

Solutions to Develop the Aquatic Product Processing Industry in Tra Vinh, Vietnam

Duong Thi Tuyet Anh¹, Ninh Thi Thu Thuy²

¹(School of Economics and Law, Tra Vinh University, Vietnam)

²(University of Economics, The University of DaNang, Vietnam)

Abstract

The aquatic product processing industry is one of the important factors and accounts for a large proportion of the industry of Tra Vinh province. The article describes the process of analyzing, assessing the current situation, identifying opportunities and challenges to propose some solutions to promote the development of the seafood processing industry in Tra Vinh province. The research process is based on statistics, synthesis, and analysis of primary and secondary survey data sets using excel spreadsheet. Research results show that it is necessary to expand the industrial scale, change production methods, product structure and expand the market. In addition, it is necessary to encourage the expansion of linkages in processing activities in order to improve economic and social efficiency and protect the environment. The research results can be applied to local authorities for reference to complete industry development policies. Besides, the results of this study can be applied to investors in the development of production and business in the fisheries sector.

Key Word: Aquatic processing industry, Industrial development, Tra Vinh.

Date of Submission: 02-08-2022

Date of Acceptance: 15-08-2022

I. Introduction

Developing the seafood processing industry (SPI) is to expand production capacity, restructure in processing, in line with the needs of society, and strengthen production linkages as a basis for output expansion. Development must bring about socio-economic efficiency and environmental protection. The development of the industry is important for the growth of the entire economy, contributing to the increase of the local GRDP value [1]. The development industry will create more jobs for local workers[2]. Industry development not only creates a driving force for development in areas such as mining, aquaculture and logistics services in industry but is also associated with the development of production material areas [3]. In addition, the developed SPI plays an important role in regulating the food structure and stabilizing food prices in the country.

Many studies abroad have studied aspects related to the sustainable development of the fisheries/tuna/fishing industry, policy development, and economic efficiency of the fisheries sector [4],[5], [6]; or studying the impacts of the seafood industry on global supply chains[7] ; or research on alliances between businesses in the seafood processing industry, restructuring the seafood industry, increasing consumed production, market share or describing the production process, the competitiveness of sector [8], [9]. Domestic studies have mentioned the factors affecting the efficiency of production and business performance of seafood processing (SP) enterprises [10], or research on sustainable development of the BBT industry in three business aspects, social and environmental [11].

The Government's view is to focus on developing in the direction of growth in industrial production value, increasing the proportion of the processing sector in the industrial structure and increasing the proportion to meet market demand[3]. In Tra Vinh province, the construction industry is identified as a spearhead economic sector. However, in previous years the industry revealed many limitations. The number of SP establishments is mainly of small scale (small capital, small number of employees), which has not yet attracted foreign investors with large-scale projects.

Investment in technology in production is still limited, not yet invested in developing new products. The industry's existing markets have not been exploited yet. Seafood processing establishments have not built a link with input agents, limited in controlling the quality of raw materials, high risk of environmental pollution. In order to achieve the development target of Tra Vinh province in period of 2021-2025 following as seafood processing output 6.34%, seafood export turnover 11.84%, creating jobs of about 2,000 employees per year, it is necessary to research and propose solutions to promote industry development.

This study has used the analysis methods to evaluate the current situation of the industry. Then propose solutions in the coming time such as economic statistics, method of synthesis, analysis and comparison.

Secondary data were collected from Tra Vinh Statistical Office, Department of Agricultural Products Processing and Market Development - Ministry of Agriculture and Rural Development. Primary data was collected using a questionnaire. Respondents include owners/directors of processing facilities (accounting for 66.7% of establishments engaged in seafood processing in the province) and 150 people living or trading near processing facilities.

II. Development situation of seafood processing industry in Tra Vinh province

Growth in scale of seafood processing industry

The number of SP establishments in Tra Vinh in the period 2014-2018 increased by 1.12% on average. In which, the average number of SP enterprises grew by negative 8.07% while the whole country's growth was positive by 0.12%; the number of individual establishments has increased but not much, increasing by 2.05%. The main causes are natural disasters, epidemics and salinity that leads to unstable raw material prices. In addition, difficulties in control price fluctuations and consumption markets, lack of capital, and loss of business cause most small-scale establishments to dissolve or suspend operations.

Scale by capital in the period 2014-2018 had a slight increase. Specifically, in 2016 and 2017, there were four establishments maintaining the capital scale from 50 billion to less than 200 billion in 2018. This number will decrease by half because there are 02 additional facilities with capital in the range of 200 billion VND to less than 500 billion. The survey results also show that 95.65% of establishments have limited financial capacity; The ability to find and access capital is difficult, so only 45.45% of them can get a bank loan.

