

Produce, Provenance & Sourcing

BMGM4005

Week 4

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Recap

1. Types of Agriculture
2. Innovation in Agriculture
3. Sustainable Farming
4. Challenges and Future Trends





Produce, Provenance & Sourcing BMGM4005

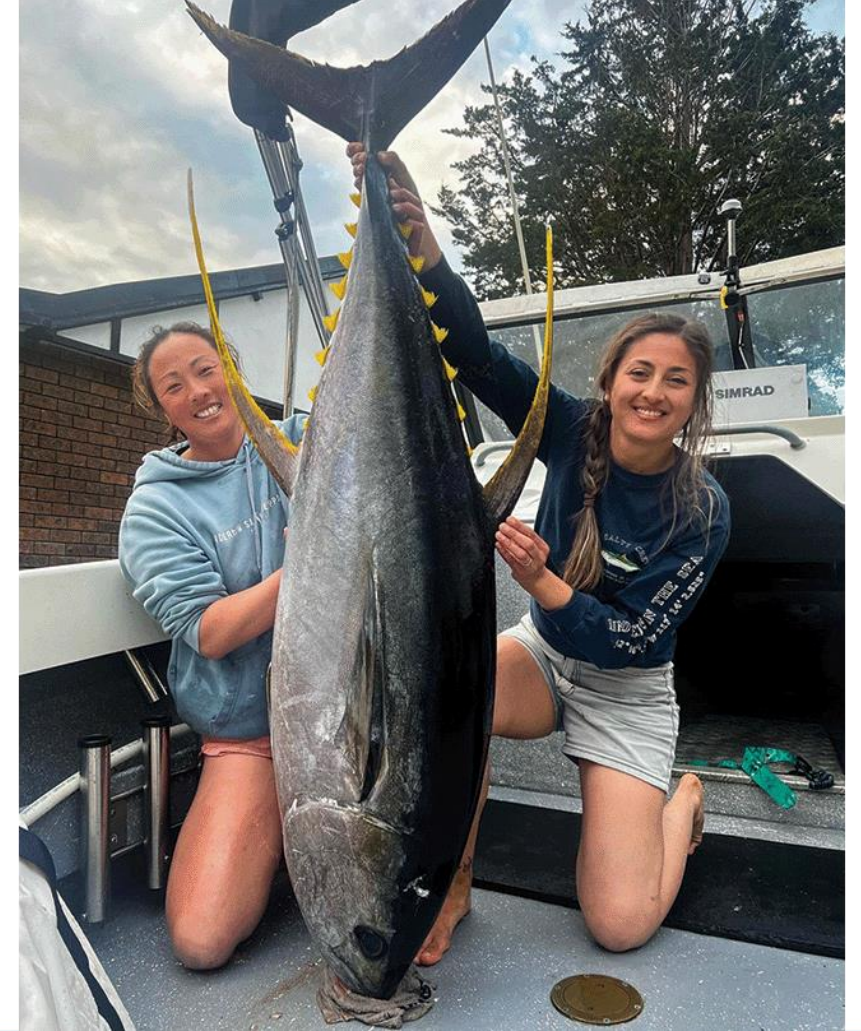
Week 4: Sourcing from the Sea

What we will look at this week...

1. Importance of Seafood Sourcing

1. Types of Fishing
2. Regional Variations in Seafood
3. Sustainable Fishing Practices

2. Supply Chain



FISH BINGO



Importance of Seafood Sourcing

Seafood sourcing is significant due to its impact on environmental sustainability, human health, economic livelihoods, and global food security.

