

Value Chain Analysis and Development (ABVM 3104)

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Chapter 1

**The Value Chain Approach: Concepts,
Importance, and Principles**

The Value Chain Concept

- What is value? defined as:
 - A fair return or equivalent in goods, services, or money for something exchanged.
 - The monetary worth of something: market price.
 - Relative worth, utility, or importance.
 - A numerical quantity that is assigned or is determined by calculation or measurement.
 - Value is what makes something desirable!

Measuring Value

What makes Something desirable?

- Things that make something desirable could be
 - Price (cheap or high value); Appearance (looks); Experience (taste); Ease of use (fresh-cut and washed); Availability (year round like Coca Cola).
 - In all the attributes which make things desirable, consumer is the basis.
 - In other words consumers are the basis to determine value.

- The term ‘Value Chain’ was used by Michael Porter in his book "Competitive Advantage: Creating and Sustaining superior Performance" (1985).
- **Value chain**” refers to all the activities and services that bring a product (or a service) from conception to end use in a particular industry—from input supply to production, processing, wholesale, retail and finally, consumption.
- It is so called because value is being added to the product or service at each step.
- **A value chain** is a connected string of companies, groups and other players working together to satisfy market demands for a particular product or group of products.

- **A value chain** links the steps a product takes from the farmer to the consumer.
- It includes research and development, input suppliers and finance.
- The farmer combines these resources with land, labor and capital to produce commodities.
- A value chain is a network of strategic alliances between independent companies that together manage the flow of goods and services along the entire value-added chain.
- A value chain encompasses the flow of products, knowledge and information, finance, payments, and the social capital needed to organize producers and communities.

- A value chain is a set of linked activities that work to add value to a product;
 - it consists of actors and actions that improve a product while linking commodity producers to processors and markets.
- Value chains work best when their actors cooperate to produce higher-quality products and generate more income for all participants along the chain.
- Value chains differ from supply chains, which refer to logistics: the transport, storage and procedural steps for getting a product from its production site to the consumer.

- So, supply chains focus primarily on reducing costs and attaining operational excellence, while value chains focus more on innovation in product development and marketing.

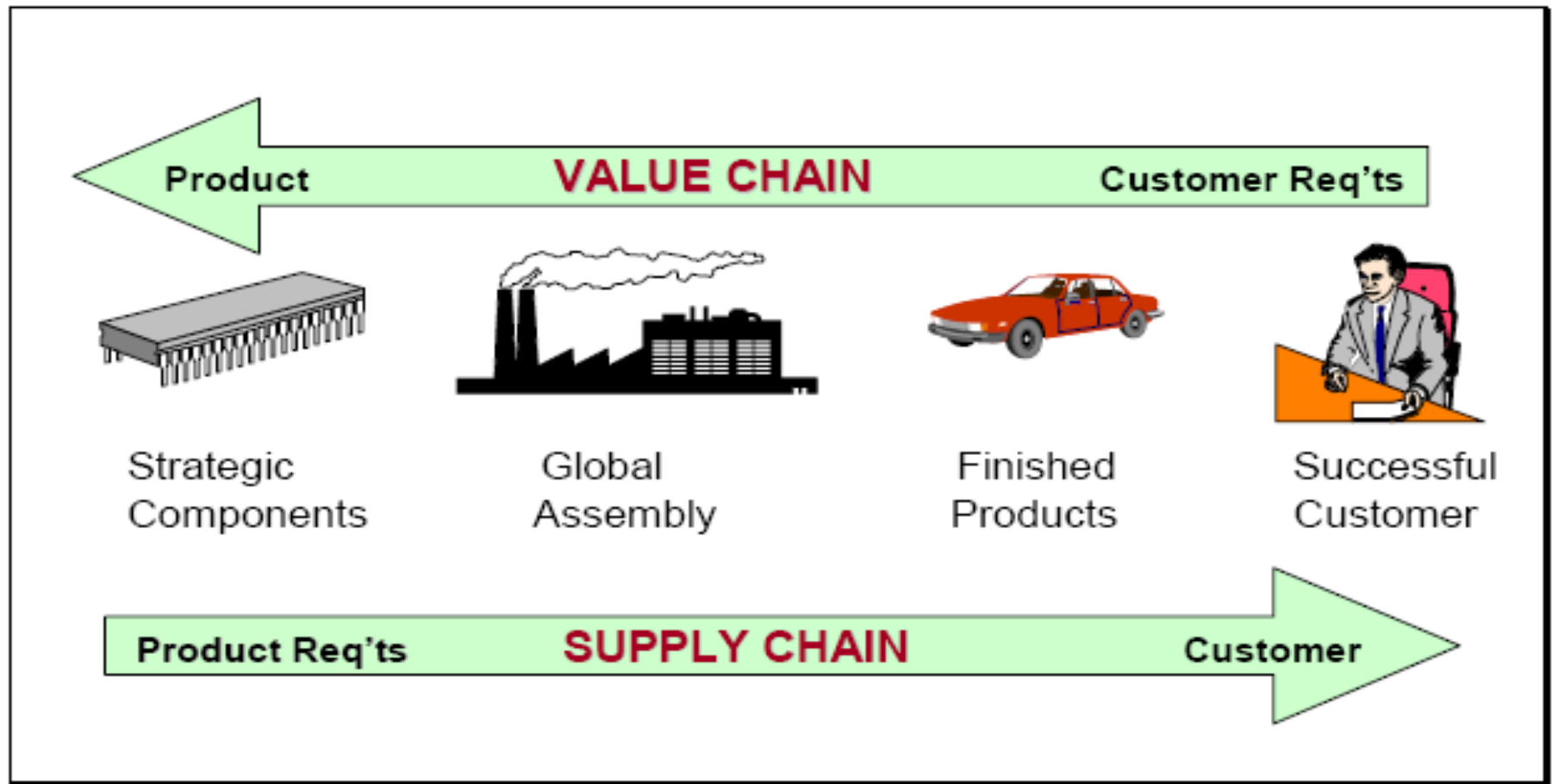


Figure 1. A Comparison of a Value Chain with a Supply Chain

- An agricultural value chain might include:
 - Development and dissemination of plant and animal genetic material,
 - Input supply, farmer organization, farm production, post-harvest handling, processing,
 - Provision of technologies of production and handling, grading criteria and facilities, cooling and packing technologies,
 - Post-harvest local processing, industrial processing, storage, transport, finance, and feedback from markets.

The Value Chain Approach

- A value chain approach in agricultural development helps identify weak points in the chain and actions to add more value.
- **The Value Chain Approach** is a means for examining the development of competitive advantage which is achieved when an organization links its activities in its value chain more cheaply or more expertly than its competitors.

