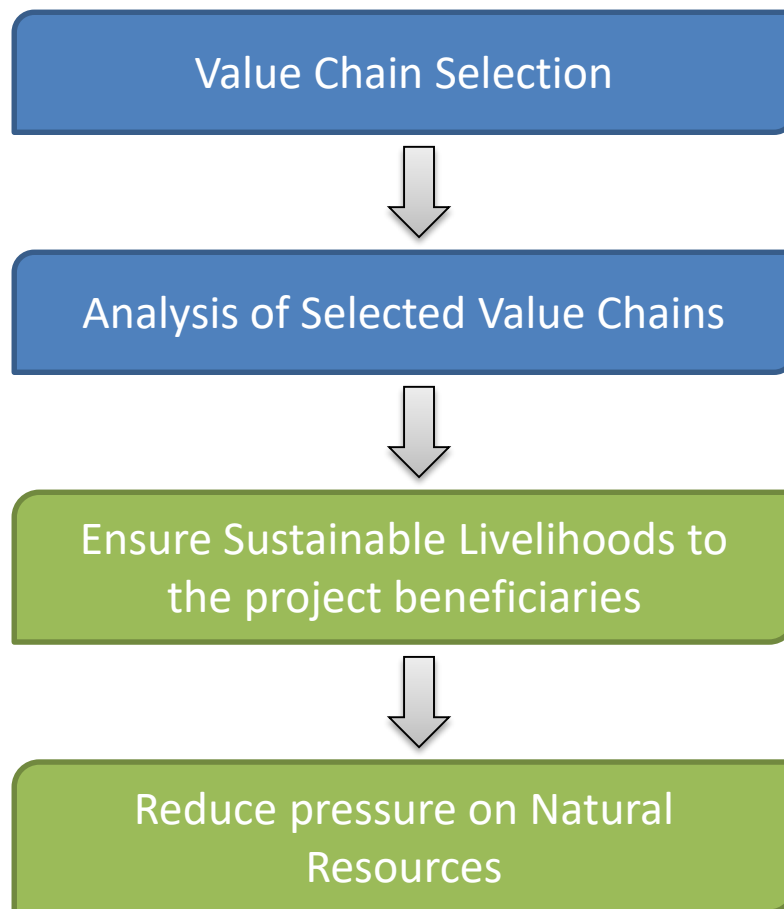


Study to Select Value Chain and Analyze Selected Value Chain

Presentation on Value Chain Analysis



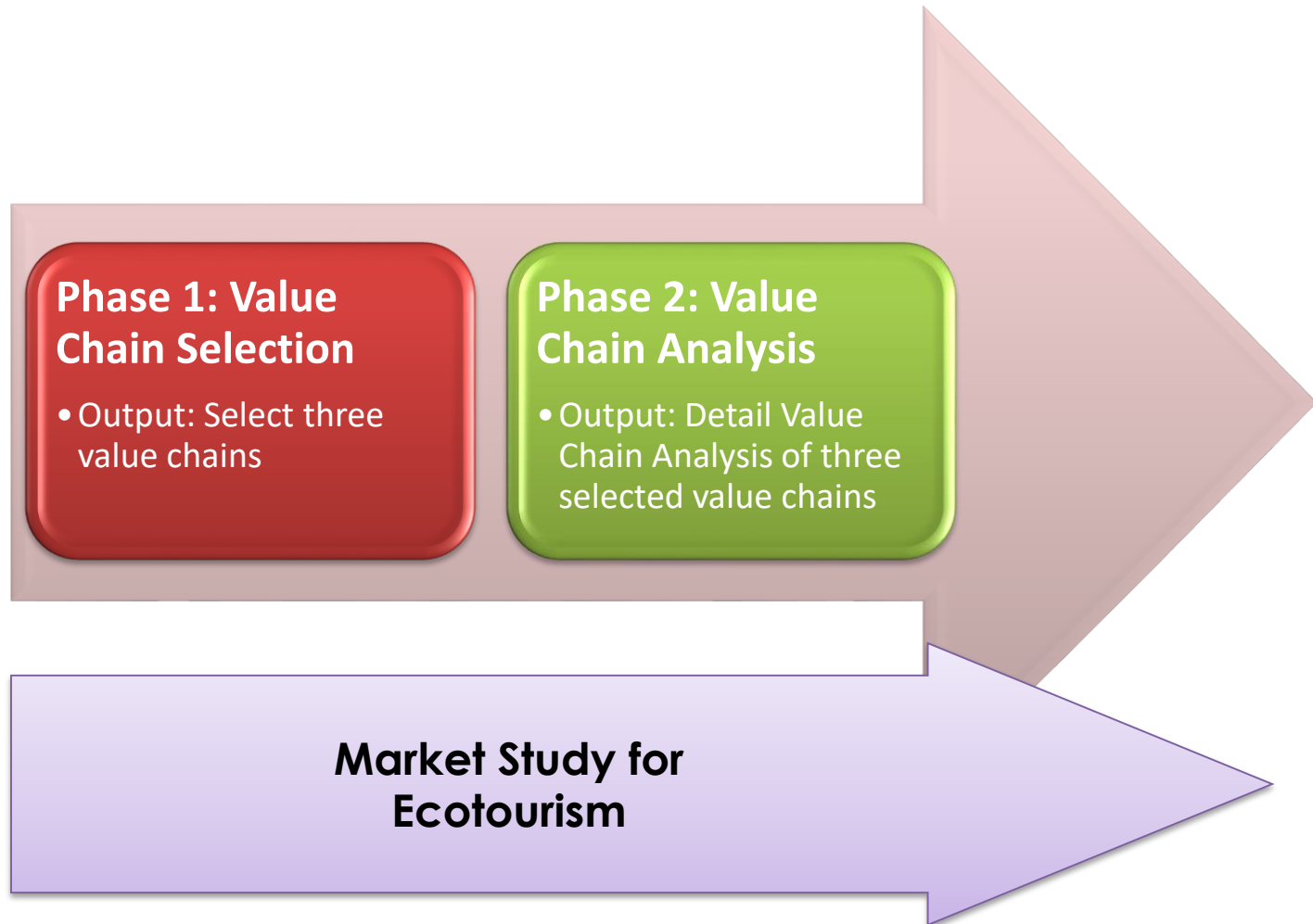
Study Objectives



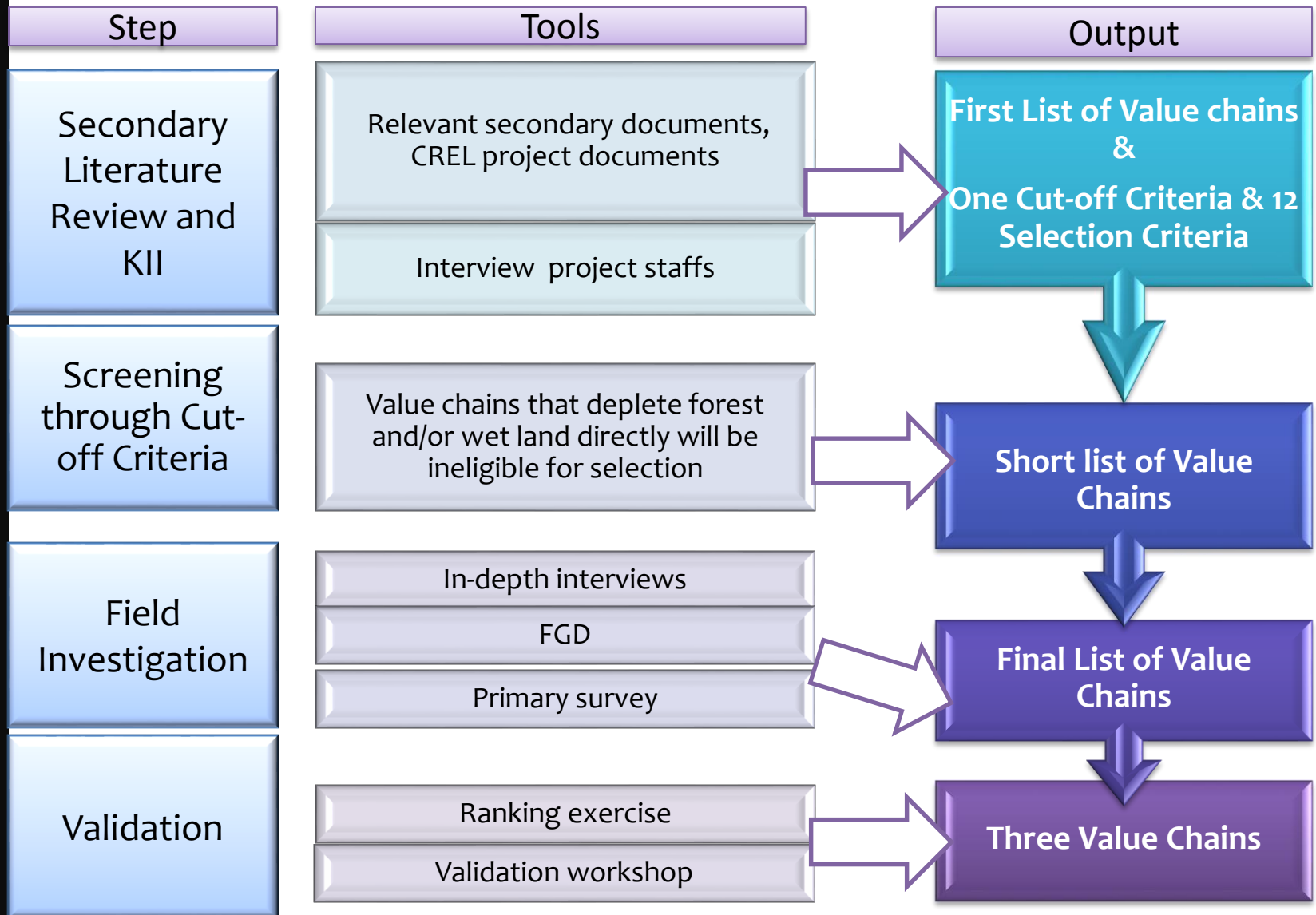


Specific Objectives

- The study was conducted in two phases:



