THE SEED AND FEED “VALUE CHAIN” OF BANGLADESH AQUACULTURE

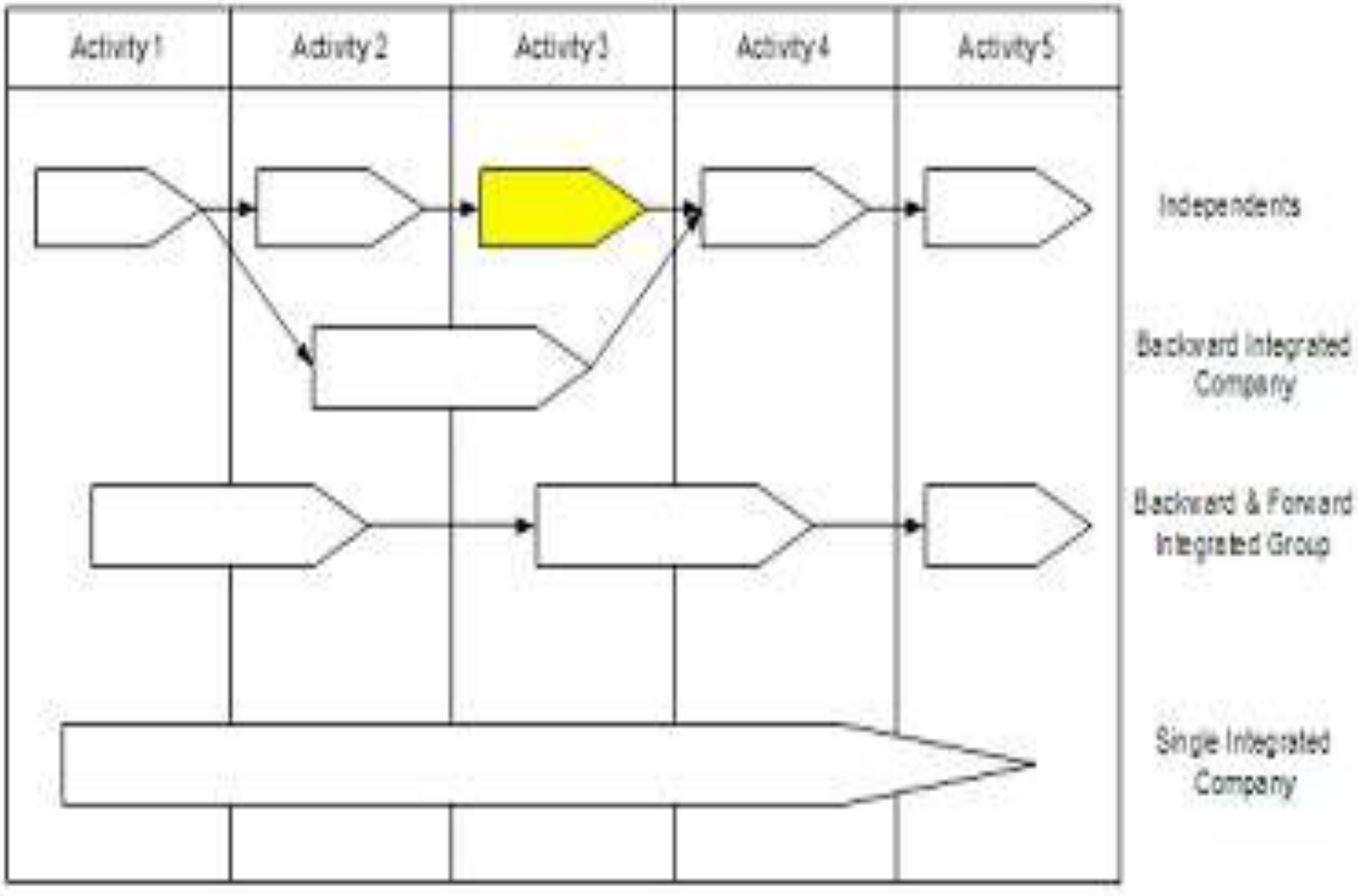
Inception Workshop

TCP/BGD/3501
Enhancing aquaculture production for food security and rural development through better seed and feed production and management with special focus on public-private partnership
28-30 May, Dhaka

DEFINITIONS

- **The value chain is a series of activities a product/service must pass through until it serves its final purpose of solving a customers problem .**

- **Interlinked value-adding activities that convert inputs into outputs which, in turn, add to the bottom line and help create competitive advantage.**