Underlying Assumptions of Value Chain Approach

- Basic assumptions underpinning the VC Approach. include:
 - The expected role of agriculture in the socio-economic development of the country is clearly stated .
 - Understanding of the gap between agricultural potential and actual performance.
 - An assessment of SWOT analysis in the agricultural sector.
 - Clear identification of the various value chains and market opportunities
 - All chain actors and facilitators understand and assume their roles with dedication and purpose.
 - Certain actors or change agents are willing and able to motivate others to follow.
 - Operators/actors act in their individual and collective interest and assume responsibility from the start.
 - All actors benefit from upgrading
 - Both positive and negative experiences are taken as basis for progress.
 - Timely availability of critical information

Importance of Value Chain Approach

- The Value Chain Approach aims at making agricultural production and marketing more efficient by increasing value addition as well as improves incomes for all operators along the agricultural production system.
- The importance of the value chain to the various actors is:
- Enables the **Producer** to do the following:
 - Bring about product differentiation
 - Retain his/her customers
 - Improve the quality of his/her produce
 - Increase quantity of his/her produce
 - Produce at minimum cost
 - Stay competitive in the market
 - Increase his/her income
 - Remain sustainable (employed)
 - Develop customer and consumer confidence
 - Ability to project market supply

- Enables the **Processor** to ensure the following:

- ✿ Reliable supply of raw materials
- ✿ Quality supply of raw materials.
- ✿ Optimum supply of raw materials (Just-In-Time)
- ✿ Production of finished products
- ✿ Reduced cost of raw materials
- ✿ Reliable employment opportunities
- ✿ Reliable supply of finished goods

- Enables the **Consumer** to enjoy the following:

- ⊕ Quality products assured
- ⊕ All year availability of products
- ⊕ Quality products at reasonable prices
- ⊕ Wider range of goods to choose from
- ⊕ Healthier life

The Principles of the Value Chain in Agriculture

- The basic principles underlying the **Value Chain Approach** in agriculture are that agricultural markets and consumers demands determine the *nature, structure and conduct of modern agribusinesses*.
- The principles mentioned earlier are listed below:
 - ❖ The breakdown of the course of production (input supply to consumption) into chain links;
 - ❖ Chain links are activities;
 - ❖ Value is added to each activity;
 - ❖ Overall output will be with improved quality, improved quantities and reduced cost; and
 - ❖ Be able to stay in the competitive world

Characteristics of Value Chain Approach

- **A value chain is characterized by:**
 - ✚ Production line consists of series of chains
 - ✚ Each chain consists of activities
 - ✚ Value added to an activity affects all other activities (link)
 - ✚ Works when there is free and timely flow of information among the operators/actors
 - ✚ Each of the operators of the activities monitors and evaluates along the chain
 - ✚ All the operator/actors benefit when value is added
 - ✚ A sequence of production processes (also known as linkages) from the provision of specific inputs for production, transformation, marketing and to the final consumption.
 - ✚ The quality of linkages and coordination between producers, processors, traders and distributors of a particular product development determine the success of the value chain.

- ✚ Value chain operators understand that they can access markets if they succeed to supply competitive products in a joint effort.
- ✚ Value chain is competitive and its competitiveness depends on trust, cooperation and communication among actors.
- ✚ The performance of every single partner in the chain determines the strength of the entire value chain.
- ✚ The weakest link in the value chain also determines the competitiveness of the final product.
- ✚ Certain actors or change agents are willing and able to motivate others to follow
- ✚ Operators act in their individual and collective interest and assume responsibility from the start.
- ✚ All actors benefit from upgrading
- ✚ Both positive and negative experiences are taken as a basis for progress
- ✚ Timely availability of critical information

Dimensions of Value Chain

- The value chain concept has several dimensions.
- The **first** is its **flow**, also called its **input-output structure**.
 - In this sense, a chain is a set of products and services linked together in a sequence of value-adding economic activities.
 - A value chain has another, less visible structure. This is made up of the flow of **knowledge** and **expertise** necessary for the physical input-output structure to function.

- The **second** dimension of a value chain has to do with its **geographic spread**.
 - Some chains are truly global, with activities taking place in many countries on different continents.
- The **third** dimension of the value chain is the **control that different actors can exert over the activities making up the chain**.
 - The actors in a chain directly control their own activities and are directly or indirectly controlled by other actors.
 - The pattern of direct and indirect control in a value chain is called its **governance**.

Traditional Marketing Systems Versus Value Chain Marketing System

1. Traditional Marketing Systems

- Farmers produce commodities that are "pushed" into the market place.
- Farmers are generally isolated from a majority of end-consumer
- The primary exception is where local farmers sell produce in local markets and where there is a direct link from farmer to consumer.
- Have little control over input costs or process received for their goods.
- Mostly farmers/producers tend to receive minimal profit.
- Research and Development is focused on production and on reducing costs of production, and may not take account of other steps, links, or dependencies in the chain (e.g. environmental or social costs).

2. Value Chain Marketing Systems

- Farmers are linked to the needs of consumers,
- Farmers are working closely with suppliers and processors to produce the specific goods required by consumers.
- Consumers are linked to the needs of farmers.
- The farmer's market power and profitability can be enhanced.
- The system is market “Pull”. This is based on integrated transactions and information.
- Consumers purchase products that are produced according to their preferences.

Cont.....

- The farmer becomes the core link in producing the products that the consumers desire.
- Research and development, whilst including techniques targeted at increased production,
- Attempts take account of all of the links, and dependencies in the value chain, e.g. processing, environmental and social costs or considerations, as well factors such as health impacts, education and learning.
- Communication is in both directions.

Chapter 2. Value Chain Analysis



Value chain analysis (VCA)

- VCA is a process where a firm identifies its primary and support activities that add value to its final product and then analyze these activities to reduce costs or increase differentiation.
- VCA is an attempt to assess or estimate how competitive a selected commodity or product is likely to be in a target market, even before it gets there.
- VCA describes the activities within and around an organization, and relates them to the analysis of the competitive strength of the organization.
- Therefore, it evaluates the value each particular activity adds to the organizations products or services.
- The VCA is the base for value chain improvement, development or the set up of complete new value chains.

key issues that can be addressed through the value chain analysis

- Share of benefits and costs from value chains and market development.
- Distribution of added value along the chain.
- Market share of the different actors and corresponding size of sub-sector.
- Institutional and legal framework, such as regional production and processing zones, trade protocols, regulations on movement of people, agriculture marketing policies and financial institutions.
- Growth potentials (nodes with market potential).
- Infrastructure development.
- Potential for poverty reduction and rural income generation.

Purposes of value chain analysis

- Value chain analysis is conducted for a variety of purposes.
- The primary purpose of value chain analysis, however, is to understand the reasons for inefficiencies in the chain, and identify potential leverage points for improving the performance of the chain
- Value chain analysis involves breaking a chain into its constituent parts in order to better understand its structure and functioning.
- Thus, the VCA consists of
 - Identifying chain actors at each stage and discerning their functions and relationships;
 - Determining the chain governance, or leadership, to facilitate chain formation and strengthening; and
 - Identifying value adding activities in the chain and assigning costs and added value to each of those activities.

Agricultural value chain analysis can be conducted for the purposes:

- Understand how an agricultural value chain is organized (structure), operates (conduct) and performs (performance).
- Identify leverage interventions to improve the performance of the value chain
- Analyze agriculture–industry linkages
- Analyze income distribution
- Analyze employment issues
- Assess economic and social impacts of interventions
- Analyze environmental impacts of interventions
- Guide collective action for marketing

Steps in Value Chain Analysis

- As noted above VCA is a useful tool for working out how you can create the greatest possible value for your customers.
- VCA is a process that requires four interconnected actions:
 - Data collection and research,
 - Value chain mapping,
 - Analysis of opportunities and constraints, and
 - Vetting of findings with stakeholders and recommendations for future actions.
- These four actions are not necessarily sequential and can be carried out simultaneously.