Process of Value Chain Selection



Value Chain Selection Criteria

Criteria	Weight	Criteria	Weight
Climate Tolerance (Low tolerance=1, High tolerance=5)	3	<i>Income</i> (Low income increase=1 High income increase=5)	5
Climate Resiliency (Low resilience=1, High resilience=5)	3	<i>Private sectors participation</i> (Low interest=1, High interest=5)	3
Resource Extraction Minimization (Not minimized=1, Highly minimized=5)	5	Development priorities and favorable policy of government (Low priority & favorability=1 High priority & favorability=5)	3
Women and Youth Inclusion (Low inclusion=1, High inclusion=5)	5	Synergy and potential collaboration (Low synergy=1, High synergy=5)	3
Outreach (Low outreach=1, High outreach=5)	2	Risk (High risk=1, Low risk=5)	4
Growth potential (Low growth=1, High growth=5)	5	Scope for value addition (Low scope=1, High scope=5)	3

Tools for Data Collection & Respondents in Phase 1

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

In-depth Interview

- 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

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

FGD

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

CREL Livelihood Facilitators conduct the survey

Primary Survey

- Beneficiary Profiling (VCF Members)

Ranking Exercise for Southwest Zone

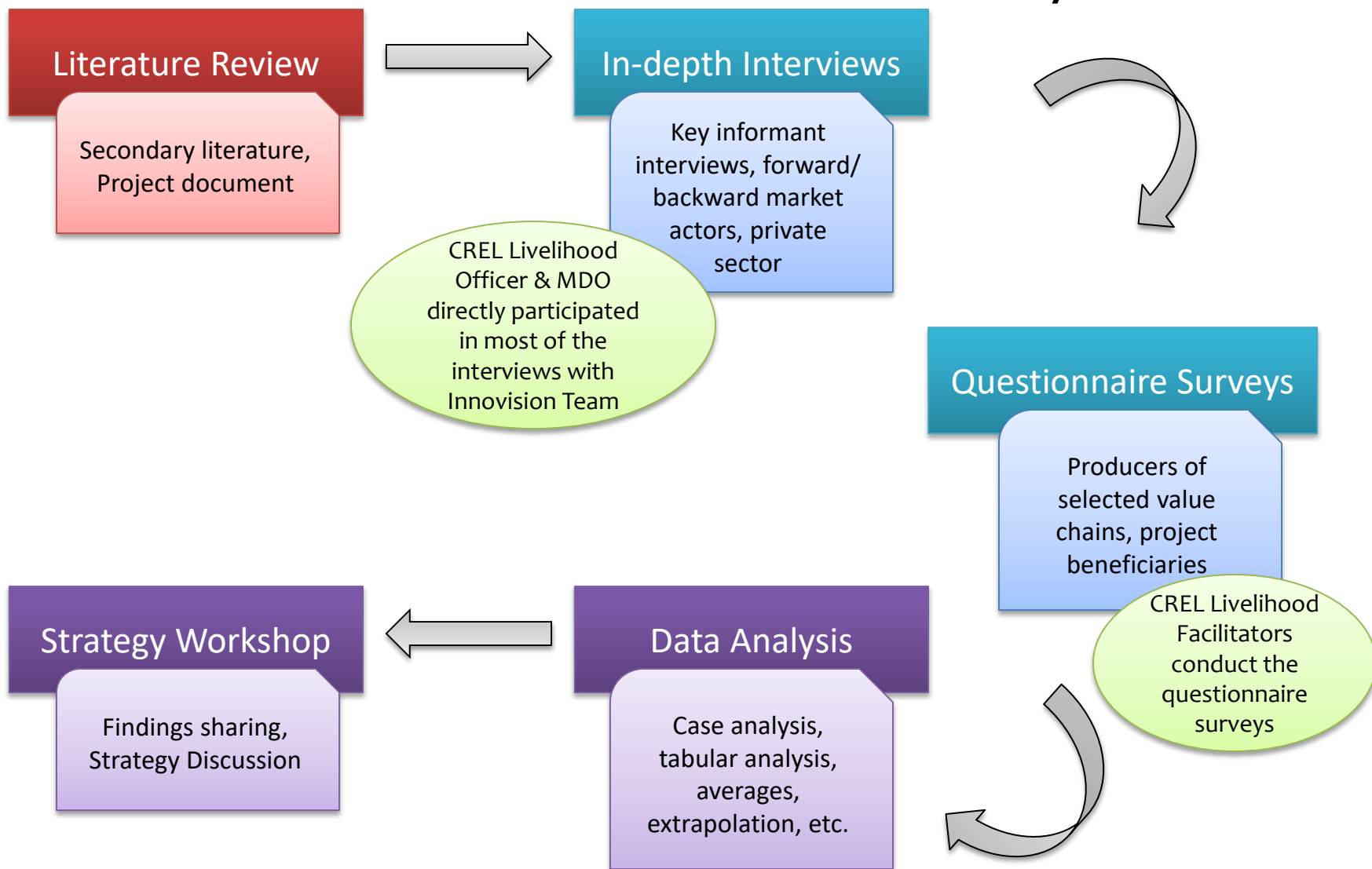
Criteria	Weight	Tilapia		Prawn		Shrimp		Apiculture		Poultry		Vegetable		Sunflower	
		Score	WS	Score	WS	Score	WS	Score	WS	Score	WS	Score	WS	Score	WS
Climate Tolerance	3	4	12	3	9	2	6	3	9	1	3	2	6	5	15
Climate Resiliency	3	2	6	2	6	1	3	1	3	2	6	2	6	2	6
Resource Extraction Minimization	5	5	25	1	5	2	10	5	25	5	25	5	25	5	25
Women and Youth Inclusion	5	2	10	3	15	2	10	3	15	5	25	3	15	3	15
Outreach	2	4	8	1	2	1	2	4	8	3	6	2	4	2	4
Growth Potential	5	4	20	3	15	3	15	3	15	3	15	4	20	3	15
Potential for Income Increase	5	4	20	4	20	4	20	2	10	2	10	5	25	3	15
Private Sector Participation	3	3	9	2	6	2	6	3	9	2	6	2	6	4	12
Development Priority and Favorable Policy	3	3	9	4	12	2	6	3	9	3	9	2	6	2	6
Synergy and Potential Collaboration	3	5	15	4	12	4	12	4	12	5	15	4	12	4	12
Low Risk	4	3	12	2	8	1	4	4	16	2	8	4	16	3	12
Scope for Value Addition	3	3	9	2	6	2	6	3	9	4	12	3	9	2	6
Total Weighted Score		155		116		100		140		140		150		143	

Rank 1

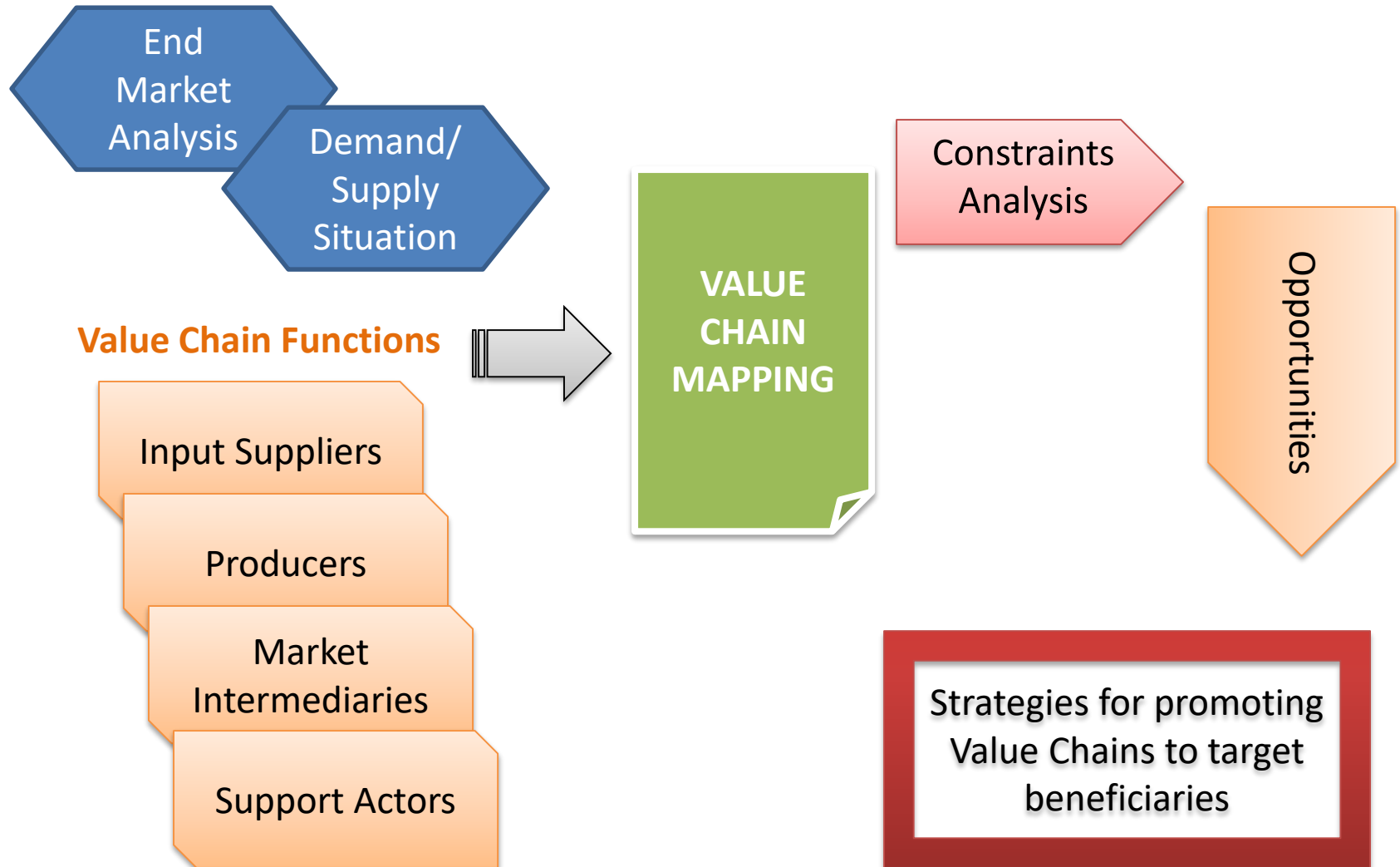
Rank 2

Rank 3

Process of Value Chain Analysis



Outcome of Value Chain Analysis



Southwest Zone

Outline

- Objective
- Geographic Scope
- Tools for data collection
- People we have interviewed
- Beneficiary mapping
- Value Chain Analysis: Vegetables, Tilapia & White Fish, Sunflower
- Analysis of Eco-tourism
- Potential Trades
- Tentative Outreach through the value chains