The industry has very few establishments with a large labor scale, most of which are micro-sized. Specifically, in 2018, under five people had 79.71% of establishments, an increase of 10% compared to 2014, from 500-999 people had one establishment. The quality of the labor force has not yet met the requirements of production and business activities in the context of the integrated economy.

Specifically, among 46 interviewed processing facility managers, the number of years in management is relatively long, from 10 years to 19 years accounts for 65%, from 5 to 10 years accounts for 24%, under 5 years accounted for 11%. For enterprises, the manager has a university degree or higher, but for individual economic households, the length of time as a manager is instead. The survey results show that managers with professional qualifications through undergraduate and postgraduate training accounted for 9%, College and High School accounted for 4%; untrained accounted for 87% as shown in Figure 1. The disadvantages of the industry are mainly laborers with low technical and skilled skills, unable to meet the requirements of using modern equipment and technology. On the other hand, in the whole industry, the number of workers with university degrees and business knowledge accounts for a low proportion

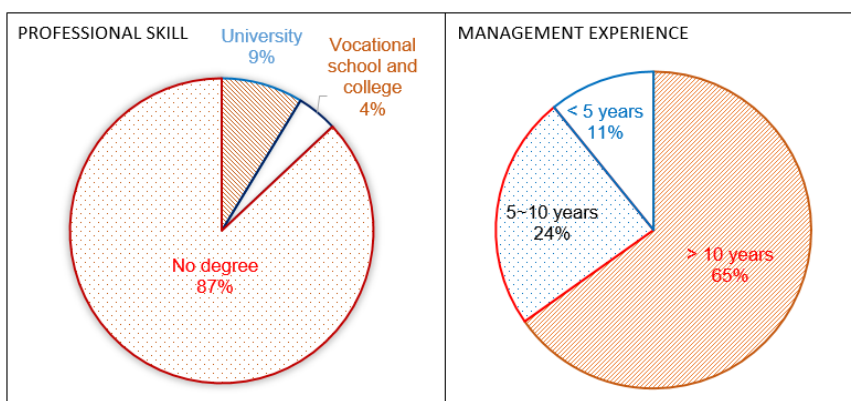


Figure 1. Management human resources at SP facilities in Tra Vinh
(Source: Survey results in 2019)

The scale of the source of raw materials for local aquaculture is still very large, accounting for more than 90% of the total output. Aquatic raw materials include exploiting and farming increased by 3.14% on average. The proportion between total processed products (SPCB) and total output from 14.4% in 2014 to 5.45% in 2016 and tends to increase again in 2018 accounting for 6.3%. The production value of the SP industry (2014-2018) decreased by 0.87% due to a continuous decrease from 2014-2016. In 2018, production value increase again with an increase of 25.1% compared to the previous year, the growth rate of production value of the industry in the whole country (6.6%).

Regarding structural transformation in seafood processing

Restructuring of processed seafood products: The structure of industrial products changes according to the trend of replacing product groups according to the needs of the market. Figure 2 shows that from 2014 to 2018, the leading commodity group was frozen seafood, always at over 50% of the total structure, and in 2018 accounted for 80.6%. Next, the group of canned seafood products tended to increase in proportion in the years from 2012 to 2015 reaching 45.4%, nearly equal to the group of frozen seafood products (52.4%) in the same period. However, in 2017 there was a downward trend to 38.2% in the total structure and 19.4% in 2018, the results showed that the processing of canned products had a shift to frozen products. Finally, among the commodity groups included in the province's major industrial products, the group of chilled aquatic products accounted for the lowest proportion, reaching 11.2% in 2014 and decreasing to only 2.2% in the total. Product structure in 2015 and by 2016 it was completely replaced by canned seafood and frozen seafood and maintained until now. The research and investment in processing value-added products has been very little developed in recent years, typically shrimp and catfish. Shrimp are mainly exported whole or de-shelled, frozen or boiled, and frozen, while catfish is mainly processed into raw materials for consumption in the domestic market. In the province, there is a shortage of value-added product processing factories, but an excess of raw products. Processing raw products is not profitable, the trend will gradually decrease in the future and moreover, tilapia products raised in neighboring provinces will compete with catfish. Processing value-added products requires many times higher costs to invest in technology lines than in raw material processing technology lines, but in return for added products, they will be less interested in size. The larger size will then make full use of the supplied raw materials and bring about higher profits.