1. The value chain team collects data and information through secondary and primary sources by way of research and interviews.
2. Mapping helps to organize the data, and highlights the market segments, participants/actors, their functions and linkages.
3. The collected data is analyzed using the value chain framework to reveal constraints within the chain that prevent or limit the exploitation of end market opportunities.
4. The resulting analysis of opportunities and constraints should be vetted/examined with stakeholders through events such as workshops, focus groups or “reporting-out” days.

The steps in VCA

Step One: Data Collection

- Good VCA begins with good data collection, from the initial desk research to the targeted interviews.
- The desk research consists of a rapid examination of readily available material.
- The aim is to familiarize the team with the industry, its market and the business environment in which it operates, as well as to identify sources for additional information.
- Interviews are conducted with 1) firms and individuals from all functional levels of the chain, and 2) individuals outside the value chain such as writers, journalists or economists.
- In addition to providing information about the movement of product and the distribution of benefits, the interviews should inform on value chain actors' current capacity to learn; how information is exchanged among participants; from where they learn about new production techniques, new markets and market trends; and the extent of trust that exists among actors.

Step Two: Value Chain Mapping

- Value chain mapping is the process of developing a visual depiction of the basic structure of the value chain.
- A value chain map illustrates the way the product flows from raw material to end markets and presents how the industry functions.
- It is a compressed visual diagram of the data collected at different stages of the value chain analysis and supports the narrative description of the chain.

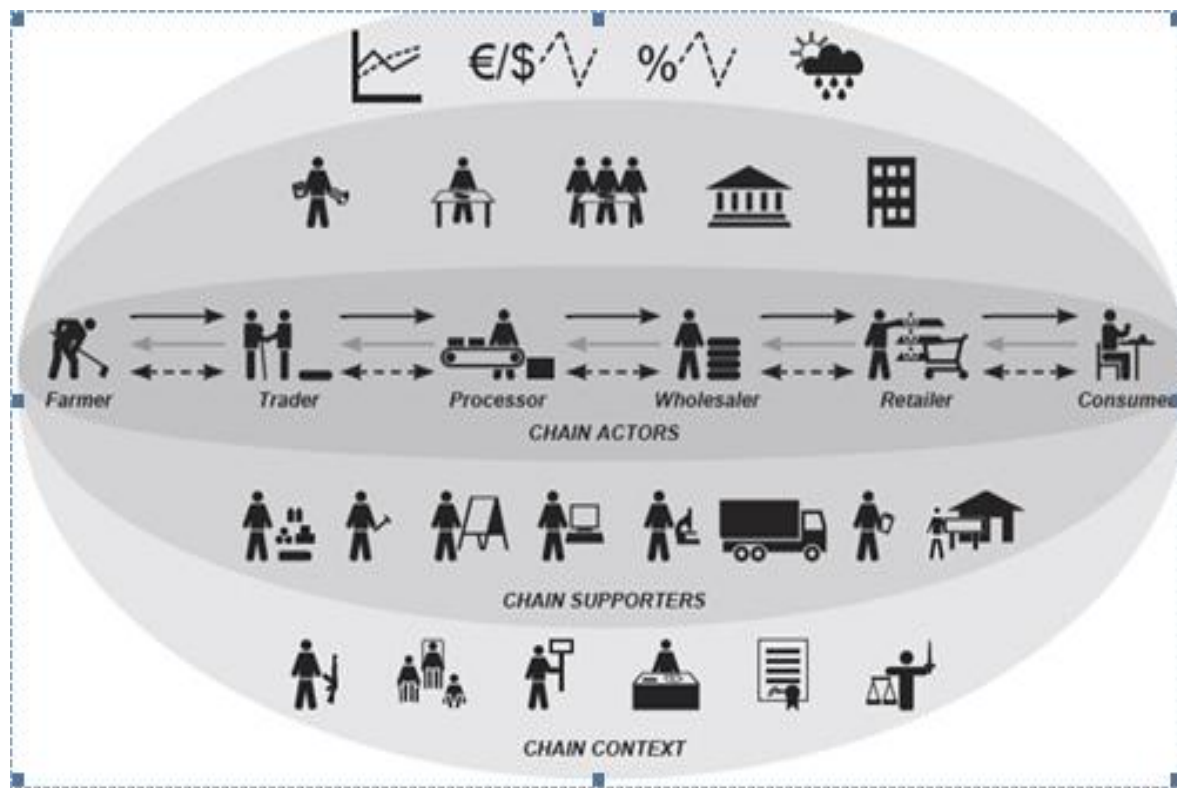


Figure 2. A comprehensive value chain map

- The purpose of a visual tool in the analysis process is to develop a shared understanding among value chain stakeholders of the current situation of the industry.
- The mapping exercise provides an opportunity for multi-stakeholder discussions to reveal opportunities and bottlenecks to be addressed in subsequent stages of the chain development.
- Maps are also used to identify information gaps that require further research.

Step Three: Analysis of Opportunities and Constraints Using the Value Chain Framework

- Step three uses the value chain framework as a lens through which the gathered data is analyzed.
- The framework is a useful tool to identify systemic chain-level issues rather than focus on firm-level problems.
- While **interviews** give the value chain team the chance to gather information from individual firms,
- The value chain framework helps to organize this information in such a way that the analysis moves from a firm-level to a chain-level perspective

