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Quality management of shrimp value chain in the Mekong Delta, Vietnam

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Abstract: *Quality assurance systems have become of increasing concern for suppliers in both developed and developing countries. Shrimp produced in Vietnam often do not satisfy the expectations of Western consumers with respect to the desired quality. Small-holders are not acquainted with the wishes and demands of the foreign consumers of the products, and therefore cannot gear their production methods towards the desired product quality. Moreover, production chains do not always operate efficiently and effectively, adding an additional hurdle to successful market penetration. The scientific challenge with respect to the improvement of the quality performance of Shrimp supply chains implies the structural incorporation of the important elements in the process of food production, which are based on current scientific research for quality-orientated product development, namely a coordinated chain approach to the production to deal with the complexity of optimising food production systems; and incorporation of extrinsic food quality parameters into the production and supply chain.*

Keywords: *Quality assurance, shrimp value chain, food quality*

1. INTRODUCTION

The organization of food supply chain has changed toward closer vertical integration between the stages in the chain (Boger, 2001; Hobbs, 2000). Shrimp production systems are characterized by the production of raw materials coming from shrimp culture, processing, followed by distribution and retail and finally consumer processing. Production systems have the creation of quality in common, but also the maintenance of quality throughout the entire food supply chain in order to provide consumers with high quality products. One of the critical choices that firms make concerns determining the degree of vertical integration; e.g. deciding which activities should be performed in-house and which activities should be carried out in co-operation with suppliers or customers. As organic shrimp industry concern, the vertical integration systems between fish farmers and processing/export firms have dramatically shifted toward long- term contract coordination. It has been indicated that consumers demand for food quality and safety has been a pivotal factor in increasing vertical integration in the food industry.

Theories of industrial organization and inter-firm relations provide a useful basis for understanding the nature of vertical integration and its effect on firm's performance. Scholars of industrial organization view vertical integration as a strategic tool in creating competitive advantage (Porter, 1985; Barney, 1991). From the perspective of transaction cost economics (TCE), vertical integration is viewed as one form of governance structure that is determined by attributes of transaction and assumptions of human behavior (Williamson, 1985). The basic question to be analyzed TCE is what kind of governance structure provides an efficient framework for transactions with varying level of asset specificity (Borger, 2001). Vertical integration has considerable benefits, but also implies significant risks and costs. However, vertical integration requires a high capital investment, and it may result in reduced flexibility and increased bureaucratic costs.

2 LITERATURE REVIEW

2.1 Value chain

The concept of value chain is relevant to firms involved in food businesses. According to Porter (1985), the value chain describes the full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use. There are three key elements of value chain analysis – barrier to entry and rent, governance, and systemic efficiency (Kaplinsky, 2000). In agribusiness, the value chains are organized linkages among groups of producers, traders, processors and service providers who joint together in order to improve quality and the value added of their activities (Johnson, 2005).

2.2 Quality management

Quality management practices are closely correlated with the supplier selection strategy (Lin et al, 2005). Whereas the majority of seafood processing enterprises have their own quality management process (ISO 9001, HACCP, TQM) to adapt to increasingly demand from import markets, their

challenges lie on the suppliers – farmers. Quality management practice and quality assurance in primary production determine the success of export chains and business performance (Suwanrangsi, 2000; Lin et al, 2005). In addition, quality assurance for shrimp product from this system has involved many challenges when quality of shrimp is affected by other nodes of the chain such as shrimp seeds, preservation and transportation in post-harvest stages, whereas farmers have no experience and knowledge about process of quality control and assurance. To meet requirement from export markets (EU, US and Japan – three main markets of shrimp products), shrimp farmers have been encouraged to culture their shrimp following standards as GlobalGAP, ASC, Naturland, VietGAP...and some farms/cooperatives succeeded to gain ASC standard such as Hoa Nghia cooperative (Soc Trang) and Thanh Cong 1 cooperative (Bac Lieu). However, there have been several obstacles in applying these standards, especially characteristic of small-scale shrimp farming in the Mekong Delta. Thus, what are the problems in farming practices of shrimp products; and where and how much they need to improve to increase quality of shrimp products for export? From all above problems and requirements, it is necessary to conduct a study on developing an effective global value chain of shrimp industry.

2.3 Global value chain

The global value chain of shrimp in Vietnam crosses various main actors, started with input providers (seed, feed, chemicals/drugs), shrimp producers – main driver of the chain, middlemen (collectors and wholesalers), processing enterprises/exporters (Sinh et al., 2011; Tran et al., 2013). Surrounding environment also comprises crucial holders as bank and credits supports, institutional managers, researchers, experts, policy makers, etc..

The GVC approach could be used extensively in a wide range of commodities, especially agricultural products, including aquatic goods (Tran et al., 2013). In agri-food chains, the GVC framework has been carried out for analyzing political, economic or technical forces, power of transnational and national cooperation of the global shrimp industry. In this research, the framework of GVC will be implemented to examine relationships among actors across the chain related to quality control issues. The focus of the study will be smallholders and recommendation on practicing quality standard for food safety to comply with global market.

