Study to Select Value Chain and Analyze Selected Value Chain

Presentation on Value Chain Assessment
Study Objectives

Value Chain Selection

Analysis of Selected Value Chains

Ensure Sustainable Livelihoods to the project beneficiaries

Reduce pressure on Natural Resources
Specific Objectives

• The study was conducted in two phases:

Phase 1: Value Chain Selection
• Output: Select three value chains

Phase 2: Value Chain Analysis
• Output: Detail Value Chain Analysis of three selected value chains

Market Study for Ecotourism
Process of Value Chain Selection

Step

Secondary Literature Review and KII

Screening through Cut-off Criteria

Field Investigation

Validation

Tools

- Relevant secondary documents, CREL project documents
- Interview project staffs
- Value chains that deplete forest and/or wet land directly will be ineligible for selection
- In-depth interviews
- FGD
- Primary survey
- Ranking exercise
- Validation workshop

Output

First List of Value chains & One Cut-off Criteria & 12 Selection Criteria

Short list of Value Chains

Final List of Value Chains

Three Value Chains
## Value Chain Selection Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
<th>Criteria</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate Tolerance (Low tolerance=1, High tolerance=5)</td>
<td>3</td>
<td>Income (Low income increase=1 High income increase=5)</td>
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<tr>
<td>Climate Resiliency (Low resilience=1, High resilience=5)</td>
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<td>Private sectors participation (Low interest=1, High interest=5)</td>
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<td>Resource Extraction Minimization (Not minimized=1, Highly minimized=5)</td>
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<td>Development priorities and favorable policy of government (Low priority &amp; favorability=1 High priority &amp; favorability=5)</td>
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<tr>
<td>Women and Youth Inclusion (Low inclusion=1, High inclusion=5)</td>
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<td>Synergy and potential collaboration (Low synergy=1, High synergy=5)</td>
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<td>Outreach (Low outreach=1, High outreach=5)</td>
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<td>Risk (High risk=1, Low risk=5)</td>
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<tr>
<td>Growth potential (Low growth=1, High growth=5)</td>
<td>5</td>
<td>Scope for value addition (Low scope=1, High scope=5)</td>
<td>3</td>
</tr>
</tbody>
</table>
• Government officials (Forest Department, Department of Agriculture, Department of Fishery, Department of Livestock, Jobo Unnayan)
• CMC Members, Local Chairman
• Forward Market Actors: Collector (Faria), Trader (Bepari), Wholesaler (Arotdar)
• Backward Market Actors: Input seller (Seed Seller, Fertilizer seller, Chemical & Medicine seller etc.)
• Research Institute
• NGOs Staffs
• CREL Regional staffs

• Community People (VCF Members, CMC Members, CPG members, NS)

• Beneficiary Profiling (VCF Members)
## Ranking Exercise for Northeast Zone

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
<th>Vegetables</th>
<th>Fruits</th>
<th>White fish</th>
<th>Tilapia</th>
<th>Beef</th>
<th>Dairy</th>
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<td>Growth potential</td>
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<td>Scope for value addition</td>
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<td><strong>179</strong></td>
<td><strong>184.5</strong></td>
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Process of Value Chain Analysis

**Literature Review**
Secondary literature, Project document

**In-depth Interviews**
Key informant interviews, forward/backward market actors, private sector

**Questionnaire Surveys**
Producers of selected value chains, project beneficiaries

**Data Analysis**
Case analysis, tabular analysis, averages, extrapolation, etc.

**Strategy Workshop**
Findings sharing, Strategy Discussion

CREL Livelihood Officer & MDO directly participated in most of the interviews with Innovision Team.

CREL Livelihood Facilitators conduct the questionnaire surveys.
Outcome of Value Chain Analysis

Value Chain Functions
- Input Suppliers
- Producers
- Market Intermediaries
- Support Actors

End Market Analysis

Demand/Supply Situation

Constraints Analysis

Opportunities

Strategies for promoting Value Chains to target beneficiaries
Summarizes the key findings on selected Value Chains:

- Vegetable
- Fishery
- Duck (Layer)
- Eco-Tourism

Region: North-East zone in Sylhet, Moulvibazar and Habiganj districts.

