

Study to Select Value Chain and Analyze Selected Value Chain

Presentation on Value Chain Selection

Phase 1: 'Study to Select Value Chain'

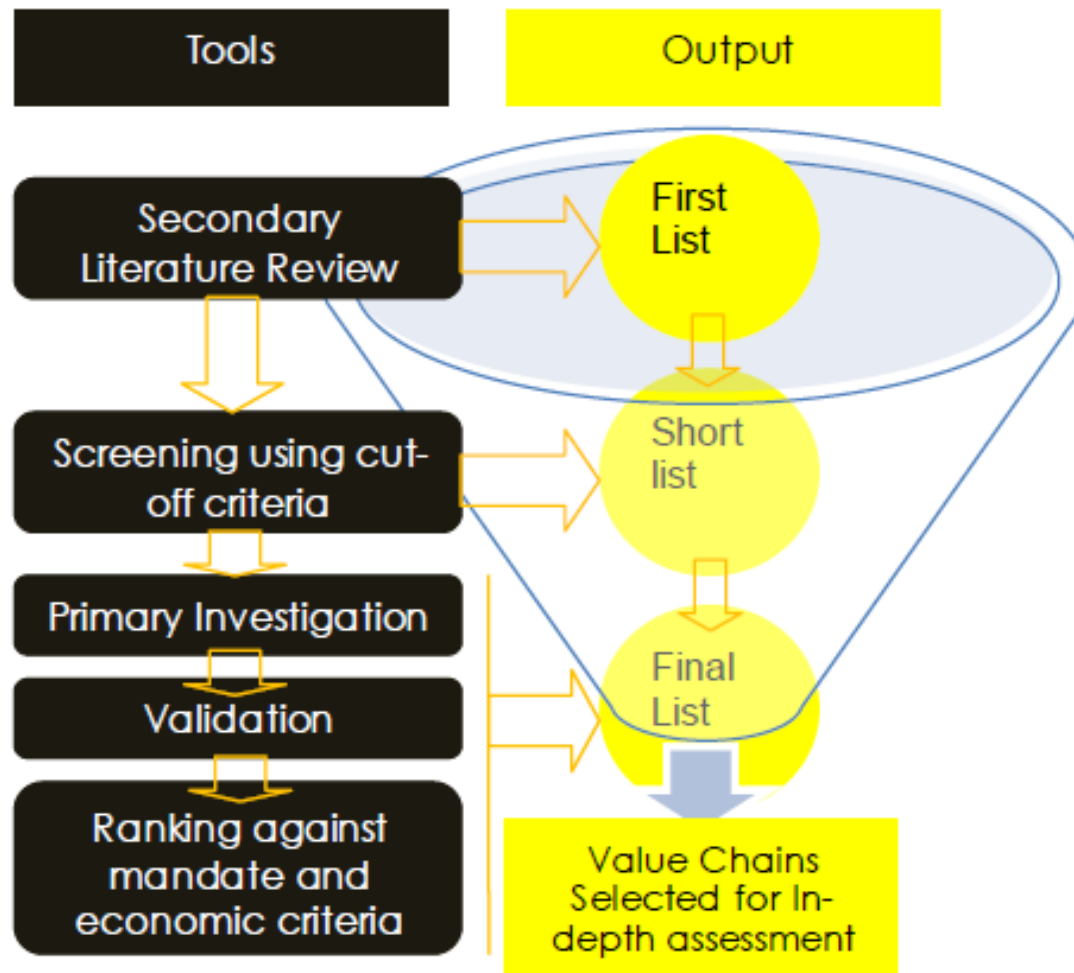
Introduction

- USAID Bangladesh's Climate Resilient Ecosystems and Livelihoods (CREL) project
- Scale up and adapt successful co-management models to
 - Conserve and protect ecosystems
 - Improve governance of natural resources
 - Increase resilience to climate change
- Strategy
 - Increasing income of the neighboring population
 - Awareness building on importance of ecosystem

