

TRANSPARENCY AND AUTHENTICITY OF HIGH VALUE SEA FOOD: CASE STUDY IN LOBSTER SUPPLY CHAIN OF SOUTH COAST OF SRI-LANKA

A.M.S.M.R.S.G. Bandara, D.A.M. De Silva

Department of Agribusiness Management, Faculty of Agricultural Sciences, Sabaragamuwa University of Sri Lanka

ruwinibandara@agri.sab.ac.lk, desilva.achini@yahoo.co.uk

ABSTRACT - The objectives of this study are to find out the status of the transparency and the authenticity of the lobster value chain and to find out the impact of logistics supplies on value chain transparency and to propose a smart value chain to bridge the gaps in transparency and authenticity. The study was conducted in the first quarter of 2022 on the southern coast of Sri Lanka covering the lobster fisheries in Matara and Galle districts. The snowball sampling technique was instrumental in gathering the sample. Primary data for the study was collected through focus group discussions, and non-participatory observation. Data had been collected from 26 supply chain actors (20 fishermen, 05 collectors, and 01 agent of exporter). Results revealed that the exporter studied in the supply chain was a price setter while the fishermen at the initial node of the supply chain were the price takers. The fishermen lacked information connectivity (i.e., market price for local market and export) among the lobster catching sites of the island making fishermen poor bargainers. The supply chain lacks a two-way information flow from one node to the other. Fragile supply chain and information asymmetry badly affect ethical income distribution along the chain. Poor postharvest handling and safety and quality management reduce the returns to upstream actors. Lack of transparency on fishing grounds, fishermen, and logistic suppliers limits the entry point of high-end markets on one hand. On the other hand, this has positively affected stock depletion. Lack of supply chain transparency and authenticity encourages Illegal Unreported Unregulated (IUU) lobster fishing.

Keywords: Authenticity; lobsters; supply chain; transparency

1. INTRODUCTION

Lobster is one of the highly demanded sea foods worldwide. Globally 170 000 tons of lobsters are harvested annually for human consumption [1]. Supply chain is the sequence of activities involved in distributing the product to the final consumer. Supply chain authenticity and transparency leads to the creation of a sustainable supply chain while ensuring ethical returns, empowerment of the supply chain actors and the civil society [2]. Majority of fisheries supply chains are organized across multiple continents and across national borders. Hence, it is difficult to trace the exact source of the sea food products. According to [3] there is an identified knowledge gap on transparency, product flow and cash flow of the sea food products. Moreover, lobsters being a high value sea food, global consumers demand for ethically sourced, traceable product free from IUU [3]. But owing to this huge knowledge gap global fisheries market is facing a huge challenge of establishing trust of the final sea food product [4].

2. MATERIALS AND METHODS

The study was conducted in the first quarter of 2022 in the southern coast of Sri-Lanka covering the lobster fisheries in Matara and Galle districts. Snow ball sampling technique was instrumental in gathering the respondents. Primary data for the study was collected through focus group discussions, and through non-participatory observation. Data had been collected from 26 supply chain actors (20 fishermen, 05 collectors and 01 agent of exporter). Secondary data used for the study had been collected

from annual reports of Ministry of Fisheries, Export Development Board, and from the websites of Sri Lankan seafood product exporters.

3. RESULTS AND DISCUSSION

3.1. Existing value chain’s authenticity and transparency

The studied supply chain had no traceability to track the product back to the fishermen level. But the exporters can track their product up to the collecting agent level. The collecting agents do not keep records of the fishermen and only cash payment is done at the landing site/collecting center on the weight of the lobster. A receipt is issued only if requested by the fishermen. Once the live catch is received at the agents of exporters, the lobsters are packed in to Styrofoam boxes with the label of the collecting center. Thus, once the catch is received at the export processing company, it can only track to the collecting center level. Moreover, there is no identified authenticity since the exporter dominates the channel. It is the exporter who updates all the catch data to the system. Hence, frauds are unavoidable. With the existing level of transparency and authenticity, Sri-Lankan lobster harvest is unable to enter high end markets. The consumers are unable to trace the product back to the starting point; the fishing ground and unable to verify the ethical sourcing conditions or the sustainability levels of the produce. Thus, the capacity to enter high end markets is limited. Figure 01 depicts the existing value chain’s authenticity and the transparency status.