Conducted as a follow up to a rigorous value selection exercise through which the three value chains along with Eco-tourism were identified for in-depth assessment.
Geographic Scope

<table>
<thead>
<tr>
<th>Zone</th>
<th>District</th>
<th>Upazila</th>
<th>Site</th>
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</thead>
<tbody>
<tr>
<td>Northeast Zone</td>
<td>Sylhet</td>
<td>Sylhet Sadar &amp; Goainghat</td>
<td>Khadimnogor NP</td>
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<tr>
<td></td>
<td></td>
<td>Fenchuganj, Golapganj</td>
<td>Hakaluki Haor ECA</td>
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<td></td>
<td></td>
<td>Kulaaura, Juri, Baralekha</td>
<td></td>
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<tr>
<td></td>
<td>Moulvibazar</td>
<td>Moulvibazar &amp; Sreemongol</td>
<td>Hail Haor</td>
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<tr>
<td></td>
<td></td>
<td>Kamalganj &amp; Sreemongol</td>
<td>Lawachara NP</td>
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<td></td>
<td>Habiganj</td>
<td>Chunarughat</td>
<td>Rama Kalenga WS</td>
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<tr>
<td></td>
<td></td>
<td>Chunarughat &amp; Madhobpur</td>
<td>Satchori NP</td>
</tr>
</tbody>
</table>
Geographic Scope
Data Collection & Respondents

In-Depth Interview

- Input Seller
- Farmer
- Resource Extractor
- Collector (Foria)
- Wholesaler (Aarotdar)
- Expert Resource
- Retailer
Data Collection & Respondents

Questionnaire Survey

100 Beneficiaries
6 Locations
7 CREL Staff Team

Beneficiary Analysis
(5 X 7) = 35 Large Farmers
(5 X 7) = 35 Small Farmers

30 Resource Extractors
People We have Interviewed

25 Farmers
04 Input Suppliers

02 Experts
12 Tour Guides

06 Project Sites

11 Farmers
01 Input Supplier
01 Foria
01 Retailer
03 Wholesalers
01 Expert Resource

22 Intermediaries
14 Retailers
01 Expert Resource
04 Farmers
01 Foria
01 Wholesalers

Duck (Layer)
Vegetable
Fishery

Total Interviews: 82
Rational for Value Chain Selections?

**Vegetable:**
- Competitive Edge
- Beneficiary Competence (Homestead)
- Strong Access to Inputs market
- Established market channels

Off-season market gap
- National Market Chain
- Higher profitability/area
- Local market preference
- Area suitability (water supply)

Short-Cycles
- Steady income stream
- Year-round production
- Local market preference

Climactic suitability
- Chittagong market
- Long shelf life & Easy Storage
- Consistent Demand and pricing

Haor Suitability
- National demand
- Lower perishability
- Area-specific supply
- Higher transportability
Rational for Value Chain Selections?

Fisheries:
- Haor Area suitability
- National market recognition
- Untapped resource (Homestead Ponds)

- Mass demand
- Higher priced
- National Market Chain
- Supply deficient region

- Resilient
- Multiple Cycles
- High value/area
- Low water requirement
Rational for Value Chain Selections?

Duck (layer):
- Local Demand
- Steady income
- Area Suitability
- Easy maintenance (Resilient)
- Untapped Resource (Low lands, Haor areas)
Value Chain Analysis: VEGETABLE
## End Market Analysis

### Main Markets

<table>
<thead>
<tr>
<th>Market Type</th>
<th>Locations</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natl. market</td>
<td>DHK, CTG, BOG, JESS, KHL, RAJ</td>
<td>Large volumes, mass products</td>
</tr>
<tr>
<td>Div. market</td>
<td>Sylhet, Srimongol</td>
<td>Urban Centers,</td>
</tr>
<tr>
<td>Local Bazar</td>
<td>Chunarughat, Juri, Belagaon,</td>
<td>Channel between local retail and divisional market hubs</td>
</tr>
<tr>
<td></td>
<td>Shamsernagar, etc</td>
<td></td>
</tr>
<tr>
<td>Local Retail</td>
<td>Himaliya, Kalenga, Madhabpur,</td>
<td>End-market consumer reach in localities</td>
</tr>
<tr>
<td></td>
<td>Komogonj</td>
<td></td>
</tr>
</tbody>
</table>