Study Objectives

- To identify alternative livelihood options for the neighboring people of the protected area of the selected zones
- Two phases study
 - Phase-1: Value chain selection
 - Phase-2: Value chain analysis/intervention

Methodology



Geographic Scope

Zone	District	Upazila	Site
Northeast	Habiganj	Chunarughat and Madhabpur Chunarughat	Satchari NP Rema Khalenga WS
	Maulavibazar	Maulavibazar Sadar and Sreemangal Kamalganj and Sreemongol Kularua, Juri, Baralekha, Fenchuganj & Golapganj	Hail Haor Lawachara NP Hakaluki Haor ECA
	Sunamganj	Dharmapasha, Tahirpur	Tanguar Haor ECA (Only based on secondary literature)
	Sylhet	Sylhet Sadar, Goainghat	Kadimnagar NP
Southeast Zone 1	Chittagong	Lohagara, Banshkhali	Chunati WS
	Rangamati and Banderban	Chandanise, Rangunaia, Banderban Sadar, Kaptai	Dudhpukuria- Dhupchari WS Kaptai NP
Southeast Zone 2	Cox's bazar	Cox's bazar Sadar, Ramu Chakaria, Teknaf Ukhiya	Himchari NP Fashiakhali WS Medhakachapia NP Teknaf WS Inani proposed NP
Southwest	Bagerhat	Sarankhola, Mongla, Morrelganj and Rampaul	Sundarbans (West)
	Khulna	Dacope and Koyra	Sunderban ECA
	Satkhira	Shyamnagar	Sundarbans (East)

Tools for Data Collection & Respondents

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, Medicine seller etc.), Marshoom Institute
- NGOs Staffs
- CREL Regional staffs

FGD

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

Primary Survey

- Beneficiary Profiling (VCF Members)

People We have Interviewed

Region	Chittagong	Cox's Bazar	Sylhet	Khulna
In-depth Interview	26 stakeholders	22 stakeholders	18 stakeholders	25 stakeholders
FGD	6 FGDs 80 Community People	8 FGDs 96 Community People	7 FGDs 91 Community People	9 FGDs 172 Community People
Primary Survey	100 Community people	106 Community people	100 Community people	104 Community people

Value Chain Selection Criteria

Screening Through Cut-off Criteria

- Value chains that deplete forest and/or wet land directly will be ineligible for selection

Ranking Matrix for Value Chain Selection

SI	Criteria	Definition	Weight	VC1	VC2	VC3	VC4	VC5	VC6	VC7
1	<i>Climate Tolerance</i> (Low tolerance=1 High tolerance=5)	Climate tolerance is the ability of social or ecological system (inside the value chain) to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self- organization, and the capacity to adapt to stress and change. (IPCC.ch)	3							
2	<i>Climate Resiliency</i> (Low resilience=1 High resilience=5)	Climate change resilience is the capacity of an individual, community, or institution (within the value) chain to dynamically and effectively respond to shifting climate impact circumstances while continuing to function and prosper. (IPCC.ch)	3							
3	<i>Resource Extraction Minimization</i> (Not minimized=1 Highly minimized=5)	The chosen value chain must reduce and minimize the pressures on the natural resources in the environment; it should be a more eco-friendly alternative to their current income-generating activity.	5							
4	<i>Women and Youth Inclusion</i> (Low inclusion=1 High inclusion=5)	The value chain involves women and youth in its operation and creates employment opportunity for them.	5							

Value Chain Selection Criteria

SI	Criteria	Definition	Weight	VC1	VC2	VC3	VC4	VC5	VC6	VC7
5	<i>Outreach</i> (Low outreach=1 High outreach=5)	Number of beneficiaries the developing the value chain would directly and indirectly impact.	2							
6	<i>Growth potential</i> (Low growth=1 High growth=5)	This criterion measures the estimated feasible demand for the value chain product/service in the local, national or international market and growth trend of that market.	5							
7	<i>Income</i> (Low income increase=1 High income increase=5)	Potential monthly income to be generated from choosing the listed value chain: <ul style="list-style-type: none"> Area farmed Yield Cost of production Quantity sold Revenue 	5							
8	<i>Private sectors participation</i> (Low interest=1 High interest=5)	The presence of private sector firms who are willing to promote the listed product/service and work with the beneficiaries to develop the production base or market channel.	3							