- Responsible Sourcing
- Overfishing
- Preservation of Marine Biodiversity
- Aquaculture (minimizing habitat degradation, pollution, and disease transmission)
- Food Security



- Economic Livelihoods
- Human Health
- Consumer Confidence
- Mitigating Illegal, Unreported, and Unregulated (IUU)
- Climate Resilience
- Conservation of Endangered Species
- Global Cooperation



Types of Commercial Fishing

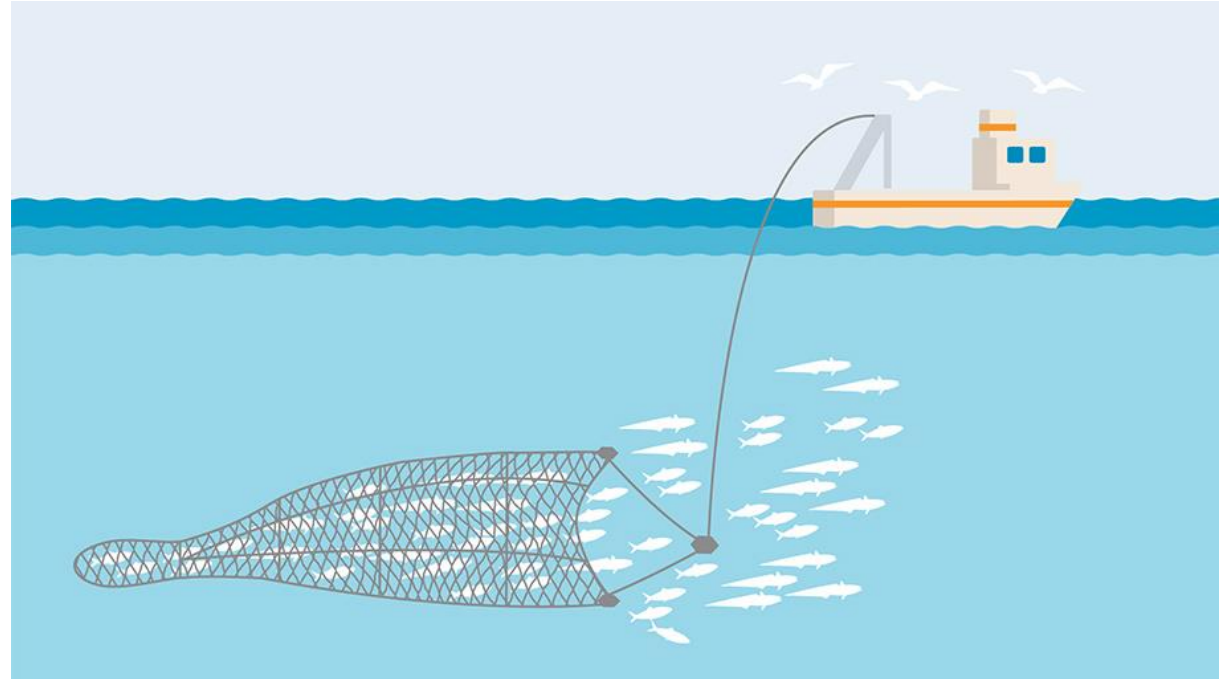
Do a quick google of as many different types of commercial fishing as you can.

- Trawler Fishing
- Longline fishing
- Pole and Line Fishing
- Gillnet Fishing
- Trap or Pot Fishing



Trawler Fishing

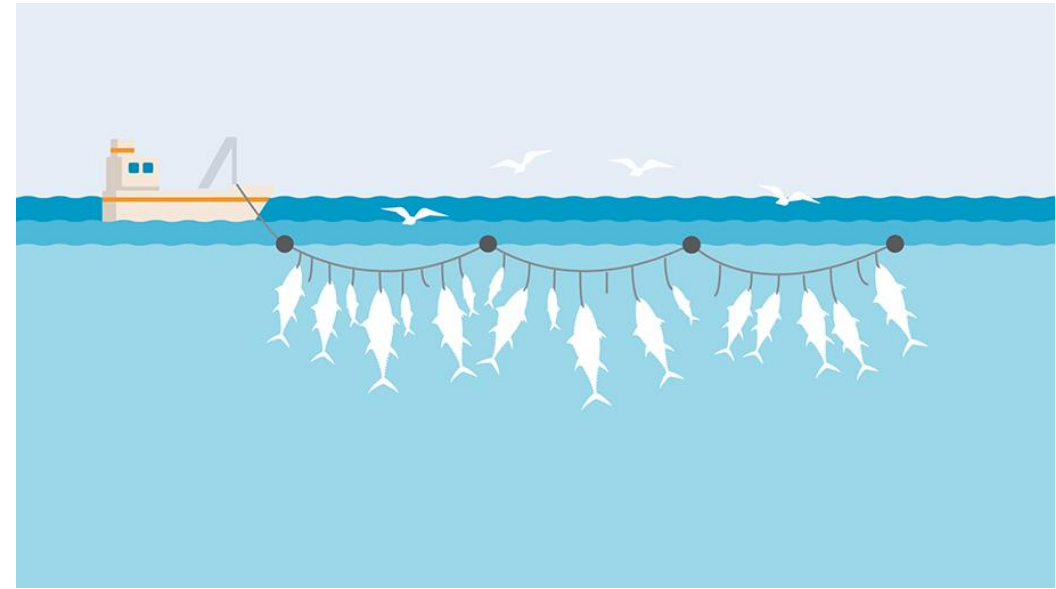
Trawling is a fishing method that uses towed nets to catch fish and other marine species living on or close to the seabed.