Objective

- Conducted as a follow up to a rigorous value selection exercise through which the following value chains were selected, and in-depth assessment carried out:
 - Vegetables
 - Tilapia & white fish
 - Sunflower
- Analysis of Eco-tourism
- Identification of Potential Trades
- Determination of tentative outreach through the value chains

Geographic Scope

Zone	District	Upazila	Site
Southwest	Bagerhat	Sarankhola, Mongla, Morrelganj and Rampal	Sundarbans (West)
	Khulna	Dacope and Koyra	Sundarban ECA
	Satkhira	Shyamnagar	Sundarban (East)

Tools for Data Collection & Respondents

In-depth Interview

- CMC Members
- Forward Market Actors: Collectors (Faria), Traders (Bepari), Wholesalers (Arotdar)
- Backward Market Actors: Input sellers (Seed Seller, Fertilizer seller, Medicine seller etc.)
- Private Companies: Fish Feed, Tour Operators
- NGOs Staff
- CREL Regional staff

Questionnaire Survey

- Producers of the selected value chains

KII

- Government officials (Department of Agriculture, Department of Fishery, Jubo Unnayan...)

People We have Interviewed

Backward Linkage

- Vegetable
 - 4 seed, fertilizer & chemical retailers
- Fishery
 - 4 Feed & Chemical retailers
 - 4 Fry Traders
- Eco-tourism
 - 2 Tour Operator
 - 1 Resort owners

Producers

- Vegetable
 - 11 Vegetable producers
- Fishery
 - 18 Fish farmers
- Sunflowers
 - 9 Sunflowers producers
- Eco-tourism
 - 3 Tour guides

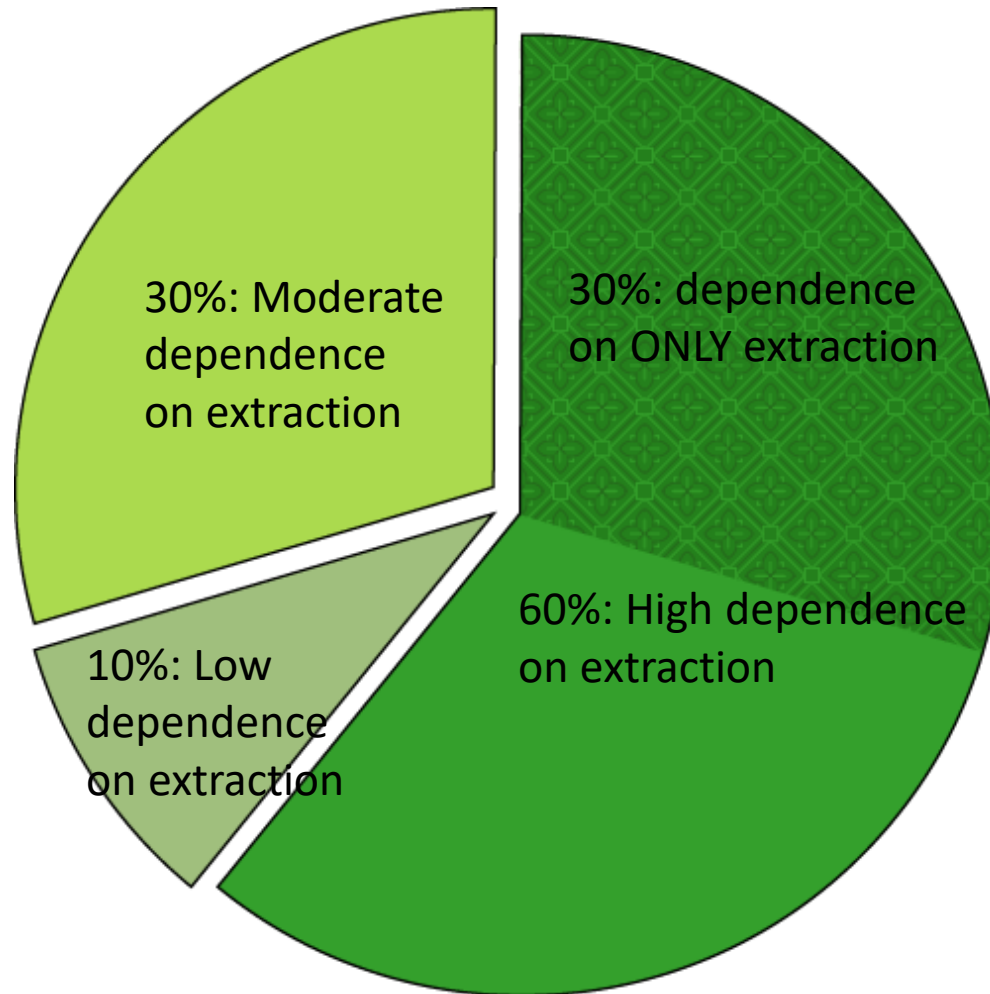
Forward Linkage

- Vegetable
 - 2 Retailers
- Fishery
 - 2 Paikars
 - 6 Arotdars
- Sunflower
 - 4 Paikars
 - 1 Company

Support Function:

UN Agriculture officer (3), UN Fishery officer (3),
NGOs: BRAC, World Vision, IDE.

Beneficiary mapping





Value Chain Analysis: Vegetables

Rationale for Value Chain Selection – Vegetable

Business stability

Year-round cultivation opportunity

Profitability

Higher profit than conventional crops

Beneficiary Suitability

60% of total target group -
Homestead land and/or dykes

Commercial viability

28% has on
avg **20 decimals**

Area Suitability

Cultivable on dykes of ghers and ponds, sellable as fresh vegetables. Barren and leasable lands available.

End Market Analysis

	Sharonkhola	Dacope/Koyra	Chandpai	Munshiganj
Main Market	Rayenda Bazar	Local haats, Tala Bazar	Local haats, Mongla Bazar	Munshiganj Bazar
Buyers	Households, passing ships (20-25), local haats	Households	Households	Households
Market Opportunity	High unmet local demand	Unmet local demand; Linkage to Tala, Paikgacha, Bagerhat Bazars	Linkage to Mongla (hub for Tour Vessels)	Unmet local demand

Demand/ Supply Situation

- Price determinant: Supply, freshness .
- In Sharonkhola, large demand from the ships buying from Rayenda Bazar. 70% of demand is met by importing from Khulna.
- In other areas, homestead produces very few types of vegetables, which is mostly self-consumed. Other high demand produces, like chilli, onions are imported from Khulna, Paikgacha, etc.
- Perception gap: General misconception that high salinity prevents vegetable cultivation, thus producers are unwilling to cultivate vegetables.

Value Chain Function

Input Suppliers

Types:

- Local Suppliers at main bazars
- Small retailers in localities
- Mobile seed vendors and seedling sellers sit at main and local bazars

Products:

- Loose seeds, unbranded packet seeds, hybrid seeds, seedlings, fertilizers, pesticides

Performance:

- Provide inputs for rice and vegetable farming
- Provide basic information about using inputs, but not advice on cultivation techniques
- Input suppliers have no direct linkage to input companies

Value Chain Function

Farmers

Types:

- Homestead, commercial (small)

Products:

- Different varieties of vegetables (shown in next slide)
- Small producers sell approximately 10% of their produce (after own consumption) at the local haats and bazars.
- Large vegetable farmers are able to sell 80% of their produce either directly at the bazar or through farias.

Functions:

- In Sharonkhola and Koyra, vegetable is grown in homestead and commercially (land size 20+ dec).
- Financial credit systems for crop-based farming is non-existent.
- In Sharonkhola, group-based farming is practiced.
- General perception in Chandpai, Munshigonj is that vegetable cultivation is not possible in saline areas.

Types of vegetables

	Demand	Space needed	Profitability
Potato	Local & national	Moderate	44%
Brinjal	Local & national	Very small	165%
Gourds (snake, bitter, sweet...)	Local & national	Very small	67%
Spinach	Local & national	Moderate	400%
Pumpkin	Local & national	Very small	245%
Okra	Local & national	Very small	100%
Tomato	Local & national	Very small	368%
Dried Chilli	Local & national	Very small	281%



Value Chain Function

Market intermediaries

Types:

- Faria (Collectors), Arotdar (Wholesalers), Retailers

Products:

- Different varieties of vegetables

Functions:

- Wholesalers sell to retailers, who sell in small local bazars.
- Arotdars at the larger bazars have direct linkage with the local producers to source from them.
- Link between local markets and outside division (Khulna, Paikgacha, Bagerhat, etc.)

Value Chain Function

Support function/actors

- **Transporters:** Transportation services are of low quality due to Infrastructure and communication conditions.
- **Government:** Government is interested and working in a limited scale to promote vegetable cultivation in saline soil, e.g. in Koyra Chandpai, Munshiganj.
- **Technical Information Services:** Private or Public extension service is almost non-existent in these regions.
- **Financing Service :** There is no crop-based micro-finance product available to the producers.