Value Chain Selection Criteria

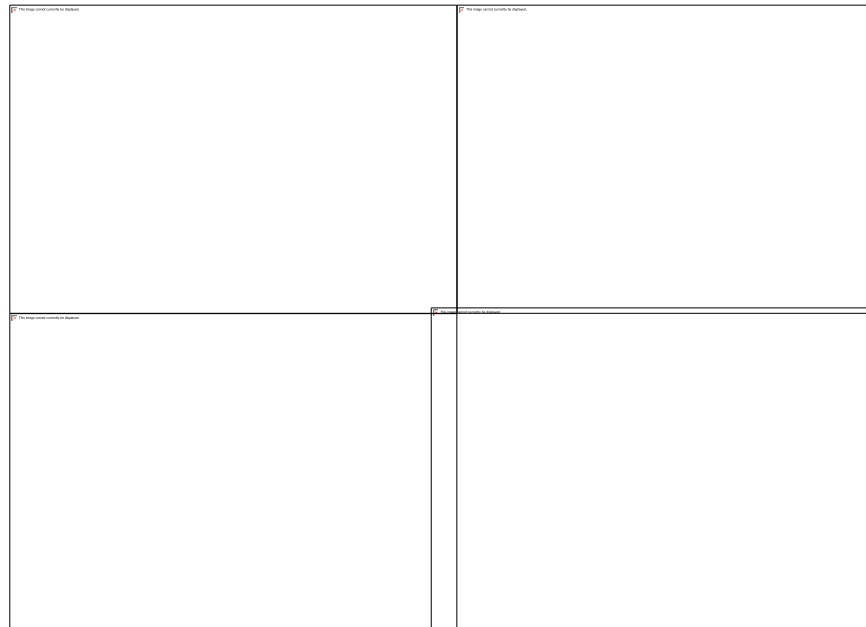
SI	Criteria	Definition	Weight	VC1	VC2	VC3	VC4
9	<i>Development priorities and favorable policy of government</i> (Low priority & favorability=1 High priority & favorability=2)	Government departments and offices located within project area along with others providing support services like NGOs and other project offices.	3				
10	<i>Synergy and potential collaboration</i> (Low synergy=1 High synergy=5)	Complementarity of value chain with other projects in the area	3				
11	<i>Risk</i> (High risk=1 Low risk=5)	<ul style="list-style-type: none"> • Entry barrier • Capital intensive • Business risk <p>Every value chain would have its own risk of failure attached with it. Generally, economic activities with greater risks and greater investment also have greater profits. This criterion would judge the potential return in each value chain in terms of sustainable income versus the risk of failure.</p>	4				
12	<i>Scope for value addition</i> (Low scope=1 High scope=2)	This criteria judges the scope for developing the beneficiaries' current source of income to move them to a product/service with higher value addition	3				



List of Potential Value Chains & Final Selection of the Value Chains based on Ranking Exercise

Northeast Zone:

Sylhet, Habiganj, Maulavibazar, Sunamganj



Preliminary List of Value Chains

Value chains after ranking exercise

Crop	Lawa-charra	Satchori	Rema-Kalenga	Khadim nogor	Hail Haor	Hakaluki haor
Vegetable	✓	✓	✓	✓	✓	
Citrus	✓	✓	✓	✓		✓
Tilapia	✓	✓	✓	✓		
Carp		✓	✓	✓	✓	✓
Dairy		✓	✓	✓	✓	✓
Beef		✓	✓	✓	✓	✓
Duck (Layer)	✓		✓	✓		✓

*Although citrus scored the highest in ranking, the acidic soil required is present in only some project areas (~30%) and takes 3 years for the first fruit to bear, thus was not considered strong enough for core focus.

