

Supply Chain Management in Agribusiness

Aspect	Value Chain	Supply Chain
Focus	Adding value at each stage	Managing the flow of goods and
	of product creation.	services.
Scope	Broad, covering everything	Farm to table but narrower, focused
	from farm to table,	on sourcing, production, and
	including processing and	distribution.
	marketing.	
Objective	Create a product or service	Ensure efficient delivery of
	that customers are willing	products from suppliers to
	to pay for.	customers.

Aspect	Value Chain	Supply Chain
Key Activities	Farming, processing, packaging,	Sourcing seeds and fertilizers, farming,
	marketing, sales, distribution, and	processing, packaging, distribution to
	customer service.	retailers or consumers.
Primary Concern	Value addition and differentiation	Efficiency and cost-effectiveness in the
	at every stage (e.g., organic	movement of goods (e.g., transportation,
	farming, branding).	storage).
Example	Agribusiness: farming (e.g.,	Agribusiness: sourcing seeds and inputs,
	organic crops), processing (e.g.,	farming, processing, packing, transporting
	juice production), packaging,	to stores or customers.
	branding, and retail.	
End Goal	Customer satisfaction through	Product availability and timely delivery to
	high-quality, differentiated	customers.
	products.	

Imagine you're a farmer producing fresh MANGOES. What are some of the key steps and considerations you'd have to think about in getting your product to consumers' tables?





SUPPLY CHAIN

Learning Objectives:

At the end of the topic, the students will be able to:

- Understand the **key principles and concepts of supply chain management** in the context of agribusiness.
- Analyze the **different stages of the agricultural supply chain** from producer to consumers.
- Identify technologies and innovations in SCM
- Assess supply threats and challenges in agribusiness SCM and propose effective solutions to address these while maintaining profitability.

SUPPLY CHAIN

Refers to the steps taken to deliver FOOD from the FARMER to the CONSUMERS.

SUPPLY CHAIN

A supply chain is a **network** of companies and people that are **involved in the production and delivery** of a product or service.

- The networks/ components of a supply chain include:
- Producers
- Vendors
- warehouses
- transportation companies
- distribution centers
- retailers.

AGRICULTURAL SUPPLY CHAINS

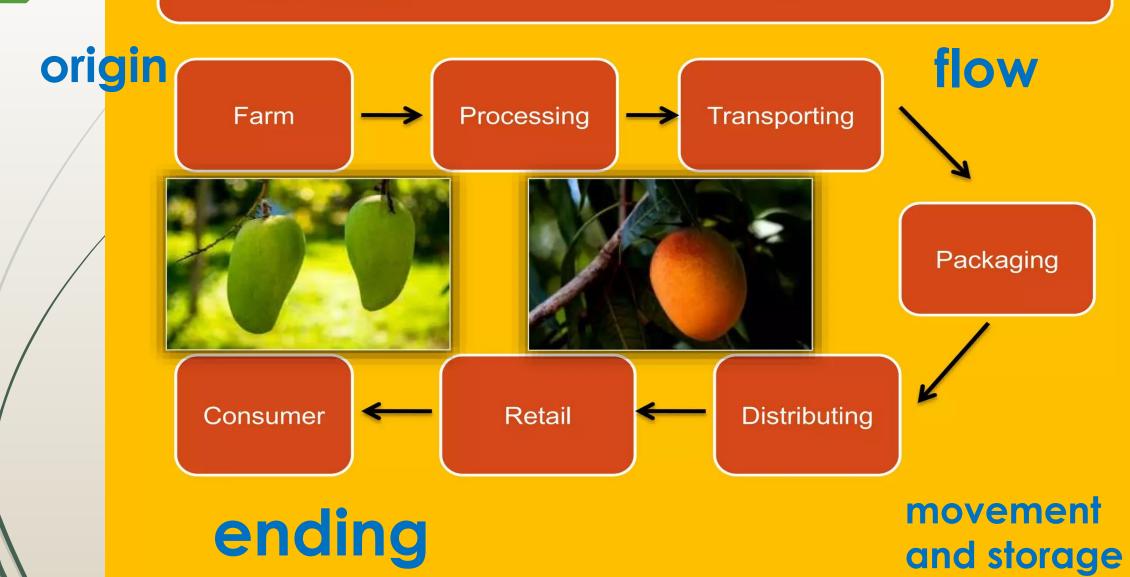
set of activities included in a "farm to fork" progression.

What is <u>Supply Chain</u> <u>Management in</u> Agribusiness?