Producers cost-profit analysis

Particulars/dec	Amount
Total Cost	BDT 353
Total Production	76 Kg
Average Price/Kg	BDT 17
Revenue	BDT 1292
Net Profit	BDT 939

Total cost includes land preparation, seed, fertilizer, pesticide, labor, transportation etc.



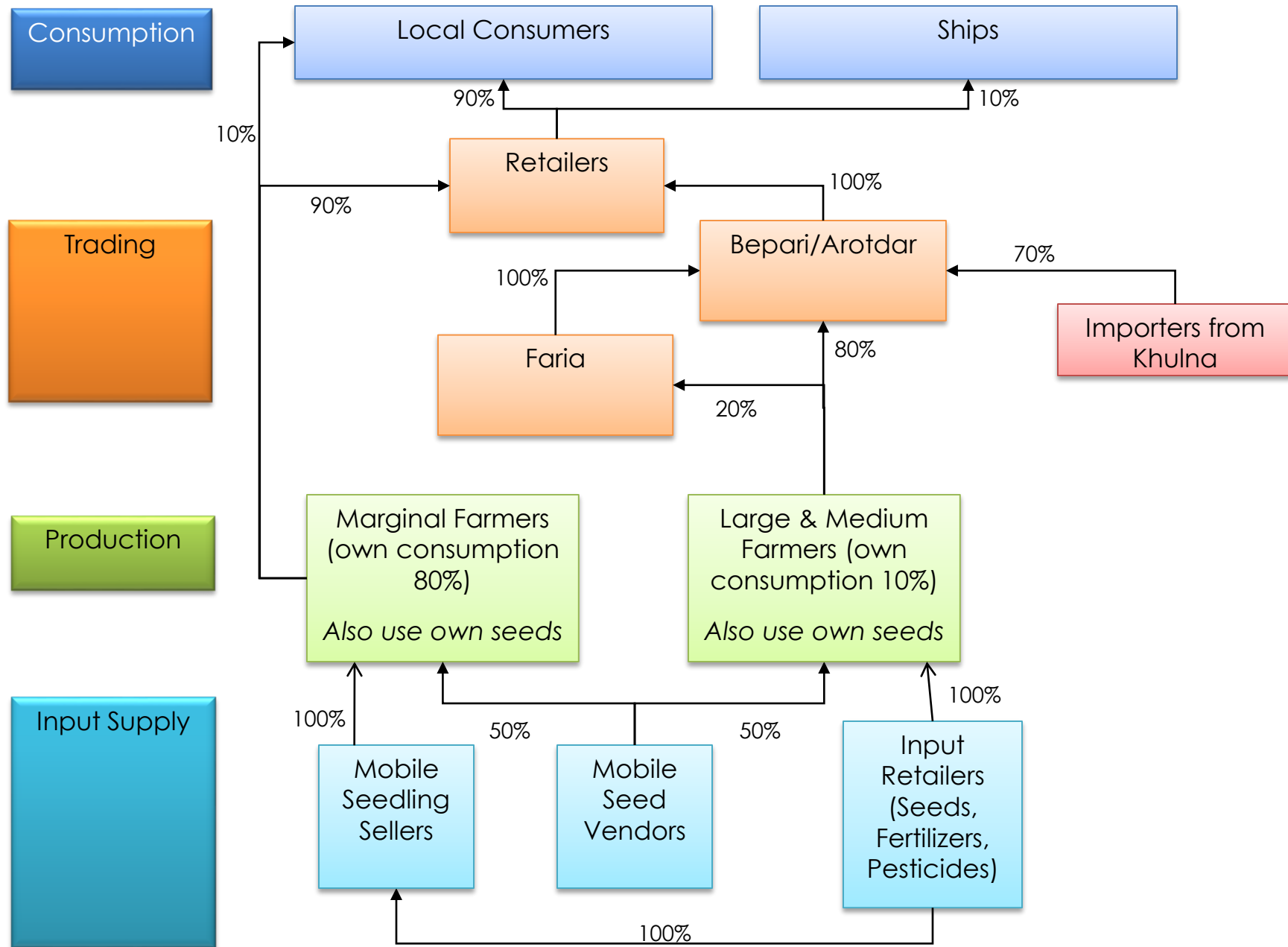
Cost-profit analysis of dyke vegetable production*

**Based on the assessment report of CAARP-2*

Particulars/dec	Amount
Total Cost	BDT 1022
Total Production	334 Kg
Total Sales	250 Kg
Average Price/Kg	BDT 17
Revenue	BDT 4250
Net Profit	BDT 3228

Total cost includes land preparation, seed, fertilizer, pesticide, labor, transportation etc.

Value Chain Mapping



Limited access to finance

Inadequate promotion of tailored schemes for saline soil treatment

Non-existence of public and private sector extension services

Small input retailers (not providing TA)

Lack of information

Farmers using non-brand seeds

Farmers not using inputs properly

Low yield

Low volume of production

Lack of bulk production

Lack of knowledge regarding viability of vegetable cultivation

Low motivation to cultivate more vegetables

Poor infrastructure and communications

Lack of traders sourcing from these regions

Traders failing to get good quality and quantity of vegetables

Constraints Analysis

Opportunities

- There is a growing demand for vegetables; scarcity of supply.
- At least 60% of beneficiaries have cultivable land.
- Vegetable farmers tend to sell at least 70% of their produce.
- Productivity of vegetables can be increased by using proper cultivation techniques.
- Cluster/ group cultivation can contribute to bulk production.
- Land is available for leasing.
- Input suppliers are already present, they can be trained to provide information to the farmers about treating saline soil and better cultivation techniques.
- Fish traders are working in these areas, so with increased supply of vegetables, the opportunity for vegetable traders will increase.
- Potential for women to be involved in homestead production of vegetables.

Discussion on Strategies



Value Chain Analysis: Tilapia & White Fish

Rationale for Value Chain Selection – Tilapia & White fish

Business stability

High demand.

Suitable for rainy seasons (Jun-Nov).

Profitability

Low risk. High profit.

Beneficiary Suitability

60%- Homestead pond

Outreach

50% has pond size of
at least **5 decimals**

Area Suitability

Tilapia is Saline tolerant.

17% beneficiaries have experience.

End Market Analysis

	Sharonkhola	Dacope/Koyra	Chandpai	Munshiganj
Main Market	Rayenda, Tafalbari, Sharonkhola Bazars	Local bazars, Tala, Koyra Bazars	Local bazars, Mongla Bazar	Kalbari, Shonarmore, Nowabeki, etc.
Buyers	Arots, households, passing ships, local bazars	Arots, households	Arots, households	Arots
Market Opportunity	High unmet local demand	Potential to export more to Tala, Khulna, etc.	High unmet demand from Khulna, Dhaka; hub for Tour Vessels	High unmet local demand; demand from Khulna, Dhaka

End Market Analysis

Demand/Supply

Demand Characteristics

- Local demand is unmet in many areas. National demand for Tilapia is on a rising trend.
- Price determinant: Supply, Freshness, Size.
- Carp has major changes in supply level, creating volatile pricing
- Tilapia has limited but growing demand over all
- Most fish cultivation is done in ghers
- Region is supply deficient due to perception gap
- Perception gap: Fishermen do not think that culturing fish can be profitable in smaller ponds. High salinity deters producers from practicing Tilapia and white fish cultivation.

Value Chain Function

Input Suppliers

Types:

- Small farmers largely depend on 'patilwala' for fry/fingerlings of Tilapia
- Medium and large farmers buy fry/fingerlings from nurseries or hatcheries
- Feed company and aqua chemical dealers in local bazars

Products:

- Fry, fingerlings, fish feed and aqua chemicals

Performance:

- Provide inputs for fish farming.
- Around 60% farmers are dissatisfied with the quality of Monosex Tilapia fry. 10-15% mortality rate.
- Input sellers provide embedded services of usage information, problem identification and likely solutions, but not providing information about cultivation techniques.
- Feed companies provide credit to producers based on relationships.

Value Chain Function

Farmers

Types:

- Homestead, homestead (small), commercial (large)

Products:

- Polyculture of Tilapia and white fish in ponds and ghera
- 5-7% farmers are involved in Monosex tilapia culture in 4-6 months cycles.

Functions:

- Produces Tilapia and white fish for own consumption and sales
- Pond preparation, feed management, pond and fish health monitoring and management are not carried out by most farmers
- Large farmers get cycle-based loans from BKB

Value Chain Function

Market intermediaries

Types:

- Faria (Collectors), Arotdars (Wholesalers), Paiker (Retailers)

Products:

- Rui, Tilapia, river-caught fish, other varieties

Functions:

- Two kinds of wholesaling: Commission-based selling (3%-5%) and buy for re-selling
- Link between local market and outside division (Jessore, Khulna, Dhaka)
- Finance Access: Work as lenders to fish farmers, based on personal relationships
- Provide funds to farias to collect fish from farmers

Value Chain Function

Support function/actors

- **Transporters:** Fish/fry/fingerling transported in plastic drums or on motorcycles for long distances. Roads are not good.
- Trawlers from Dacope provide transport services to carry the fish to arots in Khulna.
- **Government:** Local fisheries departments have interest and has promoted Monosex Tilapia polyculture around these regions in limited scales.
- **Technical Information Service:** Public or Private extension services are not available.
- **Finance service:** Smaller farmers are not able to avail product-based microfinance services.
- **Feasibility:** There are some pocket ghers available for lease in Dacope, Sharankhola and Chandpai, which are suitable for commercial Tilapia culture, if beneficiaries can be formed into small farming groups .

Cost-Benefit of Traditional Fish Culture

Particulars/dec	Amount
Total Cost	BDT 150
Total Production	5 Kg
Average Price/Kg	BDT 125
Revenue	BDT 625
Net Profit	BDT 475

Total cost includes Land preparation, feed, fingerling, labor, transportation etc.