1a. Vegetable (Tomato, French Bean, Brinjal, Radish etc.)

- Available supply of seeds, fertilizers and pesticides including hybrid seeds and micro nutrients.
- Lacking access to irrigation in higher lands like Lawacherra
- French bean: Long shelf life & easy storage ensures consistent pricing
- Ready access to major markets across all areas, with exception of RKWS in heavy rain. Traders (*paikers*) in commercial farming.
- Unique: Price higher in the remote areas
- Tomato and french bean: High perceived profitability
- Brinjal : Weekly harvest, Steady flow of income
- Wide-spread prevalence and high potential for scale up
- Potentially high involvement in homestead gardening
- Growing popularity (demo effect) of these high value crops

1b. Citrus (Lemon), Papaya etc.

- Lemon: High Demand. Suitable soil (acidic)
- Contract farming: Lemon cultivation (*jara lebu*)
- Growing commercialization
- Higher net profit in Citrus
- Ready access to major markets across all areas
- No mitigation knowledge of acidic soil across region (4.5-5.0 pH)
- Lemon (*jara lebu*) export and transfer outside district
- Requires change in subsistence approach mentality

2. Aquaculture: Tilapia and Carp

- Ponds common in most households; though not purpose built, giving opportunity for scale up and larger outreach
- Haors more suitable as some forests lack sufficient water source
- Haor fishery taken directly to niche markets in Dhaka
- White fish is less risky and higher priced than tilapia
- Region supply deficient providing opportunity for growth
- Constrained by Knowledge gap, subsistence approach, risk-averseness
- Perception: Commercialization requires large investment
- Highest potential for growth, upscale and income

3. Duck Rearing(Layer)

- Duck is subsistence with growing commercialization
- Mostly exotic species
- Haor basins ideal for ducks
- Knowledge gap in: Vaccination, disease and treatment
- Access to Informal local markets
- Region has extensive shallow water bodies ideal for Livestock
- Seasonal shortage of water supply hinders growth
- Quick income stream
- Duck has potential for growth

Southeast Zone 1:

Chittagong, Rangamati and Banderban



Preliminary List of Value Chains

Final Value Chains after
ranking exercise

Value Chain	Dudhpukuria-Dhopachhori	Chunati-Jaldi	Kaptai-Karnaphuli
Fruits (Papaya, Pineapple, Guava & Amropali)	✓	✓	✓
Vegetables & Medicinal Plants	✓	✓	✓
High-value Fruits	✓		
Poultry	✓	✓	✓
Fish farming		✓	✓
Eco-tourism	✓	✓	✓
Handicraft	✓	✓	✓

1. Fruits (Papaya, Pineapple, Guava & Amropali)

- It has no direct impact on Climate, but can positively reduce pressure on forest by engaging the extractors in cultivation
- Cultivation could improve nutrition intake of women; furthermore could be produced in the homestead which would increase potential for inclusion of women beneficiaries under CREL
- Increase in production will create additional jobs for youth across the value chain
- Favorable growth trend; increasing number of farmers getting engaged
- Favorable geo-climatic condition resulting in better produces and better price
- Government is promoting cultivation of different kinds of suitable fruits as saline tolerant crops especially in the coastal regions
- High market demand and stable market price

2. Vegetables and Medicinal Plants

- Winter and summer vegetables are widely cultivated in the region
- Vegetables include mostly spiny gourd (kakrol), beans, cucumber, tomato, bitter gourd (korola), brinjal, okra etc.
- Due to limited market access farmers are not getting better price
- Women are more comfortable in vegetable gardening or cultivation than in conventional farming of cereal crops.
- Low requirement of working capital
- High market demand
- Early variety vegetables get higher price
- Less irrigation required in comparison to other common crops like paddy, potato etc.
- Improved packaging can increase value addition opportunity

2. Vegetables and Medicinal Plants....continued

- Market demand and profitability of medicinal plants are very high.
- Cultivation can be incorporated in the Social Forestry using the same land, as the medicinal plants can grow under shade.
- Along the embankments and in relatively arid soil, medicinal plants can easily be grown.
- It can be cultivated in homestead lands and also as fencing of other crop fields.
- Scope of women's participation is high.