Value chain Framework

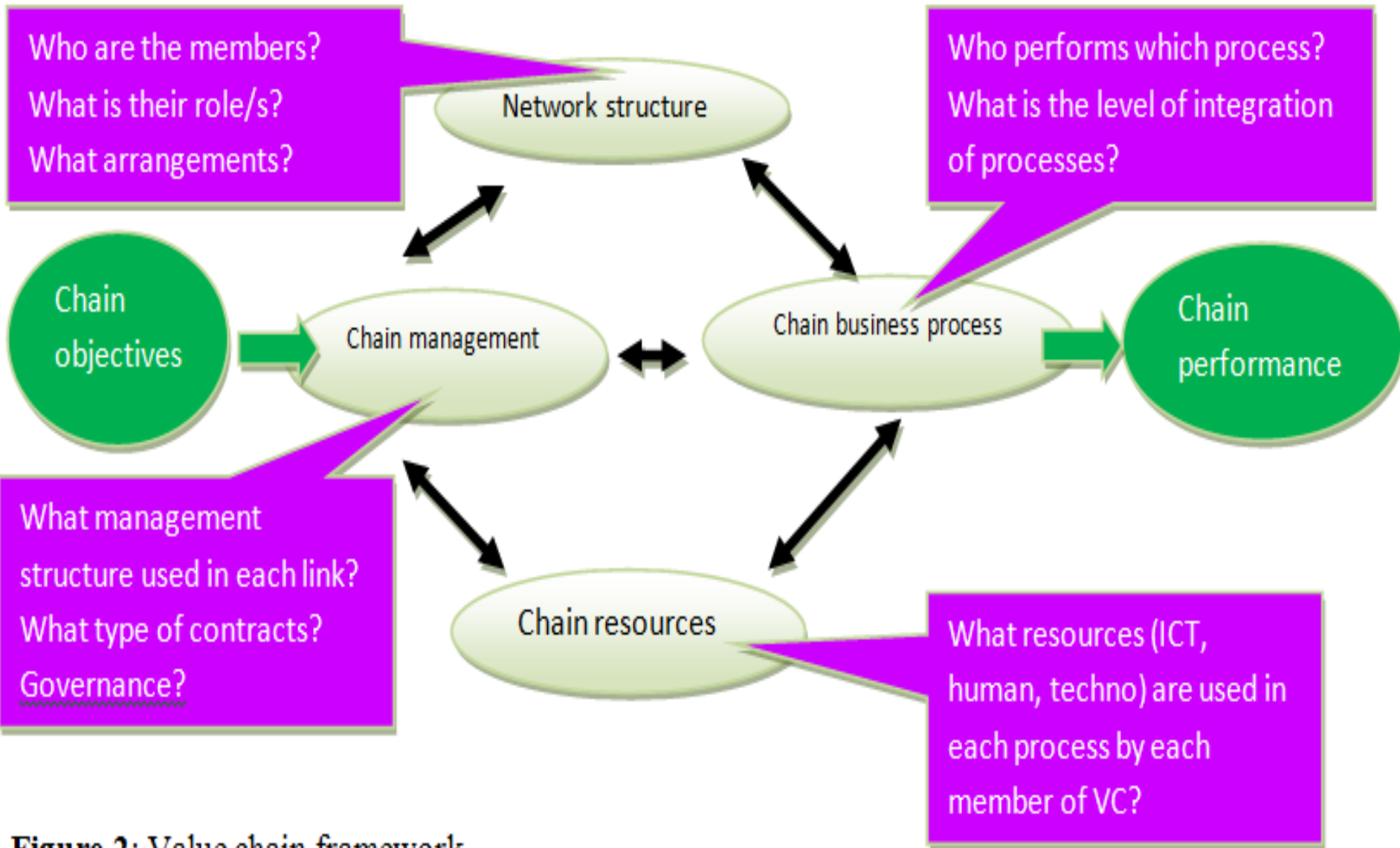


Figure 2: Value chain framework

Step Four: Vetting Findings of Chain Analysis through Stakeholder Workshops

- Value chain analysis helps develop a private-sector vision to reflect stakeholders' interest in improving the efficiency and competitiveness of the chain.
- The fourth step, vetting findings, uses VCA through a structured event (or series of events) like a workshop or reporting-out day to facilitate discussion with and among selected participants.
- The objective of these events is to bring participants together who are responsible for critical market functions, service provision, and the legal, regulatory and policy environment.
- The goal is to have these participants—who have an incentive to drive investments in upgrading—to develop and assist in implementing a private sector-led competitiveness strategy.
- To develop this strategy, the stakeholders will need to prioritize the opportunities and constraints identified during the value chain analysis.

Quiz 1

1. What is value chain? (1points)
2. What is the difference between horizontal and vertical linkage? (2 points)
3. What is the difference between sex and gender? (2 points)

Horizontal and Vertical Linkage In Value Chain

- **Linkages** are defined as a business relationship between two parties of the value chain/network
- **Trust** is social capital formed between two parties enabling a more efficient linkage through the reduction of transaction costs.
- Analysis of linkages involves not only identifying which organization and actors are linked with one another, but also identifying the reasons for those linkages and whether the linkages are beneficial or not.
- Actors in the value chain link with one another because they obtain benefit from those linkages.
- An identification of the benefits (or lack of them) goes a long way to identifying the constraints in increasing linkages and trust amongst value chain participants.
- Linkages within a value chain are mostly business linkages, and could be formal but are often informal.

- The informal linkage refers to the domain of social capital , in which **trust** can play a central role.
- Many studies have shown that in a dynamic traditional community the degree of social capital in business activities is high with numerous linkages based on trust .
- The linkages in value chain can be classified into **vertical** linkages and **horizontal** linkages.

1. The vertical linkages are the relationship between actors along the chain.

- Examples of interactions of farmers with other actors in the chain can take diverse forms:
 - Sales contract directly with state agro-processing enterprises
 - Production contract with foreign companies
 - Sale to private merchants by oral engagement
 - Sale through service co-operatives

- Effective **vertical linkages** between firms at different levels of the value chain play a key role in supporting the upgrading capacity of the chain.
- When vertically linked firms are willing and able to share information on new products and technologies, then the value chain as a whole is more competitive because it can adapt more rapidly to changing market conditions.
- Such win-win interactions between firms benefit the entire value chain by improving productivity, product quality and reliability of supply.
- On the other hand, if vertical relationships are characterized by **mistrust, misinformation and opportunistic behavior**, the entire value chain may struggle to remain competitive.

2. Horizontal linkages on the other hand are linkages between actors at the same level of the value chain,

- Through **horizontal linkages**, firms at the same level of the value chain interact to accomplish what a single firm working independently could not do so well.
- Effective horizontal relationships can promote efficiencies, reduce costs, open markets and spur beneficial competition
 - e.g. farmers working together with other farmers, or companies in the same sector liaising with each other on a regular basis.

Gender and value chain



Gender Issues in Value Chain Analysis

- **Gender** identifies the social relations between men and women.
- It refers to the relationship between men and women, boys and girls, and how this is socially constructed while
- **Sex** identifies the biological differences between men and women.
- **Gender** refers to the socially and culturally constructed differences between men and women; as distinct from sex which refers to their biological differences.
- The social constructs vary across cultures and time.
- Gender is an important aspect of value chain since gender relations both affect and are affected by the ways in which value chains function.

- The value chain for a given marketable product is the sequence of all production and marketing steps, ranging from primary production through processing and distribution up to the retail sale of the product and finally to its end users.
- A gender approach to value chain development focuses on gender inequalities within one particular value chain, which in turn is critical to strengthen the weakest links in the chain and assure inclusive upgrading of quality and growths.
- It is thereby important to consider both the different levels at which men and women participate in value chains and how gains of participation are distributed.

- Value chains offer tremendous opportunities to women through better market linkages and employment opportunities.
- At the same time, the way these value chains operate can affect women negatively.
- Enterprise interventions can also affect gender relations both positively and negatively and therefore any analysis of value chains including their impacts must include gender analysis.
- Gender Analysis in value chains is a methodology that describes existing gender relations in a particular environment, ranging from within households or firms to a larger scale of community.

- Overall, women tend to be less integrated in value chains than men.
- Their lack of mobility and thus lack of access to markets, as well as social norms, impede their interaction with value chain actors.
- Women are often excluded in horizontal linkages (relationships within one stage of the chain, e.g. within one organization, group of producers or self-helping groups) as well as in vertical linkages (relationships with actors of the value chain stages below and above, e.g. with buyers and suppliers).
- In agriculture value chains, women are predominantly active in subsistence economy and food for personal requirements (food crops), whereas commercial cultivation of food (cash crops) is traditionally dominated by men.
- Agriculture is the most important source of employment for women and men in rural areas, but women are more likely to hold low-wage, part-time, seasonal employment and tend to be paid less, even when having higher qualifications.