- In general, producers connected with Aarotdars most.
- In tomato and brinjal, significant connection with small retailers (32%), in Forash, forias matter (24%) and in Taro with consumers (11%)
- Strongest value addition chain in brinjal (274%), followed by tomato (154%), taro (150%) and forash (111%)
End Market Analysis

Demand/Supply

Demand Characteristics

- Price determinant: Supply, Freshness and Form
- Highly perishable nature of the product leads to customer preference despite higher price (5-10 tk/kg)
- Region is supply-deficient: In winter, competitive edge of outside vegetables flood the market while in summer, unmet demand exists
- Tomato: Unmet market demand for summer tomatoes
- Brinjal: Inflow from northern regions, competitive edge in price although the product is faded and deformed from extensive travelling
- Forash: Localized demand within Sylhet and some areas in Chittagong. Highly seasonal in nature.
- Taro: Localized demand. Occasional consumption. Limited but consistent demand.
Value Chain Function

Input Suppliers

**Types:**
- Local Suppliers and large urban shops

**Products:**
- Open and packed seeds, fertilizers, insecticides and pesticides

**Functions:**
- Provide inputs for vegetable farming
- Strong brand presence and variety of choice
- Retailers knowledgeable and willing to engage customers
- Good relations with big companies
- Relations with producers hampered by usage knowledge gaps
- Price-sensitive nature of small farmers and preference for open seeds
Value Chain Function

Types:
• Homestead, commercial (small), Commercial (large)

Products:
• Rice is the dominant crop. Lemon and tea in some areas
• Variety of vegetables produced; some with localized demand

Functions:
• Produces vegetables for self-consumption and selling
• Homestead farming involves women
• Lacking commercial interest for remote area farmers
• Ready access to water in most areas reduces irrigation costs
• Acidic soil of some areas impact yield
• Dependence on traditional knowledge and natural soil fertility
• Overlapping areas of hills and haors create belts of both agriculture and pisciculture practices
## Cost Benefit Analysis of Vegetable Farmer

<table>
<thead>
<tr>
<th></th>
<th>Tomato</th>
<th>Forash</th>
<th>Brinjal</th>
<th>Taro</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Cost (/dcm)</strong></td>
<td>BDT 600</td>
<td>BDT 232</td>
<td>BDT 397</td>
<td>BDT 304</td>
</tr>
<tr>
<td><strong>Production (kg/dcm)</strong></td>
<td>95</td>
<td>12</td>
<td>59</td>
<td>43</td>
</tr>
<tr>
<td><strong>Average Price (/kg)</strong></td>
<td>BDT 15.5</td>
<td>BDT 41.5</td>
<td>BDT 16</td>
<td>BDT 17</td>
</tr>
<tr>
<td><strong>Revenue (/dcm)</strong></td>
<td>BDT 1449</td>
<td>BDT 498</td>
<td>BDT 948</td>
<td>BDT 716</td>
</tr>
<tr>
<td><strong>Net Profit (/dcm)</strong></td>
<td>BDT 849</td>
<td>BDT 267</td>
<td>BDT 552</td>
<td>BDT 413</td>
</tr>
</tbody>
</table>
Value Chain Function

**Market Intermediaries**

**Types:**
• Foria, Wholesalers, Retailers

**Products:**
• Vegetables, fruits and spices

**Functions:**
• Two kinds of wholesaling: Commission-based selling (5%-7%) and buy for re-selling
• Link between local market and outside divisions
• Overall volatility of market leads wholesalers to prefer repeated dealing with same source
• Price information flows freely: Mobile telecommunications
• Outside sourcing preferred due to lower pricing and better quality products despite lower freshness and deformation in transport
• Local produce has problems with inconsistent supply, lack of professionalism and lower quality at higher price
Value Chain Function

Support Function/Actors

Transporters:
- Vegetables transported in bundles for ‘hard’ vegetables like taro and in crates for ‘soft’ ones like tomato
- Infrastructural challenges increase transportation cost and time which in turn reduces ‘freshness’ of outside vegetables

Government and other actors
- Government institutions interested in building vegetable production base within Sylhet Region
- Relations with government officers moderate with officers visiting; but only after repeated requests
Constraints Analysis