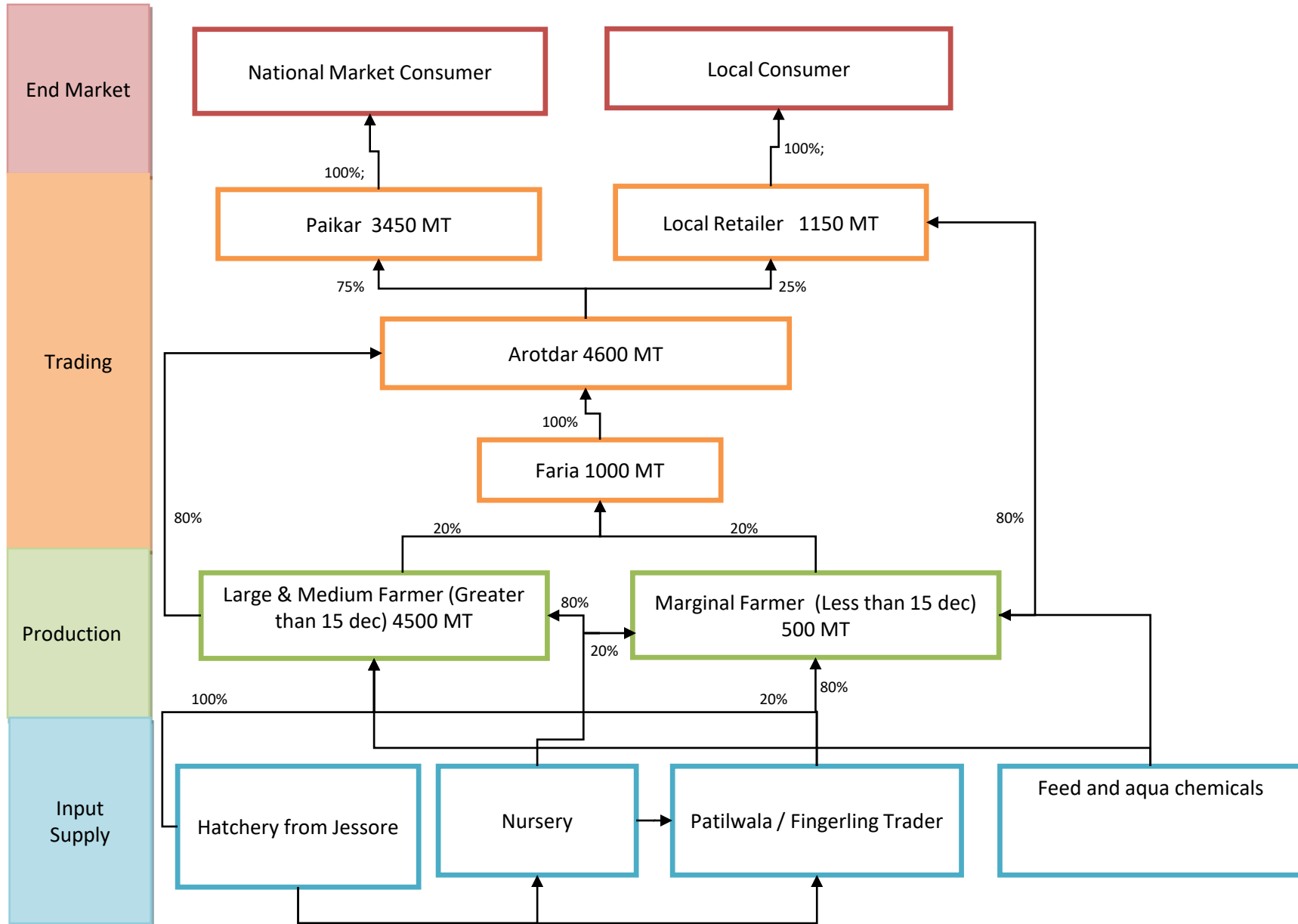


Potential for income increase

Projected CBA of Fish Culture per Cycle (4 month)		
Particulars	Amount	Total
Pond Area (dec)	5	
Fingerling (pc)	120*5	600
Production Cost (BDT)		6000
Production (20% mortality)	500*200 gm	100 kg
Revenue (BDT)	100*120 BDT	12000
Net Profit (BDT)	6000	

Note: they will stock 80% Tilapia and 20% other carps.

Value chain mapping



Limited access to finance

Farmers not using inputs properly

Non-existence of public and private sector extension services

Lack of information

Quality of fry/fingerlings is not consistent

Farmers using poor quality inputs

Low yield

Low volume of production

Lack of knowledge regarding viability of tilapia cultivation

Low motivation to cultivate fish using proper techniques

Low prices for their produce

Poor infrastructure and communications

Low profitability

Constraints Analysis

Opportunities

- Trend of growing demand in both local and national markets.
- Tilapia is saline resistant, so risk is low.
- The production cycle is 3-4 months, so can be limited to the rainy seasons.
- High profitability from Tilapia culture. Profitability can be increased by 150%.
- 50% beneficiaries have homestead pond that can be utilized to culture fish commercially.
- Beneficiaries who do not have pond can work as fry trader or local feed supplier to the remote areas.
- Input suppliers can also be trained to provide knowledge and information to the farmers.
- In homestead cultivation, involvement of women can be encouraged.

Discussion on Strategies



Value Chain Analysis: Sunflower

Rationale for Value Chain Selection – Vegetable

Business stability

Saline tolerant. Can be grown in both Robi and Kharif seasons.

Profitability: **100%**

Low production cost, high revenue.

Beneficiary Suitability

28% has on avg **20 decimals** land

Commercial viability

Possible to carry out bulk production through cluster/ group formation

Area Suitability

Barren and leasable lands available.

End Market Analysis

	Sharonkhola	Dacope/Koyra	Munshiganj
End market	BRAC setting up oil refinery. Oil mills in Barisal, Thakurgaon, Pabna.	Non-existent	Own consumption
Buyers	Collectors	Non-existent	Non-existent
Competitors	North Bengal has producers and processing mills for refining sunflower oil.		

End Market Analysis

Demand/Supply

Demand Characteristics

- Price determinant: Supply, Traders
- Sunflower has growing demand nationally, as substitute for soyabean oil
- Companies are looking into producing sunflower oil, but level of refinery is not as high as import products
- There is a potential demand for the export market to the Middle East, Russia, etc.
- Presence of group-farming in Sharonkhola
- The region is not known for Sunflower production, thus backward and forward market linkages are not well established

Value Chain Function

Input Suppliers

Types:

- BRAC's hybrid seeds through BRAC centers/field workers
- BADC seeds

Products:

- Seeds, fertilizers, pesticides

Performance:

- Provide inputs for sunflower cultivation
- Embedded services about sunflower cultivation is provided by BRAC
- Input retailers are not knowledgeable about Sunflower cultivation

Value Chain Function

Farmers

Types:

- Commercial (small), commercial (large)

Products:

- Sunflower seeds

Functions:

- Farmers in Sharonkhola have produced sunflower seeds for BRAC
- Farmers in Dacope, Munshiganj produce sunflower for consumption as sunflower oil
- Presence of group-farming in Sharonkhola
- Financial arrangements are not available for sunflower production
- Post harvest processing of sorting and drying is carried out before selling

Value Chain Function

Market intermediaries

Types:

- Collectors, Oil Mills, Companies, Exporters in Sharonkhola
- Dacope, Koyra and Munshiganj do not have traders or buyers for sunflower seeds, since there is no bulk production

Products:

- Sunflower seeds

Functions:

- Collectors have linkage directly to oil mills
- BRAC collected directly from farmers for their own oil production company
- Companies and Exporters are buying from the collectors

Value Chain Function

Support function/actors

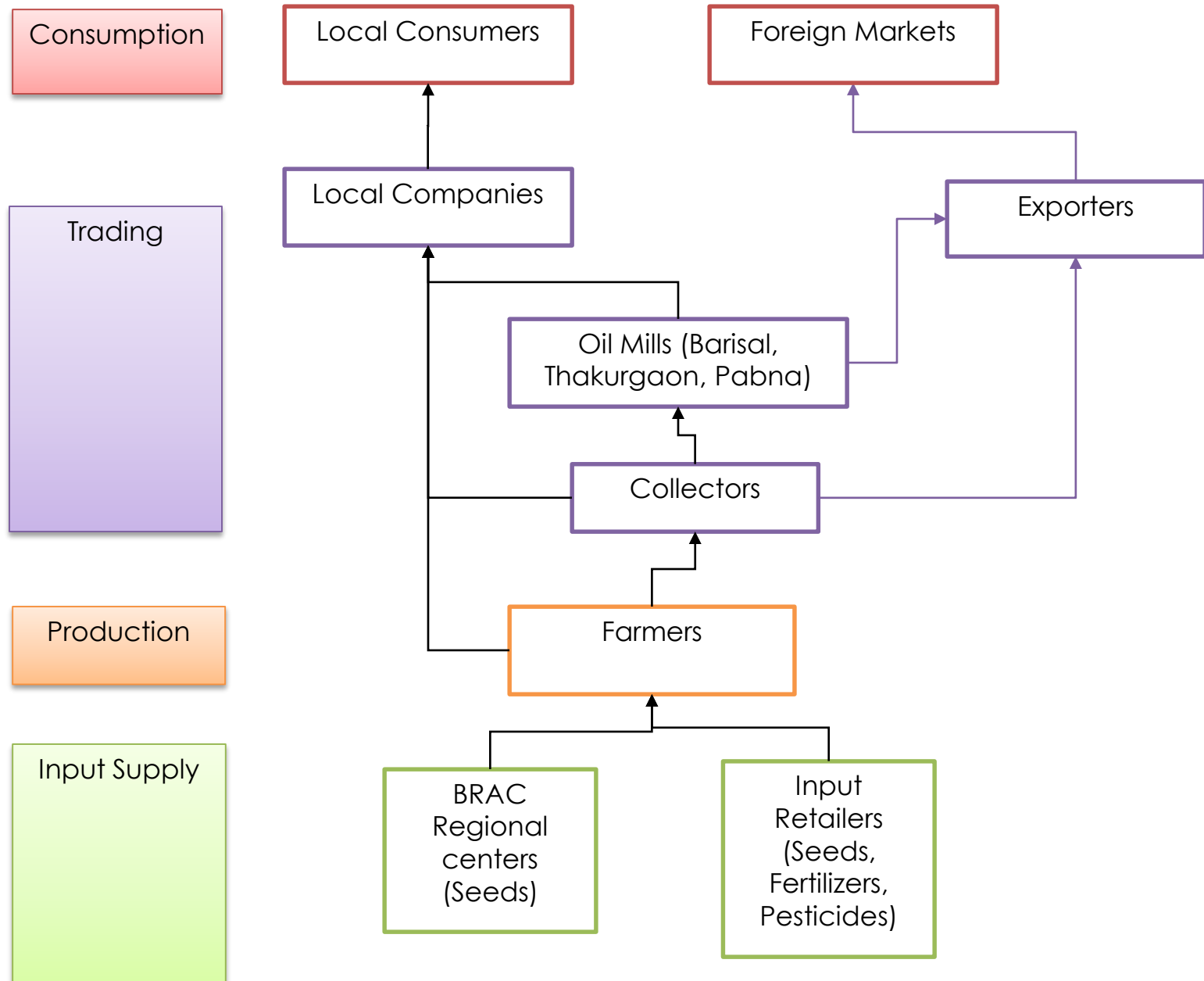
- **Transporters:** Infrastructure is not good for transportation between Khulna and areas like Sharonkhola, Dacope, etc.
- **Government:** BARI is interested to promote Sunflower production to create a substitute for edible oil imports. They have been promoting it in specific areas.
- **BRAC:** BRAC has been promoting Sunflower production in Sharonkhola for producing their own Sunflower oil brand. They are setting up their oil refinery.