Supply Chain Management

- described as the management of the flow of goods and services,
- Starting with the origin of the goods and ending with the consumption of the commodity.
- ☐ involves the movement and storage of raw materials involved in work in progress, inventory, and items that are fully furnished

Supply Chain of Mango



Supply Chain Management

Monitors and relates production, distribution, and shipment of products and services.

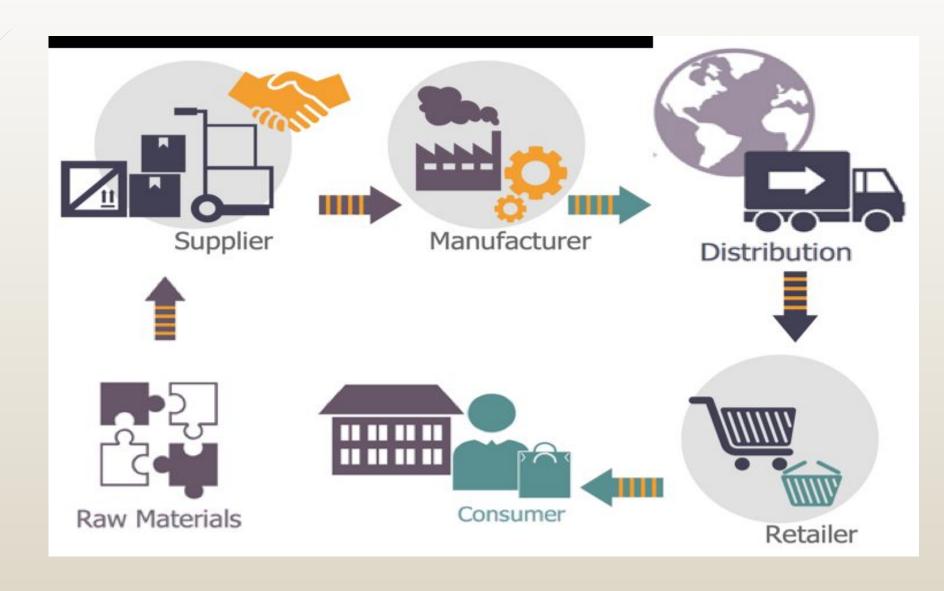
uses different
strategies to view
the entire chain
work efficiently at
each and every
step involved in
the chain.

supply chain management (SCM) merges the management of supply and demand.

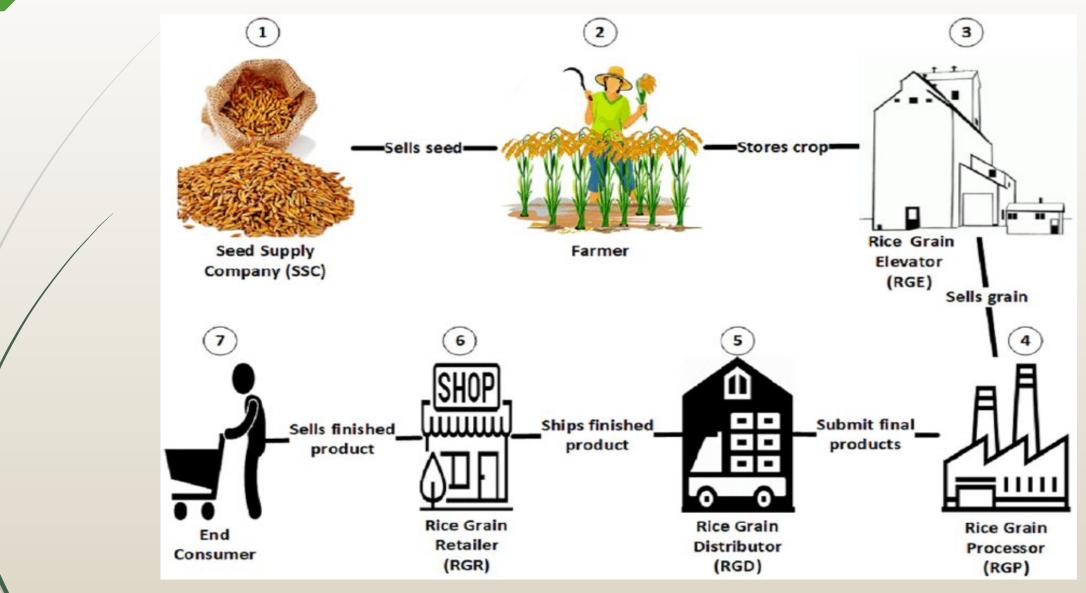
- Every unit that participates in the process must aim to minimize the costs
- Creates value for its stakeholders and customers.

SCM minimizes the rates by eradicating the unnecessary expenses, movements and handling.