- Lack of supply (locally) in off season
- Large number of farmers preferring homestead production
- Preference for farmers' retained seeds over high yielding branded seeds
- Ineffective Fertilizer
- Price fall in Peak season

- Lack of knowledge/skill on improved cultivation technique causing low yield.
- Lack of proper knowledge in prudent use of crop protection products and techniques.
- Unaware of benefits of using hybrid / summer variety seeds
- Arbitrary usage of fertilizer
- Inadequate use of micronutrients
- Poor shelf life and absence of proper storage
- Lack of knowledge on crop specific balanced fertilization techniques (micronutrients etc.)
- Market Glut due to weak linkages with larger regional markets
Constraints Analysis

Not interested to reach larger markets

Procuring vegetables from outside region in off season

Limiting production to meet local market demand only

High Transportation Costs

Lack of knowledge/skill on improved cultivation technique causing low yield.

Lack of proper knowledge in prudent use of crop protection products and techniques.

Lack of knowledge on crop specific balanced fertilization techniques (micronutrients etc.)

Market Glut due to weak linkages with larger regional markets

Rudimentary farming practices in rural areas leads to lower yield
Perception: Commercial farming is for ‘rich’ farmers

Lack of knowledge/skill on improved cultivation technique causing low yield.

Lack of proper knowledge in prudent use of crop protection products and techniques.

Lack of knowledge on crop specific balanced fertilization techniques (micronutrients etc.).

Market Glut due to weak linkages with larger regional markets.

Rudimentary farming practices in rural areas leads to lower yield.

Lack of knowledge on efficient post harvesting technique leads to quality and quantity loss of harvests.

Low capital to start large scale farming.

No sources for vegetable specific loans.

Constraints Analysis
Opportunities

• Supply deficient region indicates scope for scale up
• Strong input access and established output market
• Foria interested in increasing production for own benefit
• Local market preference due to ‘freshness’ and ‘taste’
• Scope for group-based farming with current examples
• Gradual shift from haor-based fishery to cultured fish
• Scope for community-based fund sourcing and formalized financial loan packages
• Scope for group-based selling or through foria to access bigger markets
• Ready access to core resource, water, especially in haor areas.
Discussion on Strategies & Interventions
Value Chain Analysis: Fishery
## End Market Analysis

### Main Markets

<table>
<thead>
<tr>
<th></th>
<th>Local Retail</th>
<th>Local Market</th>
<th>Divisional Market</th>
<th>National Market</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market locations</strong></td>
<td>Small shops in locality</td>
<td>Hobiganj, Lamakazi, Pachaon, Chunarughat</td>
<td>Sylhet, Srimongol, etc</td>
<td>Dhaka, Bhairab, Jessore, Khulna</td>
</tr>
<tr>
<td><strong>Farmer</strong></td>
<td>Sources from homestead and local market whole sellers. Caters local households.</td>
<td>Sources mostly from commercial farmers</td>
<td>Sources mainly from the traders in local market (85%). Rest: Large scale farmers Caters mostly retail markets located in the town &amp; city.</td>
<td>Sources from large wholesalers &amp; arots located in fishery belt in haor areas</td>
</tr>
<tr>
<td><strong>Trader</strong></td>
<td>Sources from homestead and local market whole sellers. Caters local households.</td>
<td>Sources mostly from commercial farmers</td>
<td>Sources mainly from the traders in local market (85%). Rest: Large scale farmers Caters mostly retail markets located in the town &amp; city.</td>
<td>Sources from large wholesalers &amp; arots located in fishery belt in haor areas</td>
</tr>
</tbody>
</table>
End Market Analysis

Demand/Supply

- **Price determinant: Supply, Freshness, Form**
- Haor fish: Seasonal supply, major impact on overall market
- Carp has major changes in supply level, creating volatile pricing
- Tilapia has limited but growing demand over all
- Natural caught fish preferred over cultured due to better taste
- Presence of group-farming in Hail Haor and surrounding areas
- Region is supply deficient due to perception gap
- **Perception gap:** Fishermen think cultured fish will have no market due to haor fish. However, established fish farmers reveal they were experienced fishermen themselves before. However, the supply is too low for sufficient income despite higher price per unit.
Value Chain Function