(MSC International, 2023)

Longline Fishing

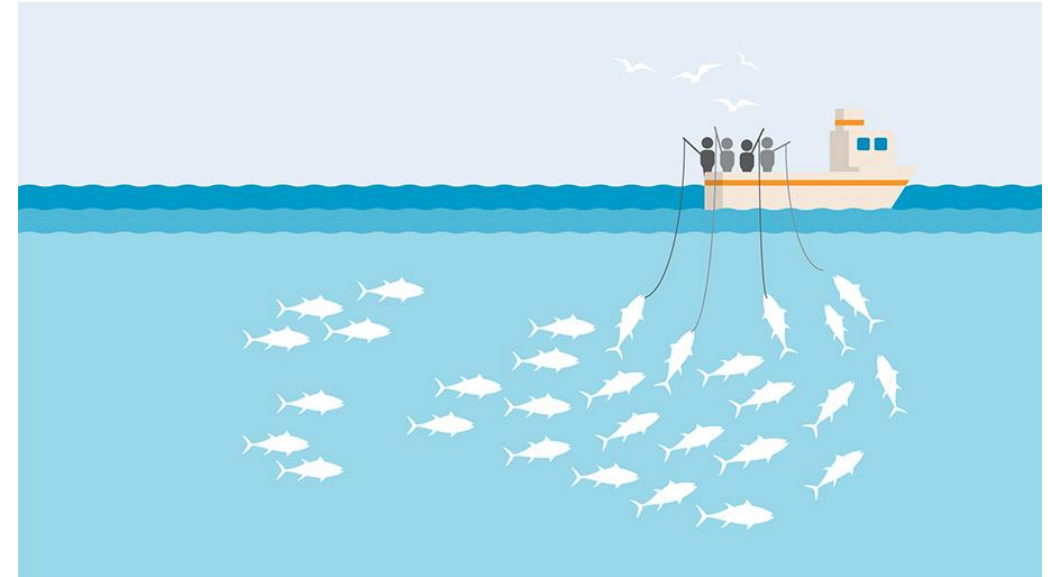
As the name suggests, longline fisheries trail a long line, or main line, behind a boat.



(MSC International, 2023)