3. Handicrafts

- Potential handicrafts include –
 - Bamboo products (Lai, tukri, basket, mora, dula, kula, fish trap etc.)
 - Handloom products (Kantha, lungi, gamchha, thaana etc.)
 - Fish nets
- Women are more comfortable in handicraft in comparison to on-farm activities.
- Women have traditional skill to produce handicrafts.
- Requirement of working capital is not very high.
- Due to poor market access, beneficiaries can not increase their production in spite of having highly potential productivity.
- Necessary inputs are available in local markets.
- No land required
- Government is promoting handicrafts and providing trainings and easy loans for the respective trainees.
- It has some impact on forest resources, as bamboo and canes are mostly collected from forest

Southeast Zone 2:

Cox's Bazar



Preliminary List of Value Chains

Final value chains after
ranking exercise

Livelihood	Chocoria		Himchari		Teknaf			
	Fashiakhali	Medha kachhapia	Adarsha gram	Chainda Khandakar Para	Shilkhali	Whykong	Naibhong Para	Pallan Para
Tailoring	✓	✓	✓		✓	✓	✓	
Embroidery				✓			✓	
Mushroom	✓	✓	✓	✓	✓	✓	✓	✓
Strawberry	✓	✓		✓	✓	✓		✓
Capsicum	✓	✓		✓	✓	✓		✓
Floriculture	✓	✓		✓	✓	✓		✓
Apiculture	✓	✓		✓	✓	✓		✓
Medicinal plants	✓	✓		✓	✓	✓		✓

Potential livelihoods



Mushroom



Strawberry



Capsicum



Floriculture



Apiculture



Medicinal plants

1. Tailoring

- Municipal corporation provides free training.
- Trainees get a free sewing machine
- Generally poor people are deprived of training because of opaque selection process.
- Lack of communication with the market, but still has the high potential to grow.
- Product quality should be increased
- Products need innovation
- Women can be involved.



Abul Kashem, Tailor
Monthly Income 10,000-
12,000

2. Embroidery

- Most women do embroidery on bed cover, pillow cover, sharee and three pieces.
- As they do not have machines, they do it manually.
- They collect necessary inputs from the local market and also sell the finished products in the locality.
- They earn 150-700 TK per work from this activity. It depends on the design and materials
- On an average 5-10 embroideries are done per month, but due to lack of linkages they can not sell it in the large markets.



3. Capsicum

- Vegetable production is one of major occupation of the respondents; however, the profitability is not encouraging enough to take it as an income generation activity
- With the given limited skills and knowledge, the target group feel conformable in agriculture cultivation. As a result, the primary reason for exploring high value crops is to enhance the level of income of the target group with the existing skills
- Capsicum is one of the high demand products in Cox's Bazar tourist district as well as in major urban cities in Bangladesh

	20 decimal Land
	Capsicum
Prod cost (Tk/ha - 250 decimal)	9,780
Gross income (Tk/ha - 250 decimal)	42,686
Profit (Tk/ha - 250 decimal)	32,905

Source: Cost and profitability of growing high-value crops in Rangamati, Krishi Gobeshona Foundation, 2011