**Input Suppliers**

**Types:**
- Local Suppliers and Suppliers in Mymensingh, Jessore

**Products:**
- Hatchery, Nursery, Fish feed and aqua chemicals

**Performance:**
- Provide inputs for fish farming
- Spawns for nursery-integrated farmers, fingerlings for rest
- Ready-feed (preferred for Tilapia) and Natural-feed mixes (for carp)
- Embedded services of usage information, problem identification and likely solutions
Value Chain Function

Producers

Types:
• Homestead, commercial (small), Commercial (large)

Products:
• Carp and tilapia and carp polyculture

Functions:
• Produces carp and tilapia fish for consumption
• Large farmers have nurseries integrated for greater value addition
• Pond preparation, feed management, pond and fish health monitoring and management
• Financial arrangements for year-long production cycles
• In haor sites, presence of group-based farming
Cost Benefit Analysis of Fish Farmer

<table>
<thead>
<tr>
<th>Attributes (/dcm)</th>
<th>Tilapia Farmer</th>
<th>White Fish Farmer</th>
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<tbody>
<tr>
<td></td>
<td>Small</td>
<td>Large</td>
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<tr>
<td>Total Cost</td>
<td>BDT 1145</td>
<td>BDT 2191</td>
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<tr>
<td>Production</td>
<td>20 Kg</td>
<td>32 Kg</td>
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<tr>
<td>Average Price</td>
<td>BDT 110</td>
<td></td>
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<tr>
<td>Revenue</td>
<td>BDT 1855</td>
<td>BDT 3179</td>
</tr>
<tr>
<td><strong>Net Profit</strong></td>
<td>BDT 710</td>
<td>BDT 988</td>
</tr>
</tbody>
</table>

- Average land size for White Fish (35dcm) farming is lower than Tilapia (42dcm) farming.
- Production cost for Tilapia is higher than White Fish even in extensive culture. This extra costing derives from the packet feed requirement for Tilapia in large volume.
- While selling products, farmers primary choices are Arotdar and Small retailer. Selling modality in Arot is hassle free and selling price is higher to small retailers.
Value Chain Function

**Market Intermediaries**

**Types:**
- Wholesalers, Retailers

**Products:**
- Carp, Tilapia, haor-caught fishes, small fish (mola, dhaela, tengra), other varieties

**Functions:**
- Two kinds of wholesaling: Commission-based selling (5%-7%) and buy for re-selling
- Link between local market and outside division (namely Bhairab)
- Finance Access: Work as lenders to fish farmers, few of whom have capital required for year-long carp fish harvest cycle
Value Chain Function

**Support Actors**

**Transporters:**
- Fish/spawn/fingerling transported in plastic drums for long distances
- 10%-15% mortality rate
- Low requirement for beneficiaries as supply is within locality

**Government**
- DoF has strong relations with beneficiaries, however lack of manpower creates challenges in disseminating Govt. services.
- DoF policies focusing on expanding aquaculture practices in Haor areas with focus on Tilapia, Pungas etc.
Constraints Analysis

- Tilapia culture requires higher investment
- Not interested in reaching larger markets
- Dadon (informal lender) controls business decisions
- Substandard infrastructure
- Substandard Packaging
- Year-long Carp Cycle
- Initial high investment
- Obligated sale to Dadon or no loans next year

Low understanding of commercial benefits:
- Tilapia farming (2-3 cycles/year) vs. Carp Farming (1 cycle/year)
- high transportation cost and product loss in penetrating bigger markets
- Poor access to custom-made aquaculture loan products
Constraints Analysis

Water too acidic for large scale culture
Using chun kills fish
Low Water retention
Water too deep in monsoon for Tilapia
Perception: Pond preparation too expensive
Low understanding of commercial benefits:
Tilapia farming (2-3 cycles/year) vs. Carp Farming (1 cycle/year)
High transportation cost and product loss in penetrating bigger markets
Poor access to custom-made aquaculture loan products
Lack of awareness and skills in proper application of 'Dolomite' to reduce acidity leads to poor growth, health hazards and productivity.
Absence of pond preparation and water channel build practices due to prevailing wrong perception of the value of the activity creates bottleneck to adopting improved aqua-farming practices in the area
Perception: Pond preparation too expensive
Cultured fish has low growth and high mortality

Low understanding of commercial benefits: Tilapia farming (2-3 cycles/year) vs. Carp Farming (1 cycle/year)

High transportation cost and product loss in penetrating bigger markets

Poor access to custom-made aquaculture loan products

Lack of awareness and skills in proper application of 'Dolomite' to reduce acidity leads to poor growth, health hazards and productivity.

