Biswas@wvi.org

## 17.2 Principal Contact Person:

Name: Dr. Makhan L. Dutta

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