Activity 1
Activity 2
Activity 3
Activity 4
Activity 5
Independents
Backward Integrated Company
Backward & Forward Integrated Group
Single Integrated Company

COMPONENTS OF THE CHAIN

- **A value chain typically consists of (1) inbound distribution or logistics, (2) manufacturing operations, (3) outbound distribution or logistics, (4) marketing and selling, and (5) after-sales service. These activities are supported by (6) purchasing or procurement, (7) research and development, (8) human resource development, (9) and corporate infrastructure.**
- **Value-chain analysis looks at every step a business goes through, from raw materials to the eventual end-user. The goal is to deliver maximum value for the least possible total cost.**

Demand fulfillment

Demand creation

Inbound logistics → Operations → Outbound logistics → Marketing and sales → Service

Inbound logistics	Operations	Outbound logistics	Marketing and sales	Service
Call to suppliers Materials handling Warehousing Inventory	Conversion Assembly Packaging Maintenance	Warehousing Processing orders Pick up Shipment Delivery	Market channels Product pricing Promotion Value to customers Distribution Convenience Communication	Installation Repair Training After sales services (Reinforcement)

Procurement

Technological development

Human resources

Infrastructure

Support activities

VALUE CHAIN ANALYSIS

Value-chain analysis looks at every step a business goes through, from raw materials to the eventual end-user. The goal is to deliver maximum value for the least possible total cost.

Our analysis will look at the steps seed and feed go through from raw material to the grow out farmer. The goal is to deliver the optimum quality for the least possible cost… and create social and economic values for workers along the chain.

ORGANIZING AND PROVIDING INPUTS TO SEED AND FEED PRODUCERS	PRODUCTION OF SEED AND FEED	DISTRIBUTION OF SEED AND FEED	UTILIZATION OF FEED AND SEED
Seed: Broodstock -Wild – collection, management -Bred – breeding program	Seed: brooders, water, labor, capital, feed/live food	Nurseries, traders, Direct sale Certification	Better management practices Capital Labor
Feed: Raw materials and equipment (procurement - imports and local	Feed: - Capital - energy - skilled labor	Direct sale Dealers - transport, storage Certification	Better management practices Capital Labor

Inefficiencies in the seed sector

Broodstock farm	Hatchery	Nursery and retailing	Grow out farm
Too many objectives per farm and probably too many brood farms Inadequate technical manpower and physical facilities Uncertain genetic purity of broods Difficulty of obtaining quality broods	Poor broodstock management No standard spawning practice Unreliable power supply	Poor nursing techniques Poor facilities Difficult transport system Probably too many nurseries	Inadequate culture techniques Inability to know quality of seed Inability to demand quality seed

Impact of the inefficiencies

Broodstock farm	Hatchery	Nursery and seed distribution	Grow out farm
Low quality broods	Low quality spawners Low quality seed Increased cost of operation	Competing on factors other than quality such as volume, delivery and price	Poor performance Low yields Higher operations cost

Inefficiencies in feed sector

Supply of raw materials	Manufacture of Industrial feed pellets	Production of farm made feed	Sale and distribution	Utilization
Unavailability/ scarcity of raw materials High cost of raw materials All major ingredients are imported	High cost of manufacturing Lower operational efficiency by having to meet seasonal requirement for feed of different age group of cultured species	Variable standards of quality Poor quality of raw materials Seasonal variation in the availability of raw materials Higher cost of production	Poor transport systems in many areas Substandard storage Inability to provide feed on terms other than cash on delivery	Wastage from poor feed management. Poor FCR from: - low quality feed - non- age specific feed exacerbated by poor quality seed and - poor feed management Inability to assess feed quality or demand a quality standard purchase higher priced better quality feed Individual rather than group purchase Substandard on-farm storage

Impact of inefficiencies

Supply of raw materials	Manufacture of industrial feed	Production of farm made feed	Sale and distribution	Utilization
Unreliable Costly	Increased price of feed or maintained price at lower quality (i.e. less protein content), particularly by smaller manufacturers	Low quality or undetermined and variable quality	Higher costs Late or no delivery Reduced quality	Lower yield than potential - low returns - small cash flow Low bargaining power; can't avail of discounts on bulk purchase Locked into low quality feed No access to feed