Absence of pond preparation and water channel build practices for prevailing wrong perception of the value of the activity creates bottleneck to adopting improved aqua-farming practices in the area

Oxygen shortages hampers growth

Lack of knowledge regarding stocking density leads to overstocking, which creates oxygen shortage, feed wastage and higher disease rate

Ever declining haor catch leading to fetch lower revenue from sales in spite of the high value of the catch per unit

Constraints Analysis
Constraints Analysis

Low understanding of commercial benefits:
Tilapia farming (2-3 cycles/year) vs. Carp Farming (1 cycle/year)

High transportation cost and product loss in penetrating bigger markets

Poor access to custom-made aquaculture loan products

Lack of awareness and skills in proper application of 'Dolomite' to reduce acidity leads to poor growth, health hazards and productivity.

Absence of pond preparation and water channel build practices for prevailing wrong perception of the value of the activity creates bottleneck to adopting improved aqua-farming practices in the area

Ever declining haor catch leading to fetch lower revenue from sales inspite of the high value of the catch per unit

Lack of knowledge regarding stocking density leads to overstocking, which creates oxygen shortage, feed wastage and higher disease rate

Lack of Knowledge regarding proper feed management in Tilapia farming

Use of sinking feed over floating, due to price

Overstocking with wrong feed usage

Mortality from poisoning

Tilapia : High feed cost

Tilapia : Low Yield

Lack of knowledge regarding proper feed management in Tilapia farming

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Tilapia : Low Yield
Opportunities

- Supply deficient region indicates scope for scale up
- Strong input access and established output market
- Foria interested in increasing production for own benefit
- Local market preference due to ‘freshness’ and ‘taste’
- Scope for group-based farming with current examples
- Gradual shift from haor-based fishery to cultured fish
- Scope for community-based fund sourcing and formalized financial loan packages
- Scope for group-based selling or through foria to access bigger markets
- Ready access to core resource, water, especially in haor areas.
Discussion on Strategies & Interventions
Value Chain Analysis: Duck (Layer)
## Main Markets

<table>
<thead>
<tr>
<th>Market locations</th>
<th>Local Retail</th>
<th>Local Market</th>
<th>Divisional Market</th>
<th>National Market</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small shops in locality</td>
<td>Bazar: Juri, Komolganj, Chunarughat</td>
<td>Sylhet, Srimongol, etc</td>
<td>Dhaka, Chittagong, etc</td>
</tr>
<tr>
<td>Farmer</td>
<td><img src="image" alt="Green Circle" /></td>
<td><img src="image" alt="Green Circle" /></td>
<td><img src="image" alt="Green Circle" /></td>
<td><img src="image" alt="Green Circle" /></td>
</tr>
<tr>
<td>Trader</td>
<td><img src="image" alt="Green Circle" /></td>
<td><img src="image" alt="Green Circle" /></td>
<td><img src="image" alt="Green Circle" /></td>
<td><img src="image" alt="Green Circle" /></td>
</tr>
<tr>
<td>Characteristics</td>
<td>Sources from homestead duck farmers and local market whole sellers. Caters local households.</td>
<td>Sources mostly from commercial duck farmers (upto 750 ducks, getting 500 eggs a day) located in close proximity of the market</td>
<td>Sources mainly from the traders in local market (80%). Rest: Large scale duck farmers (1000+ ducks, getting 800 eggs a day) Caters mostly retail markets located in the town &amp; city.</td>
<td>Sources from large whole sell &amp; arots located in major duck rearing belts (MoulviBazar, Habiganj)</td>
</tr>
</tbody>
</table>
End Market Analysis

**Demand/Supply**

- Price is mostly determined by availability of egg. It varies slightly with the size.
- Consumption increases with increased supply. When supply is adequate, broiler egg is replaced by duck egg in meal more frequently.
- Maximum demand supply gap is noticed in rainy season. Throughout the region demand is higher than supply.
- In local bazaars 100% consumption is local in off season, while in peak season it’s around 60% – 65%. Rest of the egg goes to divisional large markets.
Value Chain Function