SUPPLY CHAIN



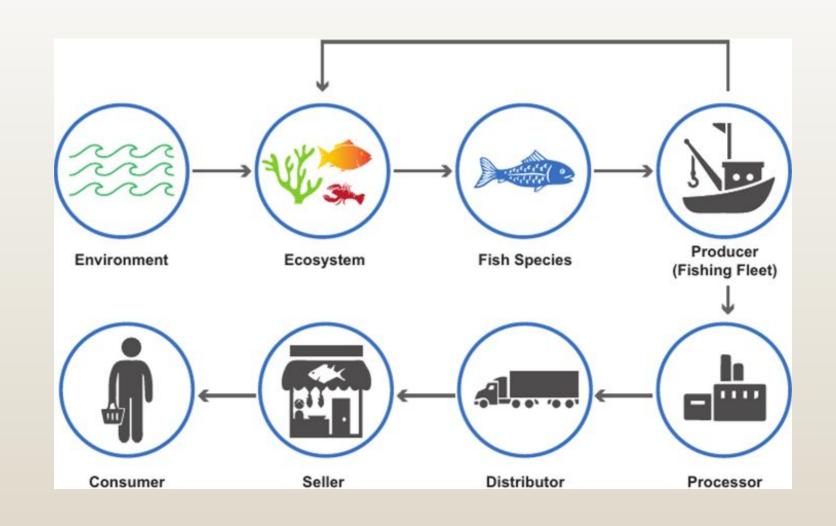
RICE SUPPLY CHAIN



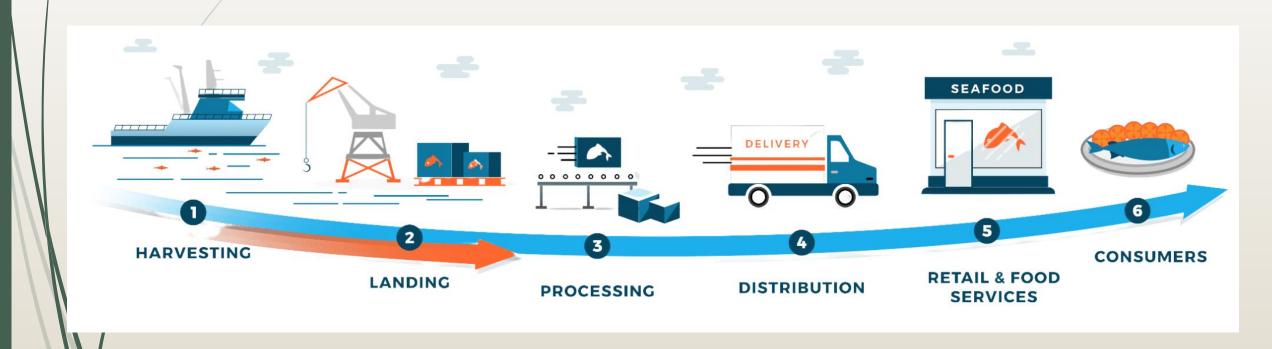
Cocoa Supply Chain



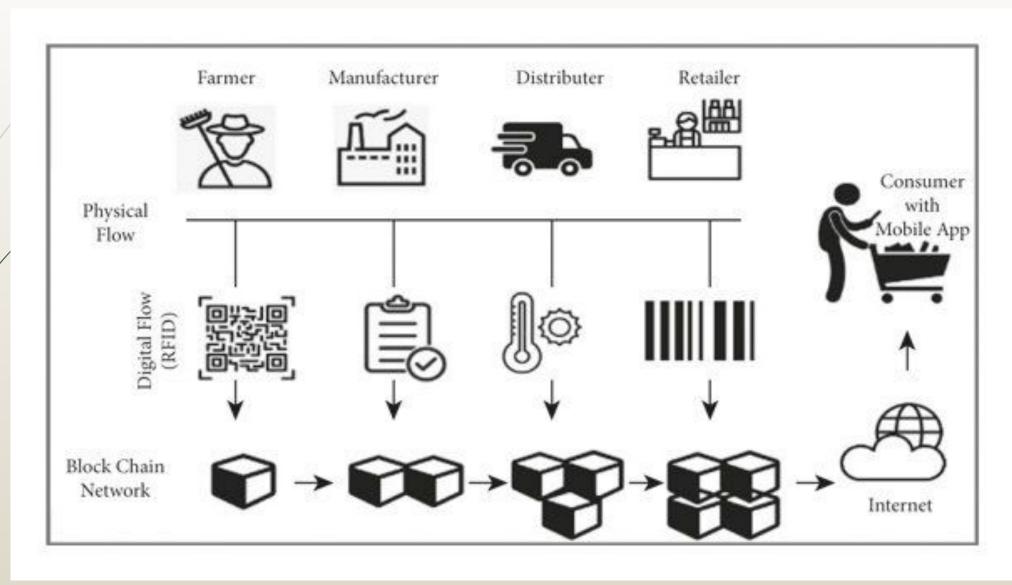
SEAFOOD SUPPLY CHAIN



TUNA SUPPLY CHAIN



MODERN SUPPLY CHAIN



Intermediaries help move products from the farm to the consumer.