Pole and Line Fishing

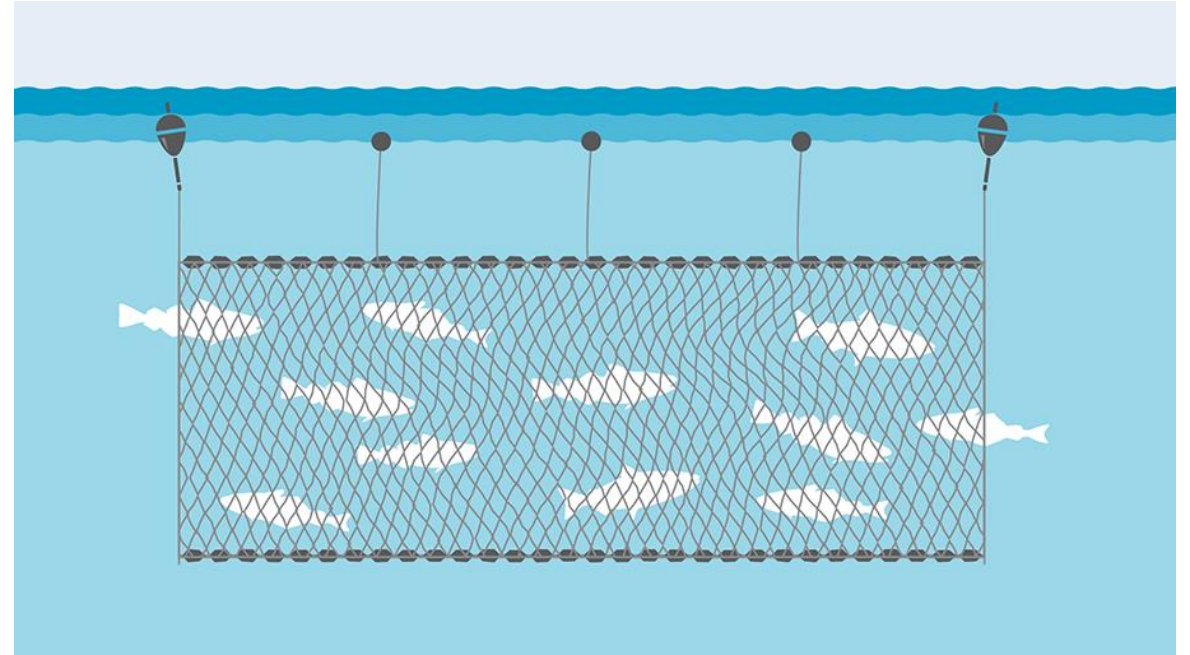
Pole and line is a fishing method used to catch tuna and other large pelagic (midwater) species one fish at a time.



(MSC International, 2023)

Gillnet Fishing

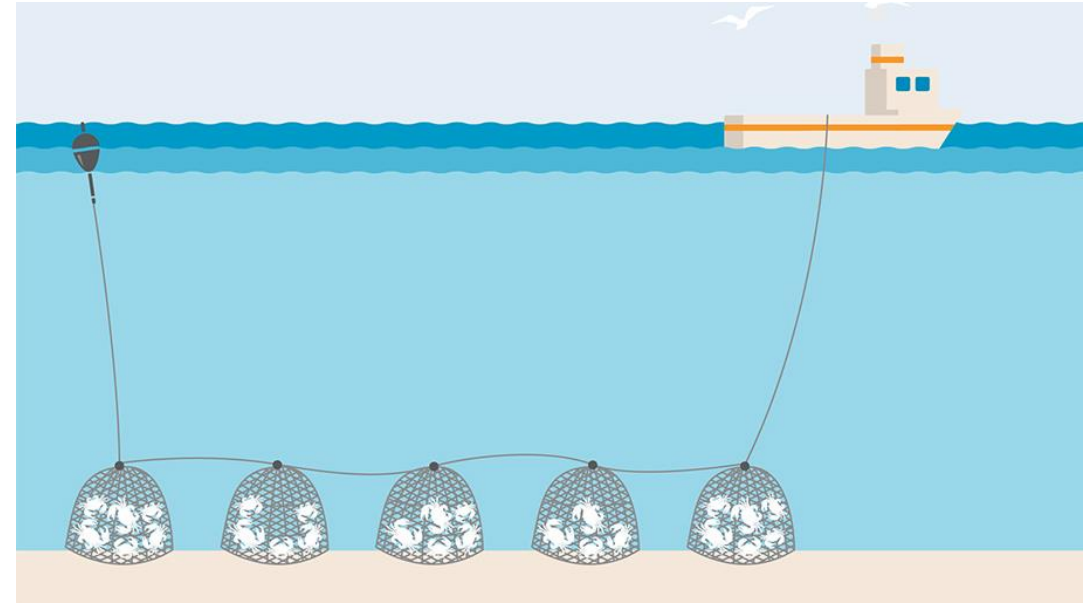
A gillnet is a wall or curtain of netting that hangs in the water. The term covers several forms including stationary gillnets and trammel nets.