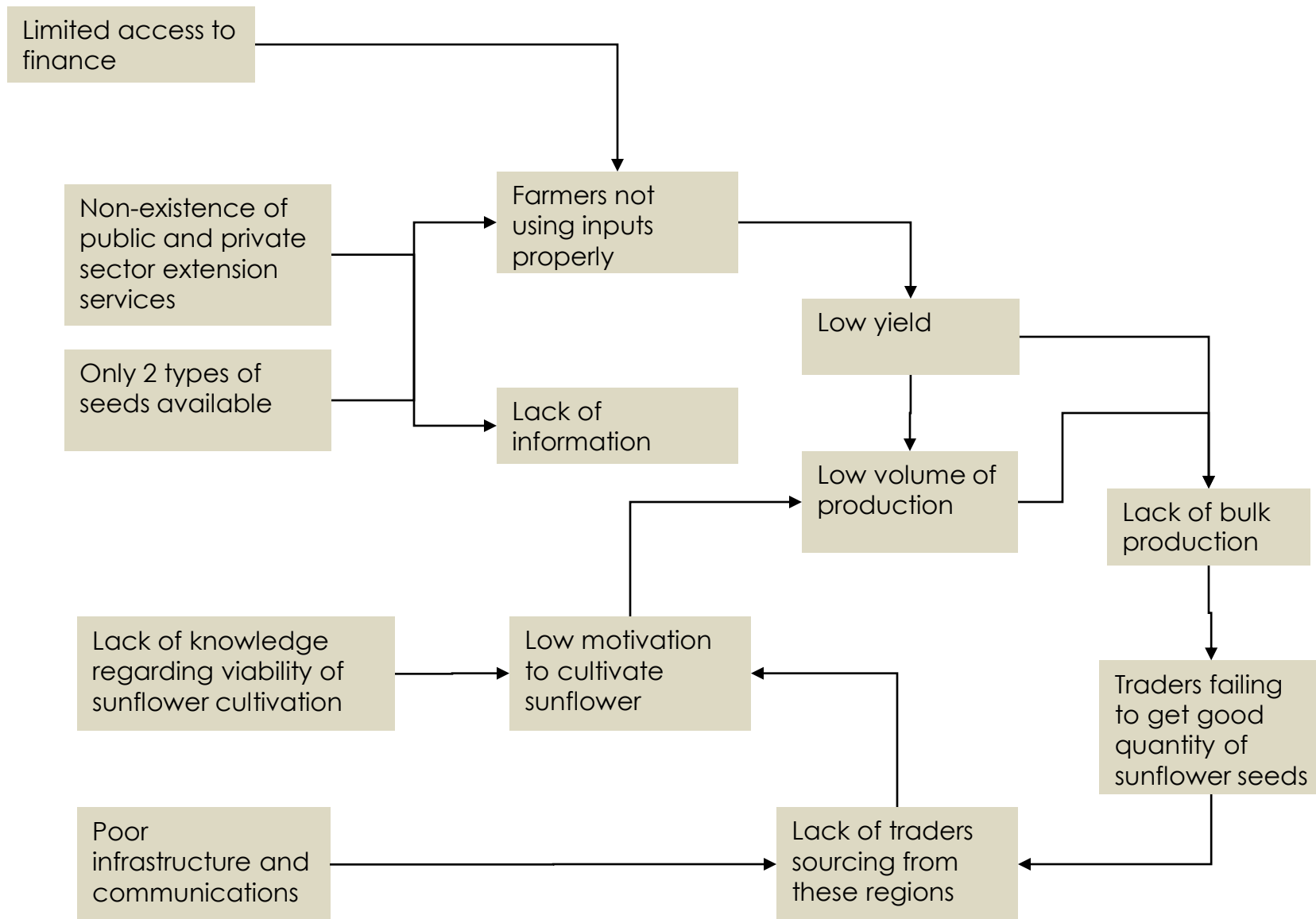
Producers' cost-profit analysis

Particulars/dec	Amount
Total Cost	BDT 160
Total Production	10 Kg
Average Price/kg	BDT 33
Revenue	BDT 330
Net Profit	BDT 170

Total cost includes land preparation, seed, fertilizer, pesticide, labor, transportation etc.

Value Chain Mapping





Constraints Analysis

Opportunities

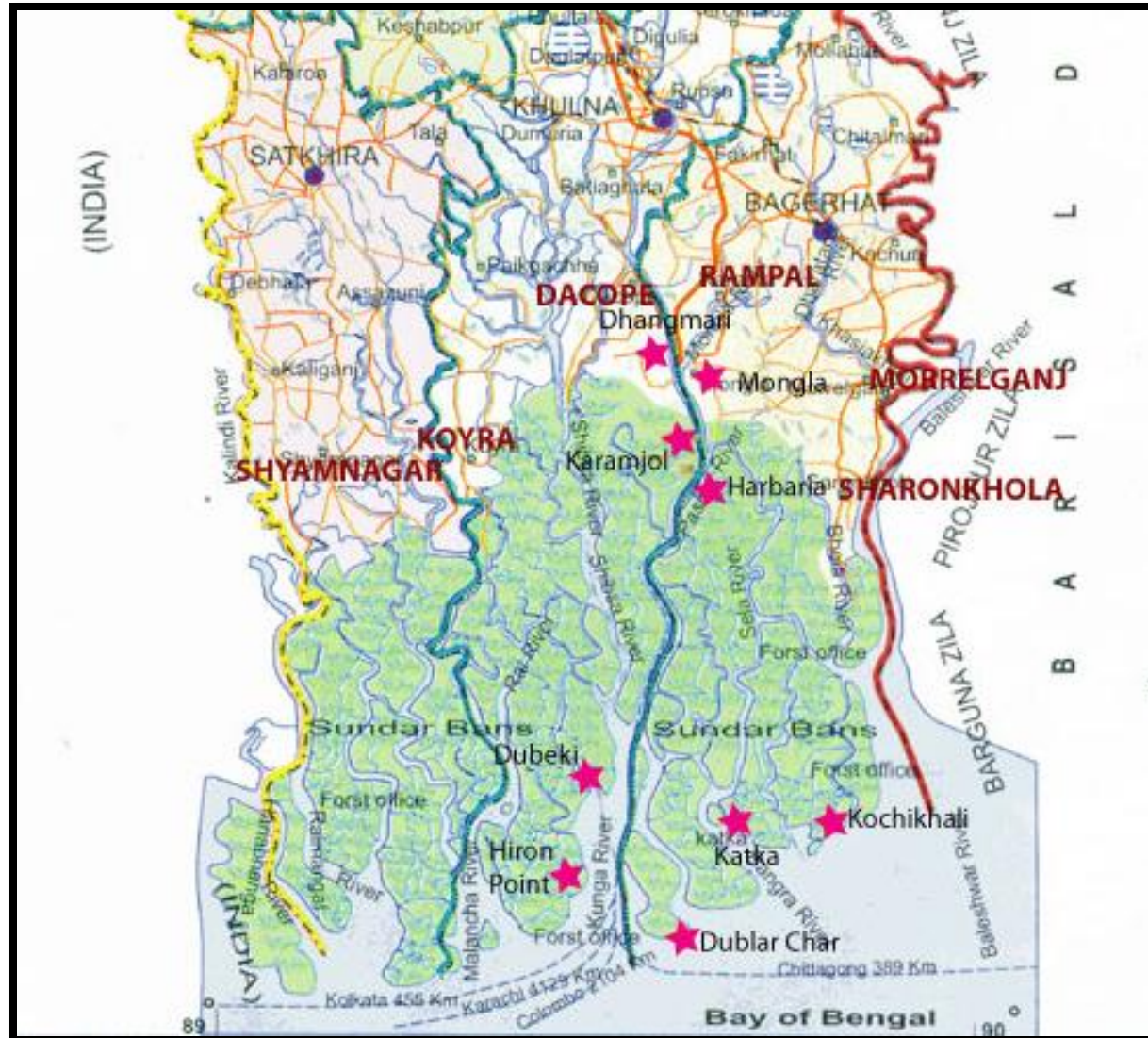
- There is a growing demand for sunflower in Bangladesh.
- Sunflower seeds grown in Bangladesh tend to have high (46%) oil content.
- 32% of beneficiaries have average land of 15.5 decimals, which can be used for commercial cultivation.
- Land is available for leasing.
- Cluster/ group cultivation can contribute to bulk production.
- Input retailers are already present, they can be trained to provide information to the farmers about sunflower cultivation techniques.
- Traders are working in these areas for sunflower seed collection, sending to oil mills, exporters, etc. Better linkages can be developed.
- Local companies are looking into potentially producing Sunflower oil.
- Export possibilities to regions like Middle East, Russia are coming up.