Types:
• Feed seller, Vaccine & Medicine Seller (Govt.& Private), DOC Seller

Functions:
• Selling packet feeds and open feeds (Khoil, Kura etc.)
• Selling medicines and vaccines
• Selling “Day Old Chicks” to duck farmers
• (Embedded) Providing information to the farmers on applying medicines and vaccines
Value Chain Function

Types:
- Duck Farmer Large/Commercial, Duck Farmer Homestead

Functions
- Rearing duck for egg production
- Selling products in markets

Performance:
- Production rate is low, particularly in rainy season
- Inappropriate feeding throughout the region
- Duck mortality rate is higher due to diseases
- Limited market channel, large farmers reaching upto Divisional market due to large production
- High demand resulting optimum consumption of local production
- Peak season production is high
Cost Benefit Analysis of Fish Farmer

<table>
<thead>
<tr>
<th></th>
<th>Small Farmer</th>
<th>Large Farmer</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of Ducks</td>
<td>30</td>
<td>136</td>
</tr>
<tr>
<td>Eggs Per Month</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>Cost (duck/month)</td>
<td>49</td>
<td>53</td>
</tr>
<tr>
<td>Revenue (duck/month)</td>
<td>137</td>
<td>155</td>
</tr>
<tr>
<td>Profit (duck/month)</td>
<td>88</td>
<td>102</td>
</tr>
<tr>
<td>Annual Income</td>
<td>3529</td>
<td>4080</td>
</tr>
</tbody>
</table>

- Commercial duck farmers mostly trade through Forias (53%) due to the fragmented nature of the market system. But price wise farmers get highest price selling their products directly to the small retailers (BDT 8.5 per piece).

- Among the beneficiaries, majority of the duck farmers are Homestead. The commercial duck farmer covers mere 2% - 3% of the beneficiaries. Homestead duck farmers prefer selling their products to small retailers due to small volume.
Value Chain Function

Market Intermediaries

Types:

• Faria (Small paiker), Whole seller (Local & Regional)

Products:

Functions

• (Faria) Collecting products from commercial farmers and from remote areas.
• Sells to the whole sellers located in the local markets.
• Bears the transport cost
• (Whole seller) Collects products both from Farias and large commercial farmers.
• Sellers bear the transport cost
• Mostly sells products locally, only a small percentage (5% - 10%) goes to national market in peak season.
Value Chain Function

Transportation

• Transport service provider
• Providing carrying and transport facilities to the traders and farmers

Government Support

• Govt. services provide better quality inputs. Duck farmers get service from Livestock department when they visit there.
• Medicines / Vaccines from Govt. sources are sometimes low on supply
<table>
<thead>
<tr>
<th>Constraints Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>High mortality rate of DoC &amp; ducklings from diseases</td>
</tr>
<tr>
<td>Monsoon: Lower output Smaller size of eggs</td>
</tr>
<tr>
<td>Mixed productivity</td>
</tr>
<tr>
<td>Majority of consumption in local market</td>
</tr>
<tr>
<td>Limited market reach</td>
</tr>
<tr>
<td>Competitive advantage of larger duck rearing belts</td>
</tr>
</tbody>
</table>

Constraints Analysis
Opportunities

- Trend of consumption and duck rearing is increasing
- High local demand
- Availability of Vet support from Govt.
- Ducks rented out to others for caring during off-season
- Haor area is ideal for duck rearing (without damaging the natural balance)
- Duckling Hatching in Off-season as supplementary income
- Women traditionally involved in duck rearing
Discussion on Strategies & Interventions
Value Chain Analysis: Eco-tourism
Eco-tourism Methodology

- **Site classification**
  - Prioritization according to possible impact in time frame

- **Site-wise Constraints**
  - Analyze bottlenecks and impact on beneficiary

- **Site-wise Opportunity**
  - Identify untapped resources and needs of tourists

- **Overall Strategy**
  - Recommendations on addressing constraints and exploiting opportunities
Eco-Tourism Analysis

**Cluster A**
Interventions are likely to have best outcome. Well established tourism network present.

- **Lawachara National Park**
- **Satchori National Park**

**Constraints**
- Weak management
- Lack effective manpower
- Ineffective law & enforcement system
- Ineffective promotional activities
- Overwhelming number of tourists, specially in peak season