(MSC International, 2023)

Trap or Pot Fishing

Stationary traps, or pots, typically made from wood, wire netting or plastic, are used to catch crustaceans such as lobsters and crabs. Though the size and shape of traps may vary, all feature a cone-shaped entrance tunnel through which a crab or lobster is enticed with bait, but cannot escape through.



(MSC International, 2023)

Aquaculture (Farmed Fish)

Aquaculture is the farming of fish, shrimps, seaweed and molluscs.

Aquaculture has been practiced for thousands of years and involves many species and farming methods. **It is one of the fastest growing food-producing sectors in the world.** If this growth continues, aquaculture will become as important as other food production like poultry, pork and even fishing!



(WWF, 2023)

5 TYPES OF AQUACULTURE



Sustainable Fishing

Fishing is sustainable if it leaves enough fish in the oceans and minimises impacts on habitats and ecosystems. For this to happen, fisheries must be managed effectively.



(MSC International, 2023)

Sustainable Fishing Examples

Purse Seine Fishing: Purse seines are large nets that encircle schools of fish. When the net is closed at the bottom, it forms a "purse" to capture the fish. Sustainable practices, such as using fish aggregating devices (FADs) with minimal impact, can make this method more environmentally friendly.

Pole-and-Line Fishing: This method is considered sustainable for certain species like tuna.

Diving and Hand Harvesting: Certain seafood, like scallops and some species of clams, are hand-harvested by divers. This method is highly selective and minimizes damage to the ocean floor.

Local and Small-Scale Fisheries: Restaurants may choose to source seafood from local and small-scale fisheries, supporting community-based and artisanal fishing practices.



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Regional Variations in Seafood

Mediterranean Seafood

Mediterranean cuisine is known for its emphasis on fresh seafood. Common ingredients include fish such as **cod**, **sea bass**, and **sardines**, as well as shellfish like mussels and clams.

Dishes like paella (Spain), bouillabaisse (France), and grilled octopus (Greece) are Mediterranean seafood specialties.



Bouillabaisse (Classic French Fish Soup)

- Marseille, Southern France
- At least 3 different kinds of fish fillets (such as sea bass, red mullet, haddock, halibut, cod, conger, or red porgy).



Scandinavian Seafood

Scandinavian countries like Sweden and Norway are known for their use of salmon, herring, and cod.

Gravlax (cured salmon), pickled herring, and lutefisk (dried fish) are traditional dishes.



Norway - Bergen

Bergen is the second-largest city in Norway after national capital Oslo. The municipality covers 465 square kilometres.





Japanese Seafood

Japan's cuisine features a wide variety of seafood, from sushi and sashimi to tempura and miso-marinated fish.

Fish like tuna, salmon, and mackerel are staples, and Japan is known for its use of high-quality, raw seafood in dishes like sushi and sashimi.



Toyosu Market

A wholesale market in Tokyo, located in the Toyosu area of the Kōtō ward.





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BIG BUSINESS

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Supply Chain Management

What is Supply Chain Management?

Supply chain management (SCM) involves the planning, coordination, and optimisation of all activities related to the production, sourcing, manufacturing, and distribution of goods and services.

SCM aims to streamline operations, reduce costs, improve efficiency, ensure product availability, and respond quickly to changes in demand or market conditions.

SCM encompasses various components, including procurement, inventory management, production planning, logistics, distribution, and supplier relationships.

Sustainable supply chain management considers environmental and social impacts, such as reducing carbon emissions, minimising waste, and promoting ethical sourcing practices.

Supply Chain

Supply chains, manage the flow of goods from suppliers to consumers. While there could be many links in any such chain, the basic activities are sourcing, manufacturing, and logistics (transportation and delivery). Supply chains ultimately seek to minimize costs while maintaining quality and reliability.