The studies on value chain of shrimp in MD was carried out as Nho *et al.*, (2012); Sinh *et al.* (2011) and Vinh *et al.* (2013) showed that there were many actors involved in the value chain of shrimp such as input supply, shrimp farming, processing and export. This showed that the quality management of the product is difficult and not uniform throughout of all the chain. Therefore, the problem is how to manage the quality of products for uniformity in production? In addition, this study will choose of quality standards for HACCP as a basis for comparison and evaluation. Because of the fact in MD, the processors has been applied HACCP standards for quality management and shrimp farming applied VietGAP standards. Whereas VietGAP standards had been integrated some of principles of HACCP. Therefore, relied-analysis on HACCP for processing and VietGAP for shrimp farming is probably reasonable in this case. Beside, large-scale shrimp farming in the MD has applied the ASC and GlbalGAP standards certification. This is a scientific-based for selection of two case studies to make a comprehensive review and evaluation about quality control of shrimp culture.

3. RESEARCH METHODOLOGY

The case study and survey methods are using for designing this research. The research approach is problem solving in nature. The reason for selecting this approach is that because our research is mainly aimed at coming up with problems related to quality management of organic fish by investigating the supply linkages between the shrimp stakeholders.

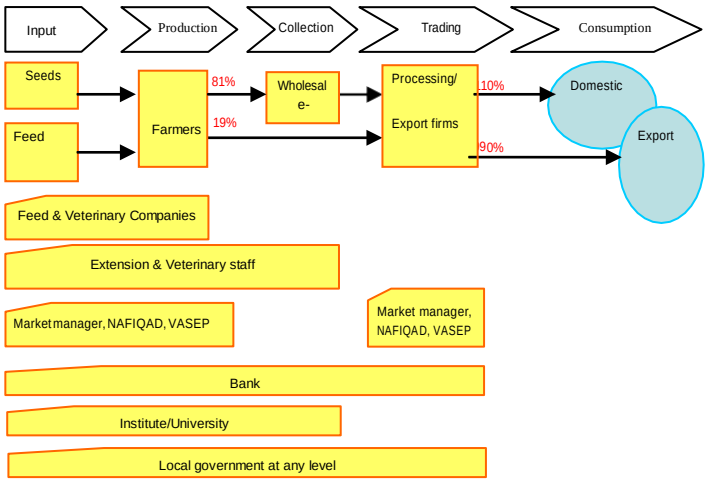

Fig 1: *The shrimp value chain in Mekong Delta, Vietnam*

4. CONCLUSIONS

The shrimp value chain in Vietnam is very complex and the farmers are the weakest links in the chain driven by exporters and importers. At this moment, there is sufficient demand the product quality in this group will still be ungoverned. More investigation should be made about how to organize and stimulate the shrimp smallholders to work together. This should be stimulated so farmers can establish horizontal integration within the chain to stimulate i.e. the flow of information and their position within the chain.

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REFERENCES

Foster, S. T. Jr., 2008. Towards an understanding of supply chain quality management. Journal of Operations Management. No. 26, 461 – 467.

General Statistics Office, 2015. Statistical data on Agriculture, Aquaculture and Forestry. https://www.gso.gov.vn/default.aspx?tabid=717.

Khoi, L.N.D., Le Thanh Phieu., and Nguyen Van Nhieu Em, 2018, organic shrimp value chain in Ca Mau, Vietnam

Lin, C., Chow, W. S., Madu, C. N, Kuei, C. H., Yu, P. P., 2005. A structural equation model of supply chain quality management and organizational performance. International journal of production economics No. 96. 355 –365.

Loc, V.T.T., 2006. Seafood supply chain quality management: the shrimpsupply chain quality improvement perspective of seafood companies in theMekong Delta, Vietnam, PhD thesis, University of Groningen, the Netherlands.

Oosterveer, 2007.Global Governance of Food Production and Consumption. Issues and Challenges: University of Wageningen

Sinh, L. X., Chung, D. M., Toan, N. T., Quyen, N. T. K., 2011. Value chain analysis of black tiger shrimp *(Penaneus monodon)* cultured in the Mekong Delta. Proceedings of the 4th Aquaculture and Fisheries Conference. Agriculture Publisher. Ho Chi Minh city, Vietnam

Suwanrangsi, S., 2000. HACCP implementation in the Thai fisheries industry. Journal of food control, Vol. 11, no. 5, 377 –382.

Tran, N. et al., 2013. Governance of Global Value Chains in Response to Food Safety and Certification Standards: The Case of Shrimp from Vietnam, World Development..

Vietnam Association of Fish Exporters and Producers – VASEP, 2016. An overview of Viet Nam fisheries industry. http://vasep.com.vn/1192/OneContent/tong-quan-nganh.htm.

United Nations Industrial Development Organization (UNIDO) and Institute of Developing Economics (IDE), 2013. Meeting standards, Winning Markets Regional Trade standards Compliance Report East Asia 2013. United Nations Industrial Development Organization, Vietnam, Austria:2013.

Vietnam Institute of Economics and Planning, 2015. Planning of brackish shrimp culture in the Mekong River Delta in 2016 – 2020 period and vision to 2030. Presentation at the Conference of discussion about solutions of improving production efficiency and developing rice-shrimp production in the Mekong River Delta, 23 December 2015 at Kien Giang province, Viet Nam.

AUTHORS' BIOGRAPHIES

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