Importance of Gender Analysis

- Gender analysis helps to identify the needs and experiences of the genders.
- Information from a gender analysis will be useful in order to understand the following:
 - **Needs:** to identify different needs of men and women that will help achieve organizational objective efficiently and effectively as a result of equal participation of men and women.
 - **Constraints to participation:** to highlight the different responsibilities of men and women that might constrain their participation in projects, programs, leadership position in organization etc.
 - **Ability to participate:** to understand different stakeholders' capacity to participate in any given intervention, e.g. given differential levels of education or autonomy.
 - **Different benefits from participation:** to determine the different ways in which men and women do, or do not benefit from particular interventions.

CHAPTER 3

Value Chain Development: Challenges, Opportunities and Intervention Strategies

Building a Value Chain

- Value chain building is a deliberate initiative to promote *potential* value chain development in a *sustainable* manner.
- It involves working for inclusion of *target groups*, improving *participation and benefits of the target group*, incorporating other *developmental concerns*.
- *Building a chain begins with chain formation.*
- **Chain Formation** includes all activities and conditions necessary to design as well as implement collaborative relations between chain links/actors with the purpose of supporting a productive functioning of the chain efficiently.

STAGES IN BUILDING A VALUE CHAIN

- Three stages in building a value chain have been identified. The following sections deal with the stages and how you might apply them to specific situation.

Stage 1: Identifying the Opportunity

- In this first stage, you will identify some opportunities for a value chain by mapping and evaluating the existing supply chain.
- In this stage we learn how to gain the support of some members of the chain and perhaps identify someone who will champion the value chain.
- As a next process to identify opportunities for value chain development, the following points need attention.
 - A. Map and evaluate the supply chain
 - B. Outline the opportunity by developing a project summary and evaluating the market
 - C. Assess resources, risks and capabilities of a value chain project.

A. Map and evaluate the Supply Chain

- Mapping the existing supply chain is the first step in identifying opportunities.
- By mapping the major companies who are suppliers and customers, you will better understand how the product moves through the market channel and identify who you need to involve in the value chain project.
- **After mapping the next step is to evaluate the Supply Chain.** What are being done well? What we need to improve?
- This process can be helpful in determining where the greatest opportunities are for value chain development such as product quality, systems efficiencies or differentiated or specialized products.

B. Outlining the opportunity and evaluating the Market

- Now that we have completed the evaluation stage, we need to determine the most important opportunity or problem to be addressed using a value chain approach.
- **Evaluate the Market:** If we are considering taking a new product to market or expanding into a new market, we need to do a market review.

C. Assess resources, risks and capabilities of a value chain project.

- After having a good sense of the opportunities, it is time to prepare a summary of group's (chain actors) resources and capabilities that is accessible for a value chain pilot project.

Stage 2: Developing a Pilot Project Plan

- At this stage we look at developing a pilot project plan with clear goals, plans and measures.
- A pilot is a small, trial-size version of a commercial-scale value chain.
- This is the stage where you identify suitable partners for the value chain, select a manager and achieve commitment from all partners perhaps in the form of a written agreement.
- Steps in developing the pilot plan are:

A. Identify Value Chain Partners:-

- You should now have a clear project goal and a list of resources needed. These resources will become list of criteria for searching and selection of additional value chain partners.
- *Carefully selecting the right partners is the most important factor in establishing a successful value chain. The best alliance strategy or market opportunity may still not be successful without the right partners.*

B. Initial Contact

- Once we have short-listed the companies (stakeholders) that might fulfill the requirements, the initial contact with them should be tentative.
- This requires outlining the basic value chain idea, what the partners hope to achieve and how they think it will benefit them.
- While providing them with some information, we will also want to leave the options open
- Once a successful alliance with other companies or farmers established, you can probably proceed with greater confidence to forge a stronger value chain.

C. Steering or Working Committee

- Once potential partners have expressed an interest, it's time to pull all interested parties together.
- A steering committee, with representatives from each of the partner organizations, is an effective way to begin.
- In the initial planning stages, senior people who can make decisions on behalf of their organization to attend a meeting are to be invited.
- After bringing a steering committee together, the next step is to build strong relationships among members.

D. Build Relationships

- Building a collaborative business relationship when relationships have traditionally been competitive takes effort and attention.
- Value chains need a foundation of cooperation, trust and mutual respect to thrive.
- As in other relationships, value chain relationships are built by both working together and getting to know each other in an informal setting.

E. Manage Key Discussions

- During value chain formation and pilot project implementation,
 - There will be key discussions that require a collaborative attitude, excellent communication skills and possibly the help of a facilitator.

Stage 3: Monitoring and Evaluating the Pilot Project

- This is the stage where you will implement and monitor your pilot project.
- You will adapt and build in order to determine whether a full scale value chain is a possibility.
- **Monitoring the Pilot Project**
- As you move along in the pilot project, make sure you schedule regular steering committee meetings to report on the status, or communicate the progress, of the project to date.
- At these meetings check for any challenges or problems with the pilot's progress, conflicts that may have arisen and any new opportunities.
- Define and plan your next steps to address these issues.
- At a meeting with partners, try to answer the following questions.
 - Are objectives being met?
 - Have the objectives changed?
 - Are all partners satisfied with progress?
 - What needs to change to increase satisfaction or ensure continuing support?

Requirements for Successful Value Chain Development

- There are a number of key organizational considerations for a successful value chain development.
- The major requirements for value chain development are:
 - Establishing common objectives;
 - building trust and establishing co-operative working relationships;
 - managing information flows; and
 - **upgrading in value chains.** Up grading processes and activities results in value add products and services.
- Upgrading activities takes four different forms:
- **Process upgrading:** it means producing the same product more efficiently – perhaps by using new technologies or management methods.
 - For example, farmers may grow more by switching varieties or applying fertilizer; they may reduce pest attacks and save costs through integrated pest management rather than spraying; they may husk maize more quickly using a machine rather than by hand

- **Product upgrading:** farmers can improve their product in various ways.
 - For example, they may plant a new variety that has more desirable characteristics; or they may stop using agrochemicals and apply for certification so they can sell their produce as “organic”.
- **Functional or intra-chain upgrading:** farmers can take on new activities in the chain, change the mix of activities they undertake. For example, they may start grading and sorting their produce; they may bulk it to make pick-up more convenient for buyers; or they may process it (drying, milling, etc.) to improve its value or increase its storage life.
- **Chain or inter-chain upgrading:** farmers can also set out on a new value chain: they can start growing a new crop, keep a new species of livestock, or start a new enterprise such as dairying or agro-tourism. They may be completely new to these activities, or they may transfer their skills and experience from their existing enterprises.

Stages in Value Chain Improvement

- The ultimate goal of developing and improving value chain is to increase the competitiveness of the sector on the (international) market.
- Such development can be indicated by empowerment of producers, improved quality, improved logistics, cost price reduction (improvement of margins), and scaling up (increase of volume) on a continuous basis.
- Stages in value chain improvement are detailed as follows.

I. Identification of Constraints and Opportunities

- Effectiveness of value chain in ensuring value for money, minimizing operational cost and ultimately enhancing competitiveness, depends to a large extent on the elimination/overcoming of constraints and seizing opportunities associated with the value chain (and its components).
- **Constraints** may be defined broadly as any factor that prevents a unit or system from being effective or achieving its objectives.
- Constraints may differ from one component of the value chain to the other; But generally, they may come in the form of lack of timely information, poorly developed human resource, mistrust, inadequate material resource, inadequate technology and low commitment.