**Opportunities**
- Developed road network and accommodation facilities enhancing tourism activities
- Active management system
- Comparatively well highlighted in national scale tourism

**Cluster B**
Expected moderate result from interventions. Lower number of tourist and insufficient facilities decreases probability of measureable impact

- **Khadim Nagar National Park**
- **Hakaluki Haor**

**Constraints**
- Nearly no management
- Lack effective manpower
- Very low promotion
- Lack of infrastructure
- No distinct forest boundaries
- Very low to moderate tourist traffic
- Absence of major private sector investment

**Opportunities**
- Rich in biodiversity
- Potential to attract wide variety of tourists
- Situated within city range, making accommodation and other supporting facilities available
- Well known in domestic tourism
Eco-Tourism Analysis

**Cluster C**
Interventions are suggested to work in foundation level.
Lack of infrastructure & absence of tourist makes ecotourism mass development harder.
Focus on preserving eco-balance & engaging in promotional campaign may bring visible impacts.

**Constraints**
- Very poor road network, making forest inaccessible in rainy season
- Niche Tourist Commercial tourist is none to low
- Ineffective management system
- Nearly no physical establishment for supporting tourism activities
- No private sector investment

**Opportunities**
- Presence of efficient co-management committee & village groups
- Very rich in biodiversity, potential to attract wide variety of tourists

**Rema-Kalenga Reserved Forest & Wildlife Sanctuary**
- Hail Haor
Eco-Tourism Service Actors

Tour Operators

- Niche Tourists
- Local Tourists

Eco-Resorts
- Service Providers at the Resorts

Eco Tourism
- Input Providers
- Cultural Groups
- Service Providers for Eco Tourism

Forest Department

Tour Guides
Community Engagement Possibilities

- Tour Operators
  - Niche Tourists
  - Local Tourists
  - Eco-Resorts
    - Service Providers at the Resorts
    - Input Providers
    - Cultural Groups
  - Eco Tourism
    - Service Providers for Eco Tourism
    - Tour Guides
    - Forest Department
Market Opportunities

- Private sector engagement possibilities
- Facilities development
- Financing opportunities
- Promotional activities
Recommended Strategy

- Increasing Management Efficiency
- System upgrade
- Capacity development of Service Providers
Tentative Outreach Through The Selected Value Chains
Outreach

- Vegetable
  - 48% = 5,520 HHs

- Fishery
  - 16% = 1,840 HHs

- Resource Extractor
  - 20% = 2,300 HHs

Duck (Layer)
- 8% = 920 HHs
Potential Trades for the Resource Extractors
Resource Extractor Profile

• Most extracted item by the resource extractor is firewood. Average extraction rate for commercial use (35 Kg/day) is more than 4 times that of extracted for household use (8 Kg/month).

• But larger income is earned by fish extraction. It’s nearly 3 Kgs a day totaling an average value of BDT 10750 per month, for commercial purpose.

• Among other extracted resources are Grass, herb, vegetables

• In general resource extractors were found having most experience in agricultural works (sowing, farming, harvesting etc.). Average level of experience was seen in fish cultivation.
Potential Trades

Potential Trades

• Put labor in agriculture, fish farming
• Taking care of Cow / Duck in rainy season when there’s scarcity of food
• Involving in handicraft / souvenir making
• Boat or net making (repairing)
• Rickshaw / van pulling

Rationale for trade selection

• Resource extractors have experience in working as labor in agriculture / fish farming
• Cow / Duck renting is an existing IGA in the region
• Indigenous community have skill in handicraft
• Extractors in Haor areas have skills in making / repairing of boats & net
• Developing Access to Finance situation can help extractors acquiring rickshaw / van by loan
Potential Trades (cont..)

Selected Beneficiaries
- Extractors aging from 18 – 40
- Women family members

Project intervention opportunity
- Provide training on cow/duck rearing, improved harvesting techniques etc.
- Linkage development for handicraft/souvenir marketing with CMC/private sectors working in Tourist areas
- Develop financing facilities to provide easy load

Prediction of potential outreach through selected trades
- Large number of engagement in fish farming related trade in Haor areas
- Agriculture / Handicraft trade can reach large number in Forest areas
- Training programs will cover both beneficiaries and extractors specially who are landless
Thank You!