Discussion on Strategies



Value Chain Analysis: Eco-tourism

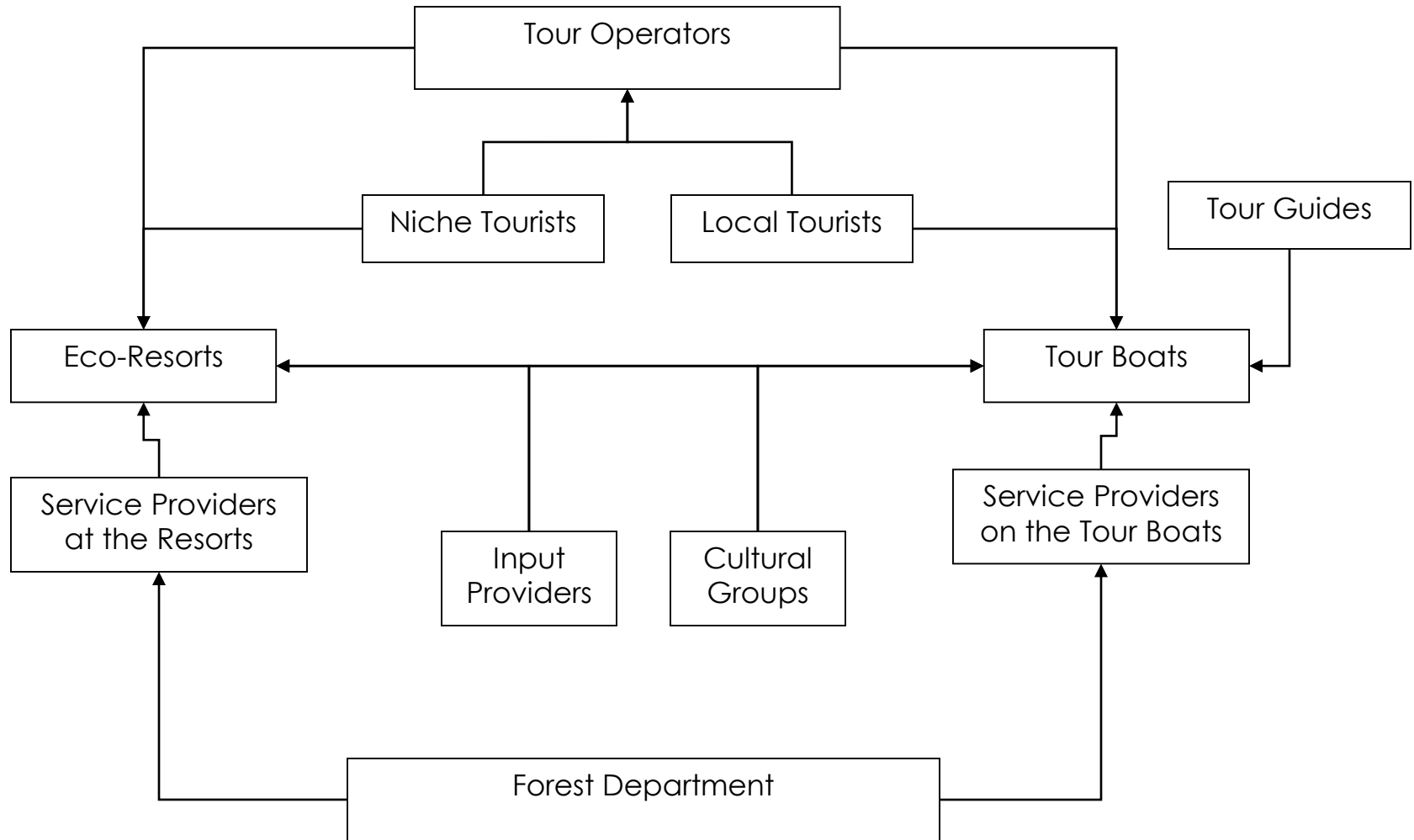
Eco-tourism sites



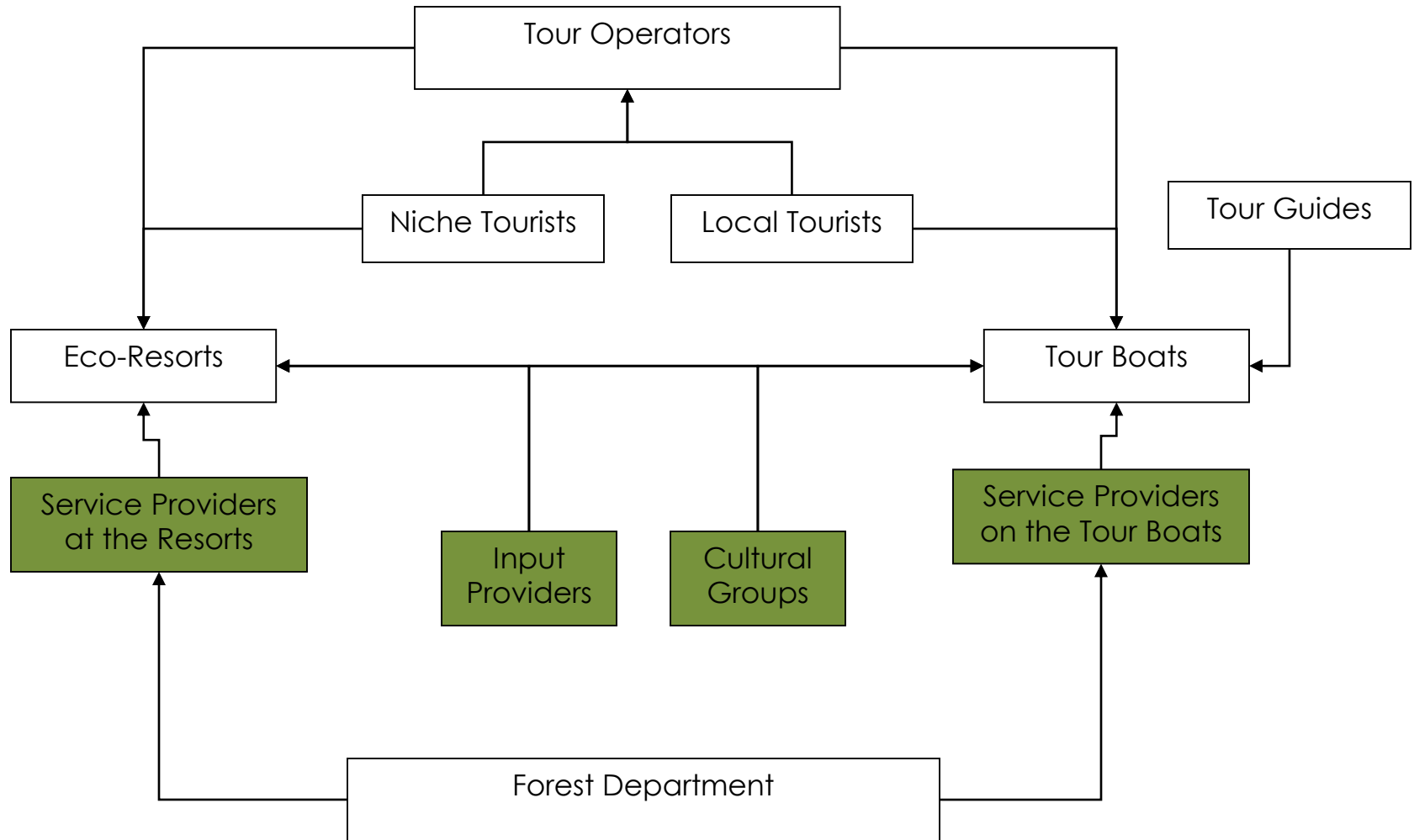
Priority Sites

Karamjol	Harbaria	Kotka/Kachikhali	Neelkomol
<ul style="list-style-type: none"> • Boardwalk in the forest • Crocodile Breeding Center • Deer Breeding & Care Center • Mangrove Museum • Natural Mangrove Forest • Observation Tower • Boat trip 	<ul style="list-style-type: none"> • Boardwalk in the forest • Mangrove Natural Forest • Observation Tower • Royal Bengal Tiger sighting • Relaxation hut made of Golpata leaves 	<ul style="list-style-type: none"> • Jamtola Observatory Center • Keura Forest on the River Bank • Old Forest Department's Rest House • Boardwalk on the river bank • Observation point: birds, deer, monkeys, tiger 	<ul style="list-style-type: none"> • World Heritage Site Sign • Boardwalk in the forest • Observation Tower to view the forest canopy • Bird sighting • Deer and tiger sighting • Forest Department's Rest House • Naval base & helipad

Mapping of Actors



Community Engagement



Community Engagement Areas

- Golpata gur processing (near Dhangmari)
- Food services, restaurant (near Dhangmari)
- Guides (Mongla, Dacope)
- Souvenir making: handicrafts (pottery, golpata, etc.)
- Eco-villages
- Eco-resorts
- Cultural performances by folklore groups (Mongla, Dacope,

Market Opportunities

- Private sector engagement possibilities:
 - Infrastructure/ facilities development
 - Promotional activities
 - Linking guide operators to tour guides (licensed guides as a mandate)
 - Develop service provisions like eco-villages, cultural groups
- Facilities development
 - Jetty
 - Boardwalks inside the forest
 - Shelter from rain
 - Waste disposal
 - Riverbank food services/ restaurants
 - Souvenir centers
 - Rest rooms
- Financing opportunities
- Promotional activities
 - Exclusivity of eco-tourism compared to mass tourism



Potential Trades for the Beneficiary

Potential Trades

- Handicrafts:
 - Developing souvenirs using local resources like mud, golpata leaves, etc.
 - Involving target beneficiaries who are landless, women engagement
 - Intervention to provide trainings, create a supply chain and promote demand for souvenirs
- Honey processing:
 - Refining and packaging the honey after collection
 - Involving target beneficiaries who are landless, women engagement
 - Intervention to provide trainings, create a supply chain and market the product
- Small Scale Poultry:
 - Set up small scale poultry production
 - Develop beneficiary households or groups to rear poultry
 - Interventions to provide trainings, develop linkages with input providers, facilitate linkages with traders, financial institutions, traders, etc.