- **Opportunities**, on the other hand, may be defined as avenues/openings within a unit or system which have the potential to enable the unit/system achieve its objectives or enhance its effectiveness, if utilized.
- A combination of the main constraints and opportunities provides the **leverage points** for the value chain.
- Improving the effectiveness of a value chain requires some intervention to address the leverage point i.e. **overcoming constraints and utilizing opportunities**.
- There are several tools and techniques that can be used to ensure active participation of all stakeholders during identification and assessment of constraints and opportunities.
- Prominent among these are focus group discussions, key informant interviews and semi-structured interviews.
- The identification and assessment of constraints and opportunities (using the participatory approach method) should be done both within and across the components of the value chain (linkages), using the relevant stakeholders.

ii. Identifying Leverage Points from Constraints and Opportunities

- Prioritizing constraints and opportunities
- A **priority constraint** is one which when not attended to could impede the whole value chain.
- A **priority opportunity** is one which when utilized has the potential to bring large returns to all the players along the value chain.
- Nevertheless constraints and opportunities may be numerous; some of them are critical to the sustenance of the value chain while others are not.
- There is therefore the need to prioritize in order to identify the key constraints and opportunities so as to determine which of them require immediate attention.
- This has to be done with the involvement of all stakeholders along the chain as constraints and opportunities differ at each level of the value chain.
- As the value chain continues to operate, some new constraints and opportunities will emerge while some of the non-critical ones may become critical.
- It is therefore necessary to make identification of leverage points (critical constraints and opportunities) as a regular activity.

iii. Selecting priority constraints and opportunities to address

- After identifying the priority constraints and opportunities, it may be necessary to select those which can be addressed.
- This is because even though they may all be of priority; resources available may not be adequate and even sufficient to address all of them may not be practical owing to different factors.

iv. Identifying Changes Required in Leading Change Agents

- Every value chain has a vision and the stakeholders must play roles that will ensure the attainment of this vision.
- Though each stakeholder is important in the value chain some of them would have to be classified as active, innovative and leading change agents.
- Having identified the prevailing constraints and opportunities, it is possible to identify which roles of the operators need to be modified to ensure sustenance and effectiveness.
- Role modification may call for skill upgrading.
- New knowledge must be given through training which may require experts in various fields.

Strategies for chain development

- **Value chain strategy** is a set of statements and guidelines at chain level with the purpose to guide the future development of the chain and its links, and based on the shared ultimate goal of the chain.
- Chain strategies cover domains like market coverage, co-ordinated investments, and extension of the chain with new participants, innovation.
- There are three strategies for chain development:
 1. **Low cost strategy or Chain optimization**
 - The successive links must together minimize costs. This can happen by employing ICT facilities, logistics and elimination linkages.
 - Key issues in this strategy are **efficiency and effectiveness**.
 - **Efficiency**:-relates to how much of a product/service is produced in a given time frame with a possible least amount of resource
 - **Effectiveness** :-is a measurement of quality

2. Integral chain care

- Consumer choices are increasingly being determined by requirements in the area of health and safety.
- Care for the environment and animal-friendly production methods are becoming more important.
- Here quality assurance is the key.
- Issues that should get attention in this strategy are consumers' concerns, quality, sustainability, safety & health and animal welfare.

3. Market segmentation or Chain differentiation

- The other chain strategy option is market segmentation or differentiation.
- **Market segmentation or differentiation** refers to providing product or service to the users by the elasticity that a user has for the service or product.
- This enables producers to meet their customer needs by different value creation and product differentiation.

Chapter 4

Enabling Environment for Value Chain Development

Challenges in Value Chain Development

- Much as there are numerous opportunities for the value chain there are challenges that one encounters in the development of a value chain.
 - The challenges have been categorized under the following headings.
1. **Input:** this refers to the basic items required for production by various actors along the value chain. The challenges at the input level include:
 - **Low performance genetic materials:** e.g. seed, planting material, breeding stock, etc. When these are of inferior quality they do not give the optimum yield.
 - **Inconsistency in quality and supply of raw materials:** lack of consistency in the quality and supply of raw materials like agro-chemicals can lead to low quality output. It can also hamper the regular supply of products to the market.
 - **Variability in raw material quality:** variations in the quality of raw materials for production and processing result in inferior goods on the market, high down time (under capacity utilization), high cost of production and loss of market share.

2. **Production:** challenges at this level

- **Limited protocols on good agricultural practices for commodity chains:** limited availability of manuals that provide information on steps for Good Agricultural Practices (GAP).
- **Producers not fully integrated into the market economy:** many producers are not business oriented and are not producing in a business-like manner to satisfy the demands of the market.
- **Misuse of agrochemicals:** this can lead to the production of inferior quality goods with serious health hazards for the producer, the consumer and the general public, loss of market share, increase in cost of production, lower competitiveness, etc.
- **Seasonal fluctuations in production:** this can lead to low utilization of the factors of production, inadequate supply of goods to the market and price and income instability.
- **Lack of good agricultural practices:** can lead to the production of inferior quality goods, increase cost of production and lower productivity
- **Excessive dependence on climate:** it can sometimes lead to complete crop failure and livestock death, increases the uncertainty of production and unreliable supply of raw materials and final products to the market.
- **Poor caliber/ability and quality of labor:** this leads to low productivity, high wastage, inefficient utilization of information and technology, etc.

3. Processing

- Challenges at processing levels
- **Lack of value addition to farm produce:** caused by inadequate research and development. This affects innovativeness thus leading to lower incomes, increase in wastage and environmental problems.
- **Lack of adequate processing systems:** there is no adequate processing capacity, obsolete processing equipment. These lead to high cost of production, competitiveness, loss of profit margins and discourage basic production.
- **Inappropriate packaging material:** unattractive final products, shorter product shelf life and low value capturing.

4. **Marketing** : challenges at this level

- **Stringent market requirements by supermarkets:** refers to ever increasing safety and quality requirements by supermarkets and consumers leading to difficulties in market access.
- **Cost of certification:** the high cost of certification of products tends to discourage producers from accessing international markets.
- **Misuse of Sanitary Phyto-Sanitary (SPS) and Technical Barrier to Trade (TBT) agreement:** possible abuse of phyto-sanitary and technical requirements can lead to denial of market access.
- **High import tariffs in the external market:**
- **Inefficient distribution system:**
- **Price fluctuations:** seasonal and cyclical movement of price due to bottlenecks in the supply of goods and instability in incomes.
- **Flooding of domestic market with imported equivalents:** high importation and availability of subsidized foreign goods on the local market. This crowds out local products.
- **Inelastic demand for exported commodities:** low response of primary product consumption to lowering of prices. Thus, people do not consume more of the product even at lower prices.
- **Low level of market information:** market information is not organized in a useful form for value chain actors and limited access to available market information where organized. These lead to high transaction costs, high prices of products, and high wastage at various segments of the value chain.