(Wu and Pullman, 2020)



Value Chain

Value chains differ from supply chains in definition and focus. A *value chain*, on the other hand, flows “upstream,” starting with the consumer as the source of value and passing up to sellers and producers. A value chain includes stakeholders in production and all value-adding activities that go into making a product.

(Wu and Pullman, 2020)

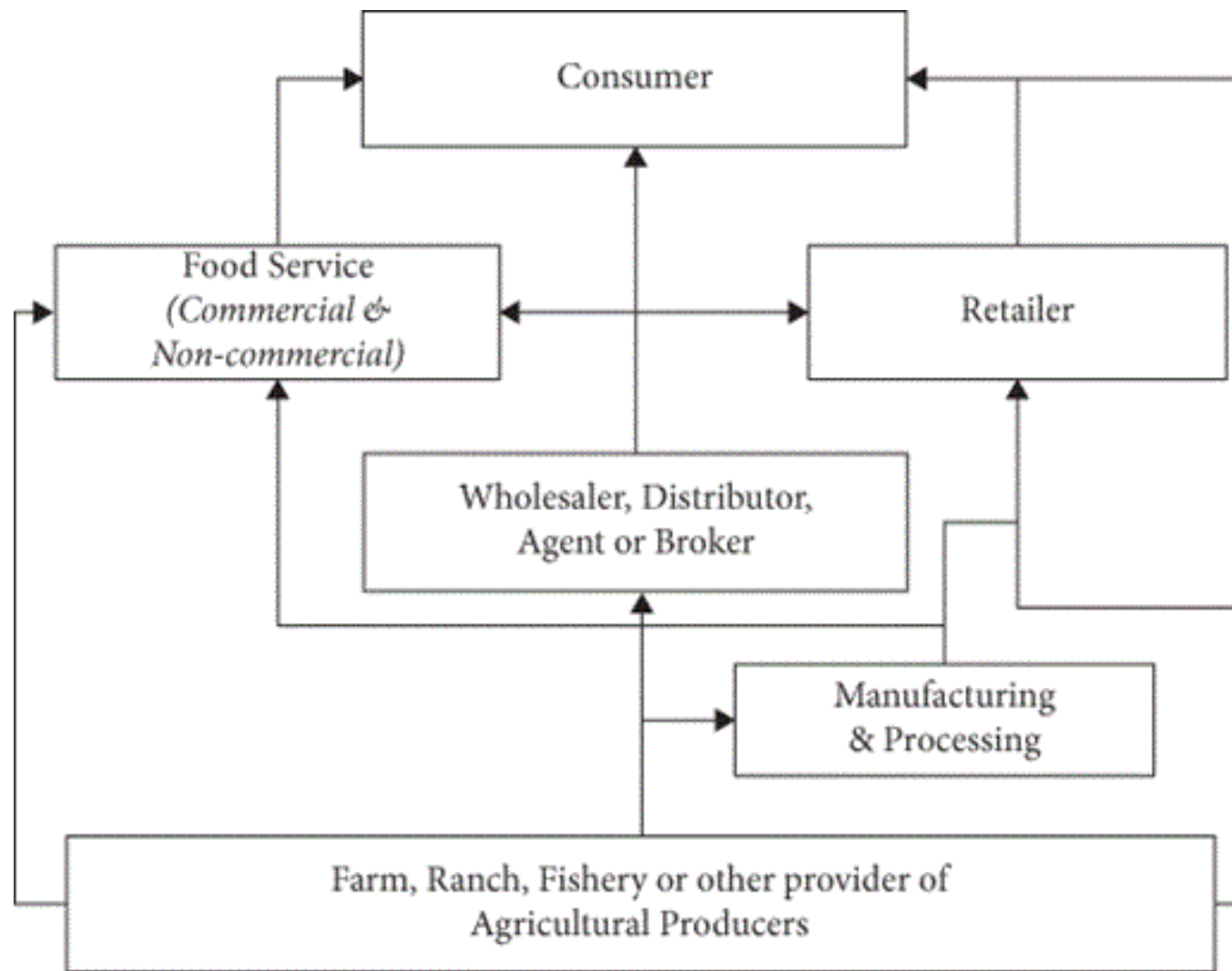


Figure 1.1 Major players in the food value chain (Wu and Pullman, 2020)