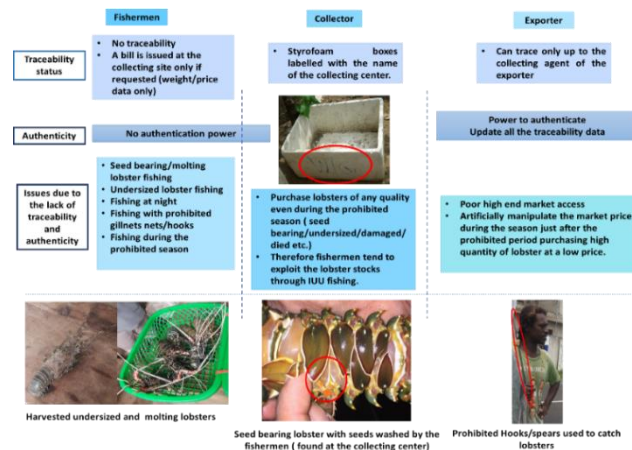


Figure 1. Existing value chain authenticity and the transparency.

3.2. Logistics issues and gaps

The fishermen are unaware of the market prices at other lobster catching sites of the island, the prices of the other collecting agents and have no idea about the export market prices. There is no two way information flow from one supply chain node to the other. The exporters lower the prices just after the prohibited season to collect the increased lobster catch at a lower price. Seasonality of the product together with the high bargaining power of exporters has lowered the buying price and thus fishermen welfare is a huge concern. Moreover, the lobster harvest is reducing annually due to the exploitation of the resources and stocks. Lack of transparency have paved the way for illegal fishing with nets, lobster fishing at night, and harvesting under sized lobsters/seed bearing lobsters, and fishing during the prohibited season (Illegal, unreported, unregulated fishing). Owing to the IUU lobster fishing, the quality of the lobster harvest is also affected while causing a negative impact on the market prices of the lobster. Damages to lobsters during the harvesting stage, storage and transport are very common due to the lack of awareness building and information dissemination services. Lobster harvesting with an iron hook (damages the lobster), using nets for fishing, and the use of gunny bags for transporting

lobsters to the collection point (damages the eyes and the appendages) are malpractices observed at the fishermen level.

3.3. Proposed smart value chain model

The researchers suggest the possibility of developing a traceable, smart value chain model for the studied lobster supply chain so that product could be tracked up until the exporter/export level processor level (figure 2).

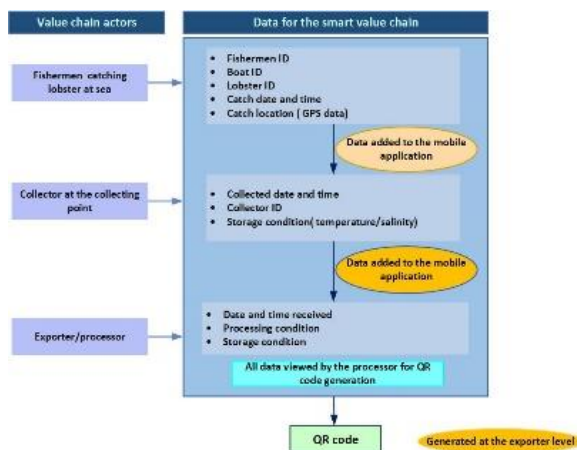


Figure 2. Basic concept for the smart value chain

4. CONCLUSION

Studied lobster supply chain was fragile and fragmented with concerns in authenticity, transparency and in Illegal Unregulated Unreported fishing. Supply chain actors were weakly interconnected. Information asymmetry has negatively affected on supply chain transparency, resource utilization, and to the fishermen welfare and restricted chances to enter high end markets for premium returns. Smart workable solution such as traceability is vital to ensure a quality resource base, to deliver better returns to fishermen, and to cater to high end markets and credible supplies.

REFERENCES

1. Pereira , G., & Josupeit, H. (2017). *Globe fish research program*. Rome: United ations.
2. MinAung, M., & SeokChang, Y. (2014). Traceability in a food supply chain: Safety and quality perspectives. *Food Control*, 172-184.
3. EDB. (2022). Supply Chain Channels For Sri Lankan Seafood. Retrieved March 27, 2022, from EDB: <https://www.srilankabusiness.com/sea-food/sri-lankan-sea-food-supply-chain-channels.html>.
4. Probst, W. N. (2020). How emerging data technologies can increase trust and transparency in fisheries. *ICES Journal of Marine Science*, 1286-1294.
5. EDB. (2022). Seafood & Crustaceans From Sri Lanka. Retrieved 03 27, 2022, from EDB: <https://www.srilankabusiness.com/sea-food/sri-lankan-sea-food-products.html>