5. **Consumption : challenges at this level**

- **Lack of appreciation of consumer culture and behavior:** consumers generally have low appreciation for health and safety consciousness. This results in ineffective demand for safe and quality goods.
- **Weak and inactive consumer associations:** consumer associations are poorly organized making them weak and inactive. This does not drive the production and processing segments of the value chain to be competitive.
- **Lack of effective demand for quality products:** Low disposable incomes of most households leading to low effective demand for quality products.
- Most consumers are not health or safety conscious and may not insist on buying quality products.

6. **Physical Infrastructure : challenges at this level**

- Physical infrastructure includes irrigation, roads, storage facilities (dry and cold), utilities (water, electricity, telephone, etc.) and port facilities: these are inadequate and unreliable thus affecting production, processing, distribution and storage of primary and final products.

7. Social Infrastructure: challenges at this level

- Social infrastructure comprises networking for Value Chain development (strategic partnership), group formation and development, and trust among others.
- Their effect increases transaction costs, cheating, lack of transparency, moral hazard, and unhealthy competition among the various actors in the value chain.

8. Policy and Administration Issues

- Policy, administration and institutions relating to certification, patenting, business establishment, standards and standardization, negotiation and enforcement of contracts, slow change in national policy in response to global trends, consistency in public policy, taxes and levies, sustainable institutions capable of supporting VC development, lack of clearly specified roles of supervising institutions.
- These increase transaction costs, business risk, lower business confidence as well as competitiveness.

9. **Environmental Concerns**

- Environmental concerns relate to waste management and the potential unintended impact of value chain activities on the environment. This can lead to environmental degradation and loss of market opportunities

10. **Technical/Technological Inadequacies**

- Technical/technological inadequacies: these include inadequate requisite technical and technological know-how, inadequate research and development, inadequate staff/personnel, equipment and knowledge and limited opportunities for value addition to by-products. These do not encourage innovativeness in products and processes.

11. Financial

- *Financial challenges*: these relate to inadequate and inappropriate financial products and lack of access to financial services (credit).

12. Services

- Services: there is usually a mismatch of service need and service provision.
- In addition critical information is untimely and there is lack of specialization of service providers.

Sources Of The Value Chain Development Challenges

- Operators
- Service providers
- Government
- Trading partners (local and external)
- Development partners
- Institutions (banks)
- Consumers

Opportunities for Value Chain Development

- Several opportunities exist for developing a value chain. These include the following:
 1. **Globalization of trade:** the way modern technology and transportation have integrated the world economic systems. Globalization enables us to get information about sources of inputs, market opportunities, technology, etc. that can help us to produce to meet the demands of the market.
 2. **World Trade Organization (WTO) agreement on agriculture:** it is an organization established to break the barriers to trade and regulate international trade by ensuring the enforcement of international standards. WTO creates wider market opportunities and ensures transparency in the market at the national and international levels.
 3. **International standards:** these are standards set at the international level to ensure that quality goods are supplied to the market. They also prevent discrimination against weaker countries.
 4. **Changing consumer preferences and behavior:** people's taste and preferences change because of availability of alternative products on the market. This creates opportunities for new products to be introduced.

5. **Factor endowment:** this has to do with comparative advantage. The producers might have certain resources that enables them to produce certain goods better than others. These resources thus become opportunities for the producers to produce more of these goods for the market.
6. **Advances in technology:** advances in, communication, transportation, information, production and processing technologies have created opportunities to create and add value thus ensuring the efficient production of goods.
7. **Proximity to the European market:** this leads to reduction in cost in terms of freight and ensures the supply of fresh products to the European market.
8. **Liberalization of agricultural trade:** this has led to the removal of some trade barriers and ensures the free movement of goods.

9. **Expanding domestic market:** increases in population and income levels as well as changes in consumer preferences and taste have combined to expand the domestic market thus creating opportunities for producers to introduce more products onto the market.
10. **Trade agreements:** agreements between regional and international economic groupings like the Economic Community of West African States (ECOWAS) and African, Caribbean and Pacific (ACP) and the European Union (EU) as well as bi-lateral agreement between trade partners have created opportunities for the production of diverse goods to satisfy the demands of the market. They have also created opportunities for accessing inputs, capital, technical assistance and technology.

Supporting Factors for Value Chain Development

- The general environment in which the value chain operates influences their performances directly and indirectly.
- The various factors and policy requirements as deemed necessary for a value chain development are explained as follows.

1. Logistics in Value Chain

- Agri-food logistics is the art of moving agricultural and food products from farm to fork.
- As such logistics management is embedded in close cooperation and communication functions between companies/ chain actors.
- Logistics is concerned with having goods and services of the right amount at the right place, at the right time and at the right quality.
- Clustering based on collaboration and integration of product flows, storage and information is one such change.
- This collaboration will lead to the next jump in reaching higher efficiency.

- The essence of logistics in value chain development relies on how to organise the collaboration and combine different products with different requirements for storage conditions.

2. Value Chain Finance

- **Value chain finance** is considered as financial products and services flowing to and/or through a value chain to address the needs of those involved in that chain, be it a need for finance, a need to secure sales, procure products, reduce risk and/or improve efficiency within the chain
- The term **value chain finance** may also refer to an approach in which the specific features of trading within a value chain are exploited to reduce finance risks and to facilitate services by financial institutions.
- During the early stages of the value chain life cycle finance is a critical bottleneck.
- Value chain finance can facilitate smooth information flow and fair allocation of incentives and it is the key to convert agriculture to agribusiness by promoting entrepreneurship.

3. Value Chain Information Management

- To manage the flow of goods and services in a value chain, there has to be an effective management of information exchange between all members, including managing feedback from customers and/or end consumers.
- Open communication and information sharing are essential to a successful and market-responsive value chain.
- The development of market intelligence capacity and market information systems in most value chain supported programmes is in response to this need.
- Key to the success in most value chains has been communication and information sharing between chain partners.

Monitoring and Evaluation of value chain development

- Success or failure of any program will be known through conducting effective monitoring and evaluation at all levels of operation.
- Mechanisms for monitoring therefore need to be put in place. These include:
 - Drawing clearly stated action plan and setting targets for implementation of projects indicating clear indicators of success
 - Putting measures in place to ensure timely execution of activities
 - Enforcing regular reporting on activities
 - Keeping reliable record on all activities. Records need to be regularly audited
 - Having regular stakeholders forum during which supervisors at the various stages of the chain report on their activities

CHAPTER 5.
VALUE CHAIN GOVERNANCE AND
BUSINESS ETHICS

Value Chain governance

- A value chain has to be regulated to enhance performance.
- **Governance** refers to ‘the basic rules of the game that determine behavioral conduct and action for vertical coordination and cooperation.
- Governance refers to the role of coordination and associated roles of identifying dynamic profitable opportunities and apportioning roles to key players (Kaplinsky and Morris 2001).
- Governance implies that interactions between firms along a value chain reflect organization, rather than randomness.
- The various activities in the chain, within firms and between firms, are influenced by chain governance.
- Value chains are characterized by repetitiveness of linkage interactions.
- The governance of value chains emanate from the requirement to set product, process, and logistic standards, which then influence upstream or downstream chain actors and results in activities, actors, roles and functions.

- Therefore, power asymmetry is central in value chain governance.
- In other words, some key actors in the chain shoulder the responsibility to allocate roles (inter-firm division of labour) and improve functions.
- Power in value chain governance can be categorized into three major areas of responsibilities:
 - a. Setting basic rules for participation in the chain,
 - b. Monitoring the performance of chain actors in complying with the basic rules, and
 - c. Assistance to help chain actors adhere to the basic rules (Kaplinsky and Morris 2001).