Supply Chain

VS

Value Chain



Transportation

Routing and scheduling

Mode and carrier selection

Price negotiation

Loading, shipping, delivery



Warehousing

Site analysis and selection

Receiving/shipping dock operations

Facility and equipment maintenance and management

Temperature control

Pick and pack operations

Inventory tracking



Value-added activities

Cross-strapping and recycling

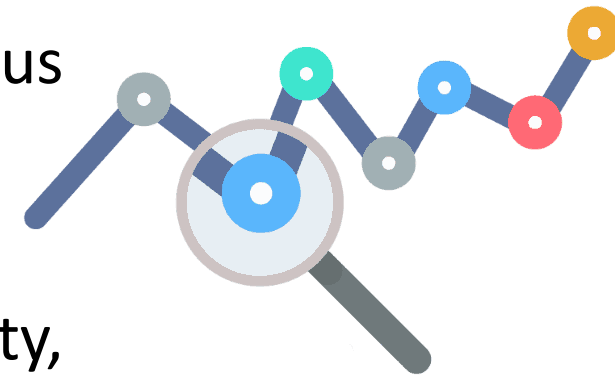
Packaging and labelling for shipment and delivery

Specialized cold handling

Figure 1.2 Key Logistics Activities (Wu and Pullman, 2020)

What is Traceability?

Traceability refers to the ability to track the movement and origin of products, ingredients, or raw materials through various stages of the supply chain, from production to consumption.



The primary goals of traceability are to enhance food safety, facilitate product recalls when necessary, ensure compliance with regulations, and build consumer trust by providing transparency.

(Wu and Pullman, 2020)

Example - Fish

The average fish product is goes through 20 points of contact prior to reaching the final consumer, creating multiple opportunities for fraudulent species identification and inaccuracies in labelling, as well as hiding poor practices such as slave labour and labour extortion (Future of Fish 2014).



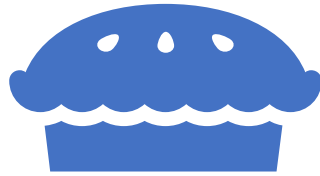
Achieving Traceability

Traceability can be achieved through various means, including barcoding, RFID (Radio-Frequency Identification), QR codes, blockchain technology, and record-keeping systems. Each product or batch is assigned a unique identifier that allows for easy tracking.

Traceability is critical in case of foodborne illness outbreaks, product recalls, quality control, and verifying the authenticity of products, such as organic or fair-trade labels.



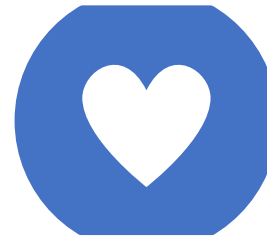
Importance of Traceability



Food Safety



Regulatory Compliance



Consumer Confidence



Efficiency and Cost Reduction



Sustainability

Challenges

Overfishing

Illegal,
Unreported, and
Unregulated (IUU)
Fishing

Bycatch

Climate Change

Habitat
Destruction

Consumer
Demand

Resource Scarcity

Labor Rights and
Social Issues

Future Issues

Sustainable Practices

Aquaculture Growth

Technological Advancements

Traceability and Transparency

Eco-Certifications

Ecosystem-Based Management

Alternative Proteins

Climate Adaptation

Collaboration and International Agreements

Consumer Education

Responsible Sourcing

Conclusion

1. Importance of Seafood Sourcing
2. Types of Fishing
3. Regional Variations in Seafood
4. Sustainable Fishing Practices
5. Supply Chain
6. Challenges and Future Trends

Next Session...

- Wine
 - Grape varieties
 - Different types of Wine
 - Different methods producing wine
 - Wine pairing



List of Reference

Future of Fish. (2014) *The Business Wins of Seafood Traceability Technologies*. Available at: <https://futureoffish.org/sites/default/files/docs/resources/fof-traceability-case-studies-final.pdf>. (Accessed: 06 Oct 2023).

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QUESTIONS?

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Next time!