Potential Trades

- Net making:
 - Demand for nets is very high; most fishing nets come from India
 - Involving target beneficiaries who are landless
 - Intervention to promote & provide training, promote products
 - Government Jubo Unnayan has provision for training
- Boat making/ repairing:
 - High demand for boats
 - Involving target beneficiaries who are landless
 - Intervention to promote/ provide training
 - Government Jubo Unnayan has provision for training

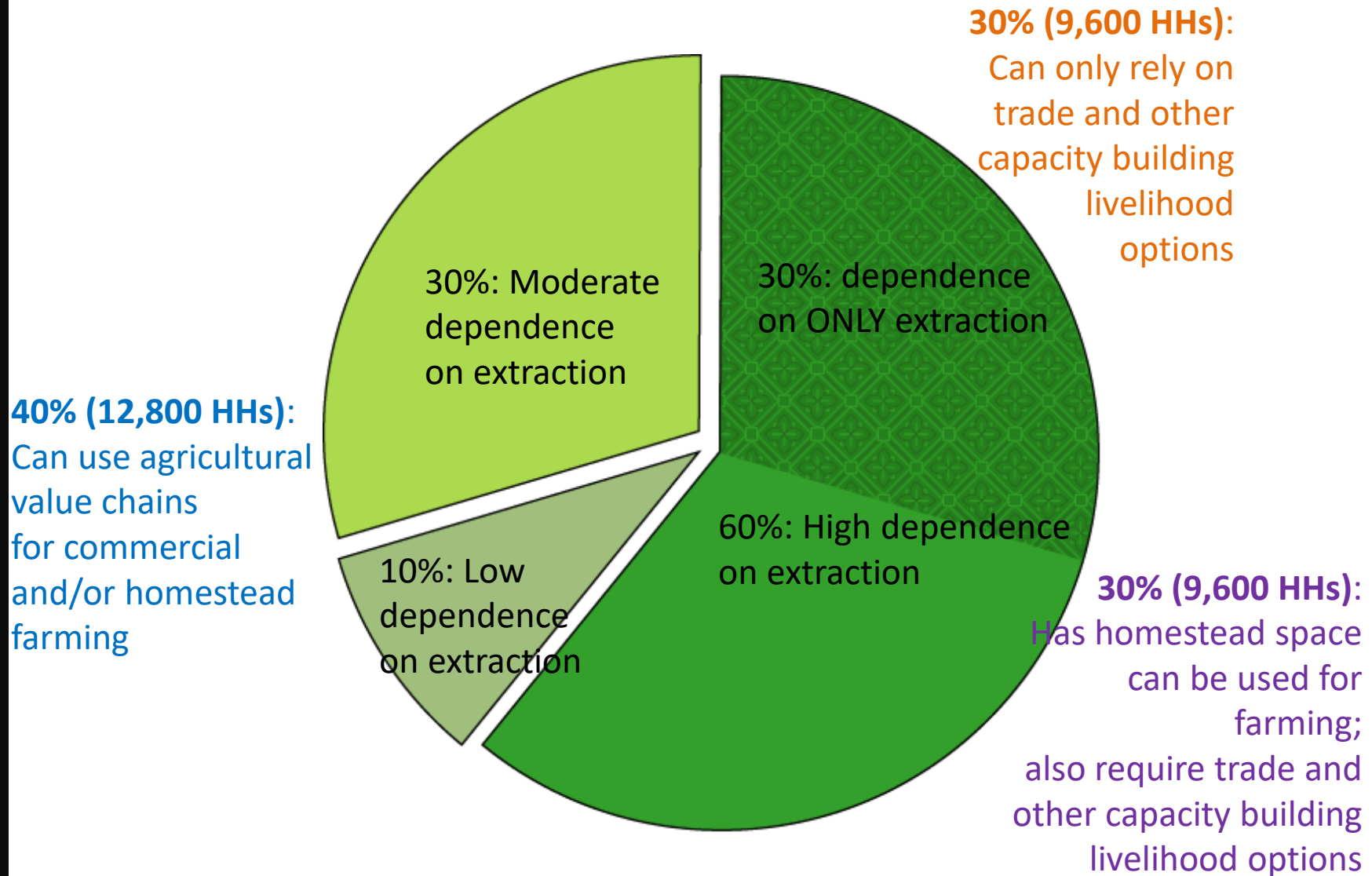
Potential Trades

- Van/ Motorcylce/ Cycle Repairing:
 - High use of these vehicles
 - Lack of proper mechanics in the area; tend to go to Khulna, Bagerhat, etc.
 - Involving target beneficiaries who are landless
 - Intervention to provide training, promote services
 - Government Youth Department has provision for training
- Solar Panel Servicing/ Repairing:
 - Use of solar panels is very high. High potential for the demand for servicing and repairing of solar panels.
 - Involving target beneficiaries who are landless
 - Intervention to provide trainings, promote the service
- Linkage to Private sector:
 - Many hatcheries, fish feed companies are active in these areas. They require semi-skilled labour for their demonstrations, ponds, etc.
 - Involving target beneficiaries who are landless and involved in fisheries
 - Intervention to facilitate linkage between companies and beneficiary groups, provide trainings

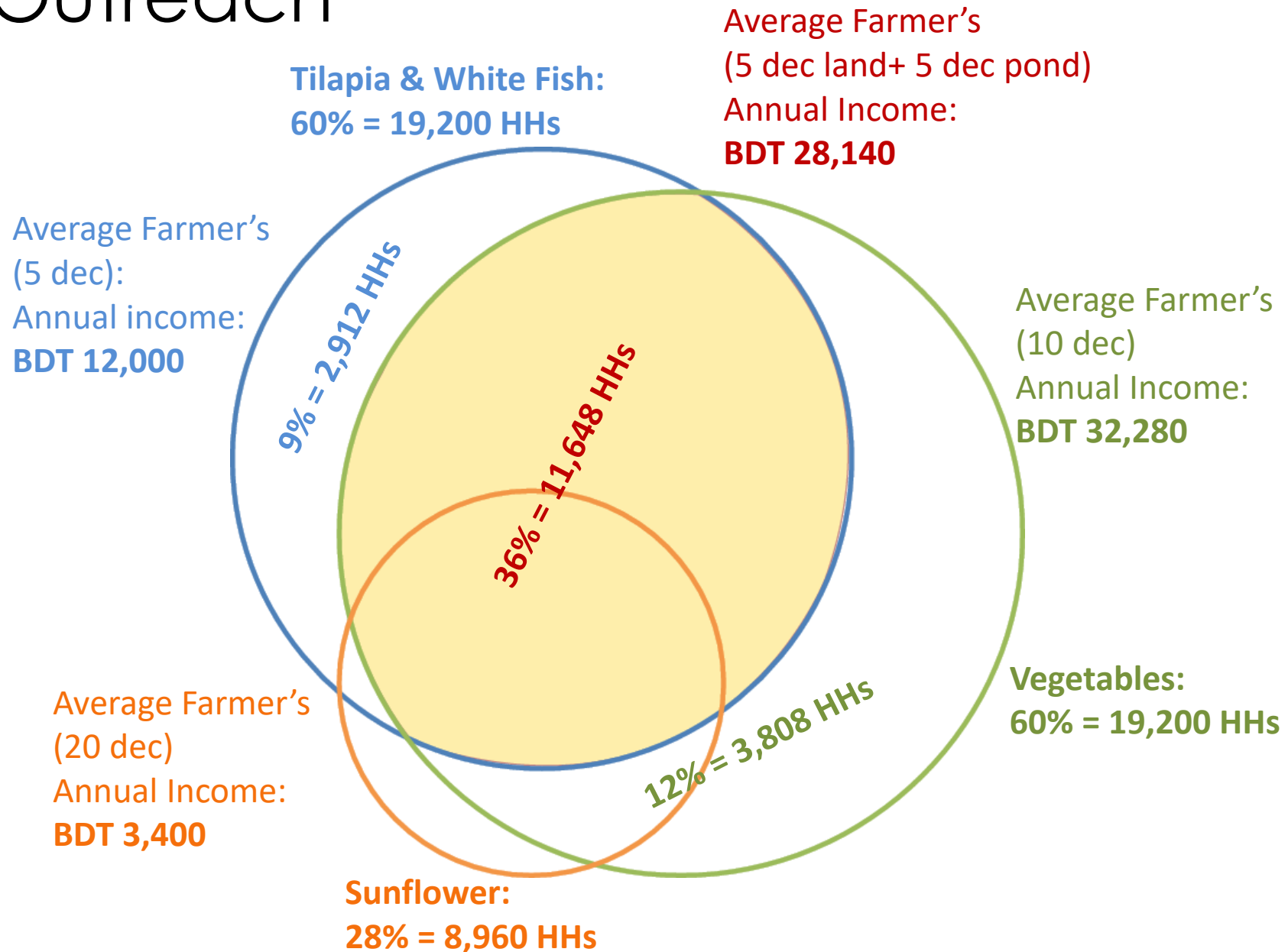


Tentative Outreach Through The Selected Value Chains

Beneficiary mapping



Outreach



Thank You!