- Clearly, governance in value chains has something to do with the exercise of control along the chain.
- **Governance** is about power and the ability to exert control along the chain — at any point in the chain, some firm (or organization or institution) sets and/or enforces parameters under which others in the chain operate.
- The key parameters are:
 - What is to be produced? This includes product design and specifications.
 - How it is to be produced. This involves the definition of production processes, which can include elements such as the technology to be used, quality systems, labour standards and environmental standards.
 - How much is to be produced, and when. This refers to production scheduling and logistics.

- Chain governance exists when some firms work to the parameters set by other powerful firms in the chain.
- The firm that sets the parameters with which other firms in the chain must comply is referred to as the **lead firm** in the chain.

Food quality and Food safety in a VC

Concepts and definitions

- Food safety and food quality are two important terms which describe aspects of food products and the characters of the processors.
- Food quality and food safety principles and practices are applied to foods from farm produce and livestock production; manufactured and processed food products for consumers; and all raw materials, that are used in the preparation of food and beverage products.
- The overall responsibility for food quality and food safety is shared by all segments of the food system, including the various food industry sectors, government regulatory agencies, and consumers in the food supply chain.
- The terms food quality and food safety are important in any food manufacturing environment, and often used interchangeably, but there is a distinct relationship between food quality and food safety.

FOOD QUALITY

- Food product quality is a prime criterion in gaining access to competitive markets.
- **Food quality** can be defined as a total of traits and criteria which characterize food as regards its nutritional value, sensory value, convenience as well as safety for a consumer's health.
- Thus, it is a broader concept than food safety.
- Food quality, as distinct from food safety is the extent to which all the established requirements relating to the characteristics of a food are met in satisfying customers' satisfaction.
- In other words, good quality exists when the product complies with the requirements specified by the client.

- Quality includes all other attributes that influence a product's value to the consumer.”
- These may include measures of purity, flavour, color, maturity, safety, wholesomeness, nutrition, or any other attribute or characteristic of the food product.
- This means quality is a term defined by the consumer, buyer, grader, or any other client based on a number of subjective and objective measurements of the food product.

FOOD SAFETY

- Food safety is a component of quality and an assurance that food will not cause adverse harm to the consumer when it is prepared and/or consumed according to its intended use to final consumers.
- Food safety is not negotiable.
- All requirements relating to the safety characteristics of a food must be met; there must be no unacceptable health risk associated with a food.
- Safety differs from many other quality attributes since it is a quality attribute that is difficult to observe.
- A product can appear to be of high quality, i.e. well colour, appetizing, flavourful, etc. and yet be unsafe because it is contaminated with undetected pathogenic organisms, toxic chemicals, or physical hazards.
- On the other hand, a product that seems to lack many of the visible quality attributes can be safe.

Food quality and food safety assurance along the food chain

- Development of the profit-oriented food enterprises, growing consumers' expectations and concerns as regards food quality and safety, as well as increasing requirements of food chain actors,
 - Forced many companies to improve *safety* and *quality* of their products through implementation of the quality and safety assurance and management systems.
- In order to preserve the various quality features in food products, various safety and quality assurance systems have been developed.
- Some of the systems are obligatory by law and some voluntary to be implemented by the food chain members.
- The distinction between obligatory and voluntary systems is based on the safety (hazard-free products) being the quality of food required by law.

- Thus, obligatory systems have been established to assure food safety, and are subsequently called “safety assurance systems”.
- These include
 - Good Hygiene Practices (GHP),
 - Good Manufacturing Practices (GMP)
 - Hazard Analysis and Critical Control Point (HACCP), which is preventive methods applied, to different extents, by most enterprises that export food in order to reduce the risk of microbial, chemical and physical contamination.
- Traceability systems with communication and information flowing through the chain also contribute to ensuring food safety within ever complex food chains.

Traceability

- Traceability is a concept developed in industrial engineering and was originally seen as a tool to ensure the quality of production and products through effective operation system in the production center.
- In supply-chain management of agricultural produce, **traceability** is defined as the information system necessary to provide the history of a product or a process from origin to point of final sale.
- Traceability (or product tracing) systems differentiate products for a number of reasons.
- Traceability is the ability to follow the movement of a food through specified stage(s) of production, processing and distribution.
- Traceability is an increasingly common element of public and private systems for monitoring compliance with quality, environmental, and other product and/or process attributes related to food.

- Traceability systems can be classified in to two
 - Internal traceability and
 - Chain traceability.
- “**Internal traceability**” refers to data recorded within an organization or geographic location, whereas
- “**chain traceability**” involves recording and transferring data through a supply chain between various organizations and locations involved in the provenance of food.
- Food contamination may occur at the farm, during processing or distribution, in transit, at retail or food service establishments, or at home.

Hazards, quality assurance and quality management systems

- **Hazard:** A biological, chemical, or physical agent in, or condition of, food with the potential to cause an adverse health effect.
- A biological, chemical, or physical agent that is reasonably likely to cause illness or injury in the absence of its control.
- **Quality assurance (QA)**
 - Part of quality management focused on providing confidence that quality requirements will be fulfilled (ISO9000:2000).
 - All those planned or systematic actions necessary to provide adequate confidence that a product or service will satisfy given needs.
 - A food Quality Assurance (QA) system should have a defined structure with documented procedures for activities that can affect the quality of the final product.
 - These activities may include preharvest, harvest, processing, storage, transport and distribution.

- It should include processes for monitoring the systems performance against stated aims.
- These processes should include detailed recordkeeping as well as internal and, where appropriate, external auditing.
- Quality Assurance (QA) systems may include:
 - Good Agricultural Practices (GAP)
 - Good manufacturing Practices (GMP)
 - Good Hygienic Practices (GHP)
 - Good Distribution Practices (GDP)
 - Hazard Analysis and Critical Control Point (HACCP) systems

Definitions of Good Practice

- **Good Distribution practices (GDP):** GDP guidelines aim at adjusting handling, transport and distribution procedures to the requirements of food safety.
- **Good Manufacturing Practices (GMP):** is a set of guidelines specifying activities to be undertaken and conditions to be fulfilled in food manufacturing processes in order to assure that the food produced meets the standards of food safety.
- **Good Hygiene practice (GHP):** All practices taken to ensure the food safety suitability or constitute a set of guidelines specifying activities to be undertaken and hygienic conditions to be fulfilled and monitored at all steps of the food chain in order to assure food safety. It is traditional food safety assurance system.
- **HACCP:** It is a systematic food safety assurance method to identify, evaluate and control of food hazards.

Quality management system

- Management system to direct and control an organization with regard to quality (ISO9000:2000).
- A formalized system that documents the structure, responsibilities and procedures required to achieve effective quality management.
- **Quality management systems** are elaborate management systems that can be use by any organization to develop and achieve its quality objectives.
- Quality management systems include quality planning and improvement activities, in addition to quality control and assurance activities.
- These systems are intended to provide a company with the capability to meet all quality requirements.
- The best example of quality management system is the ISO9001:2000 Quality management system requirements standard.