Demand fulfillment

Demand creation

Plasm

Supply of genetic mmaterial

Breeding programme

Seed production

Nursing-Seed trading

Technical services to farmer

Local/ introduced aquatic animals

Tests of genetic purity, health status

Selective breeding program

- Broodstock
- Facilities
- System
- Cooperators

Hatchery management and operation

- Brooders
- Facility
- Workers

Nursery – facility, labor, capital,

Distribution

Pricing

Convenience

Quality assurance

Extension

Training

Demonstration

Biosecurity

Technological development

Human resources

Organization

Support activities

Demand fulfillment

Demand creation

Supply of raw materials	Manufacture	Distribution	Marketing	Technical services
Imports and local Supplies Raw materials handling Tests	Conversion\ Qualitycontrol Assembly Packaging Maintenance	Storage Pick up Delivery	Product pricing Promotion Distribution Convenience Communication	Extension Training Demonstration (Credit tterns)

Procurement	Technological development	Human resources	Organization

Support activities

PRODUCTION → Post harvest → Transport Marketing → Conu

1. Enterprise mgmnt

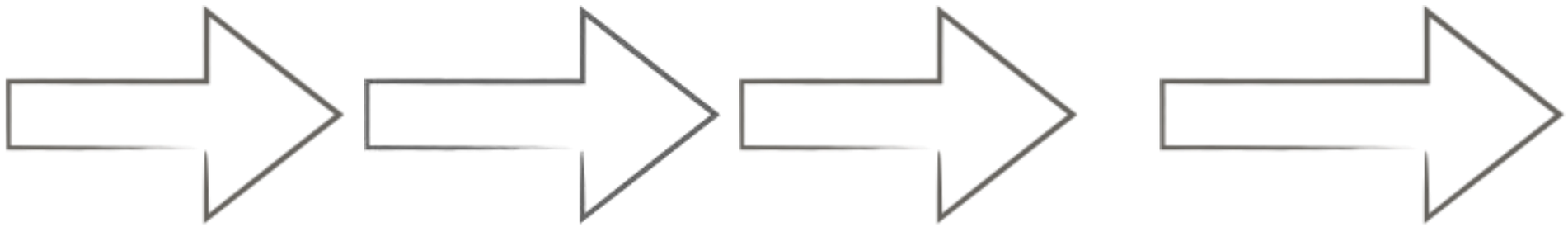
-land, labor, capital, technology, information

2. Livelihood assets mgt

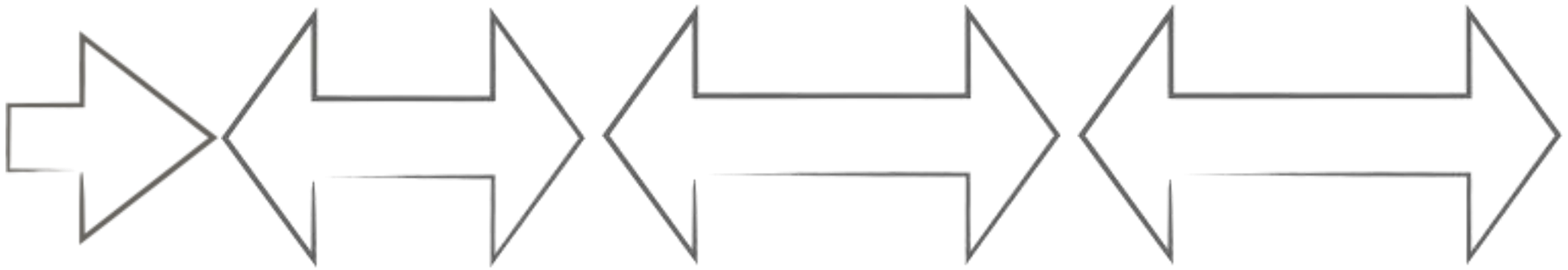
-natural, physical, human, financial, social

3. Risk management

- Production risks



independent operations



backward & forward integrated groups

integrated operation

WHAT *VALUES* TO FOCUS ON?

1. QUALITY OF PRODUCT
2. PRICE OF PRODUCT
3. RELIABILITY OF SUPPLY
4. ACCESS OF, CONVENIENCE TO USERS
5. “AFTER SALES SERVICE”

APPROACHES

- Partnerships - PPP, institutional collaboration, association – reduce overall costs of transaction along the chain, improves efficiency of resource use.
- Profitability - Reduce cost of inputs, improve market access
- Responsibility – Codes of conduct, Best practices - reduce environmental and social cost, reduce social risks
- Subsidy ?

Outcomes

- Increased efficiency
  - Organizing, supplying of raw materials to feed and seed producers
  - Seed production and feed manufacture
  - Seed and feed distribution – transport, storage and marketing
  - Utilization of seed and feed
- Higher yields – lower costs – better returns, less risks