Each intermediaries have an essential role in ensuring that agricultural products are efficiently moved from the field to the consumer, all while maintaining quality and adhering to various regulations.

Farmers & Producers

☐ The starting point of the supply chain, where raw agricultural products like crops, livestock, and dairy are produced. Farmers often work with various inputs like seeds, fertilizers, and machinery.

Processors

These intermediaries take raw agricultural products and transform them into processed goods, such as turning wheat into flour, milk into cheese, or vegetables into canned products. This stage is critical for adding value to the raw materials.

Wholesalers

- Once the products are processed,
 wholesalers buy in bulk from processors
 and sell to retailers or other businesses.
- They act as a bridge between the processors and the distributors or retailers, often providing storage, transportation, and bulk handling.

Distributors

Distributors transport products to various retail outlets, and sometimes directly to consumers, ensuring the goods are available in the right locations at the right time.

Retailers

- Retailers are the final point in the supply chain before the consumer.
- These include supermarkets, grocery stores, or specialized markets that sell food and agricultural products to the end consumer.

Logistics Providers

They handle the transportation,
 warehousing, and distribution of goods
 between intermediaries.

Exporters and Importers

In international trade, exporters and importers act as intermediaries who facilitate the cross-border movement of agricultural products, ensuring compliance with regulations, handling tariffs, and managing shipping logistics.

Financial Institutions

□ Banks and insurance companies provide financial services like loans and insurance to help farmers, processors, and distributors manage risks and invest in the necessary equipment and infrastructure.

Regulatory Bodies & Certification Authorities

These include government agencies and independent organizations that ensure food safety, quality standards, environmental regulations, and fair trade practices are adhered to throughout the supply chain.

Technologies and Innovations in Agribusiness SCM

Technologies and Innovations in Agribusiness SCM

- Artificial Intelligence (Ai)
- Blockchain for Traceability and Transparency
- Internet of Things (IoT) and Smart Sensors
- Drones
- Robotics

Artificial Intelligence (Ai)

https://www.youtube.c
om/watch?v= tijHjup-g
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Artificial intelligence (AI)

- enables data-driven decisions
- optimizing resource use
- enhancing efficiency across the entire supply chain

Al-powered tools analyze data from satellites, drones, and sensors to provide real-time insights on crop health, soil conditions, and weather, allowing for precision application of water and nutrients.

BLOCKCHAIN TECHNOLOGY

Blockchain is a decentralized digital database or ledger that securely stores records across a network of computers, ensuring transparency, immutability, and resistance to tampering.

It stores information in "blocks" linked chronologically via cryptographic hash functions.

A cryptographic hash function is a mathematical algorithm that transforms any input data into a fixed-size, seemingly random alphanumeric string, known as a hash value or message digest.

Blockchain

https://www.youtu be.com/watch?v= 6lmFBrRuGG0 Blockchain technology enhances traceability and transparency in agribusiness by creating a secure, decentralized, and immutable digital ledger for all supply chain transactions, from farm to consumer.

This enables end-to-end visibility into a product's origin, quality, and handling, helping to combat food fraud, verify authenticity, and improve food safety.

By integrating with technologies like IoT sensors, it provides real-time data, and its use of smart contracts can automate processes like payments, boosting efficiency and financial access for farmers.



Antonio Tiu, ANI chairperson and CEO.

AgriNurture Inc. (ANI), an agricultural firm listed in the Philippine Stock Exchange, will be adopting blockchain technology for all its contract growers.

Internet of Things (IoT) and Smart Sensors

https://www.y outube.com/ watch?v=hXC 7vCcq2xo The Internet of Things (IoT) in agribusiness uses networked smart sensors to collect real-time data on soil conditions, weather, and crop health, enabling smart farming to optimize irrigation, fertilization, and pest control for increased yields and resource efficiency.

Drones



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https://www.transportify.com.ph/ agriculture-supply-chain-challeng es-and-opportunities-in-the-philip pines/ https://www.tutorialspoint.com/supply_chain_management/supply_chain_management_quick_guide.htm

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