4. Mushroom

- Many of the target population do not have adequate land for cultivation
- Mushroom can be taken-up by females as an additional income source
- Mushroom production does not require much space: a clean, dark and ventilated room with shelves is all that is needed.
- The inputs into the production process are mushroom spores, bamboo shelves, water to pour onto the mushroom cultivars, and formaldehyde to clean the production room.
- The mushroom is grown out of plastic bags containing spores and the nutrient base.
- Up to 200 bags can fit in a space as small as 2 m².
- Harvest starts seven days after the start of the culture and can last four months; each bag of spores can produce a minimum of 2 kg of mushroom.
- With a selling price worth Tk100/kg of produce, maximum profit for this production system can reach Tk40,000 over a period of four months

Southwest Zone: Khulna, Bagerhat and Satkhira



Preliminary List of Value Chains

Final value chains after
ranking exercise

	Chandpai	Sharankhola	Munshiganj	Dacop Koyra
Tilapia	✓	✓	✓	✓
Prawn (Galda)	✓	✓	✓	✓
Shrimp (Bagda)		✓	✓	✓
Crab Fattening	✓	✓	✓	✓
Poultry	✓	✓	✓	✓
Vegetable and Medicinal Plant	✓	✓		✓
Apiculture		✓		
Sunflower	✓	✓	✓	✓
Ecotourism		✓	✓	

Note: Although Crab Fattening was higher in ranking due to high profit, quick return and smaller area of cultivation requirement, however, interventions on this value chain cannot be started without establishment of crab hatcheries. Hence, this value chain was not shortlisted.

1. Tilapia Culture

- 11% of beneficiaries have own pond size around 15.5 decimal or more, which can be used for commercial cultivation. 17% of the beneficiaries have experience of Tilapia culture
- Can be cultured in fresh as well as saline water. Hence suitable for all four sites
- There are some pocket ghers available for lease in Dacop, Sharankhola and Chandpai, which are suitable for commercial Tilapia culture, if beneficiaries can be formed into small farming groups
- Widely practiced venture among community people in the target area, high market demand, easy to sell
- Can be cultivated all the year round, low risk

2. Vegetable and Medicinal Plants

- Can be cultivated all the year around, higher profit than conventional crops like rice
- Can be cultivated around dikes of Galda and white fish ghers, which can be sold at a premier price if properly branded as safe vegetable and linked with market
- Availability of barren lands and lease lands in Sharankhola for commercial cultivation of Vegetable
- Medicinal plants like Bashak can be cultivated around vegetable fields or ghers as fencing, also on road side
- Beneficiaries in Sharankhola, Dacop and some part of Chandpai can be included in this value chain
- 32% of target beneficiaries have own land size more than 11 decimal and an average of 15.5 decimal, which can be used for commercial vegetable farming

3. Sunflower

- Sunflower can be cultivated in saline lands, hence it is suitable for all four sites
- Can be grown in both Robi and Kharif season
- Increasing demand of sunflower oil in Bangladesh
- BRAC has already established an extraction plant. BRAC has brought 4000 acres of land under Sunflower cultivation, but they require 16,000 acres of cultivation to match their extraction capacity. City group extracts sunflower from imported seeds. Hence, possibility of market linkage.
- Low production cost, high revenue,
- Maximum 100 days required to get the return
- Has potentials to practice Apiculture along with this crop

Trades

- Ecotourism will increase the scope of inclusion for the beneficiaries in the following trades –
 - Handicrafts
 - Engine repairing
 - Apiculture
 - Local exotic food pickles and snacks

Zone wise Value Chains

Zone	Northeast Zone	Southeast Zone 1	Southeast Zone 2	Southwest Zone
Value Chain	Sylhet, Habiganj, Maulavibazar, Sunamganj	Chittagong, Rangamati and Banderban	Cox's Bazar	Khulna, Bagerhat and Satkhira
Vegetable & Citrus, Papaya	√			
Duck Rearing	√			
Aquaculture (Tilapia & White fish)	√			√
Vegetable & Medicinal Plants		√		√
Fruits		√		
Handicrafts		√		
Mushroom			√	
Capsicum			√	
Tailoring & Embroidery			√	
Sunflower				√
Ecotourism	√	√	√	√

Thank You!