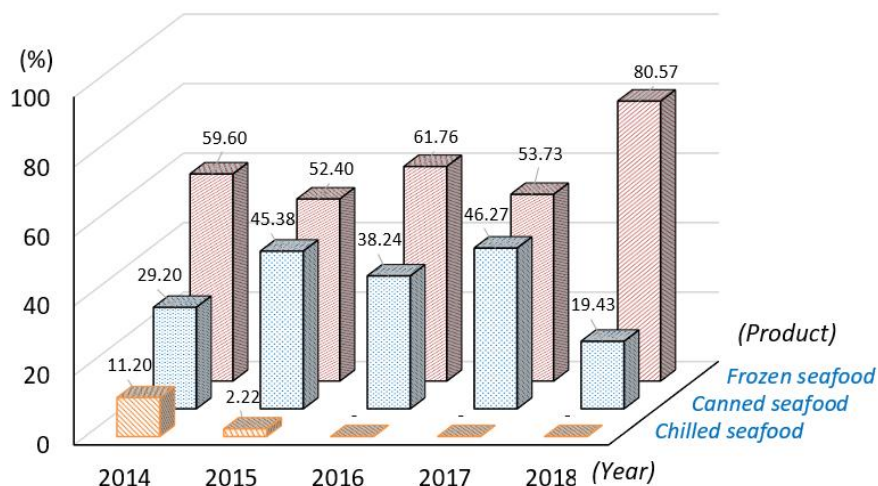


Figure 2. Structure of seafood processing industry products (2014-2018)
 (Source: Tra Vinh Statistical Office and author's analysis)

Transforming the mode of production organization: The proportion of production value created by the traditional production method of the individual sector tends to decrease. The modern mode of production is created by the business sector that is the opposite. Specifically, the traditional method of creating production value accounted for 6.02% in 2014 but only 5.71% in 2018 although the number of establishments increased from 89.39% to 92.75%. In same period, the corporate sector generated 93.98% of the value and reached 94.29% in 2018, corresponding to a decrease value of establishments from 10.61% to 7.25%.

Market restructuring: The export market consumed 50.6% of the total product in 2014, the rest consumed the domestic market. This structure most years has a shift from the domestic consumption market to the export market, by 2018 the export market consumed more than of the total industrial output, as shown in Figure 3.

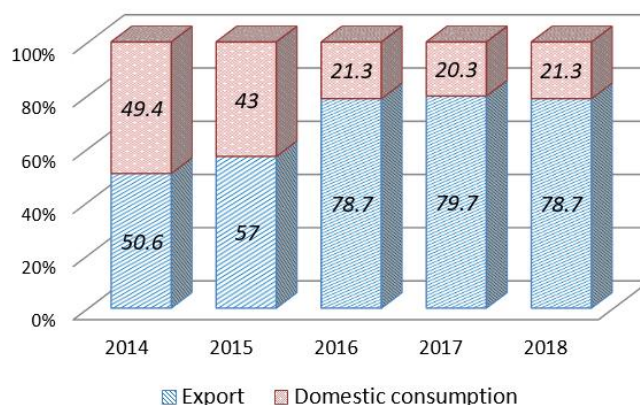


Figure 3. Market structure for domestic consumption and seafood export in Tra Vinh
(Source: Survey in 2019 and author's analysis)

As seen as in Figure 4, the structure of the export market also has a shift from the North American market and other markets to the Japanese, European and Korean markets. Tra Vinh seafood is mainly exported to three main markets including Europe (EU), Japan and North America. The export value of seafood increased from US\$47.5 million in 2016 to US\$60.71 million in 2018, contributing to the province's export turnover from 16% to 26%, respectively. The structure of the export market has changed significantly. Specifically, shifting from the North American market, the European market and other markets to the Japanese market made the structure of export turnover of this market increased from 14.27% in 2014 to 40.52% in 2016 by the large demand for seafood by Japanese people. In addition to attaching importance to the nutrition provided by seafood products such as shrimp, squid, etc., the Japanese have hundreds of festivals a year, and each festival has almost one or a few dishes made from seafood products. Exports to the North American market decreased partly because the US Department of Agriculture's catfish inspection program has posed many obstacles to catfish exports.

Since 2016, seafood exports to Japan have decreased, especially shrimp. In addition to the reasons such as poor consumption market, because of fluctuations in the Yen, etc., Japan is increasingly applying strict standards on food safety and hygiene. In addition, Japanese commercial enterprises are tending to find cheaper sources of imports from other countries such as India and Indonesia because the cost of Vietnamese seafood products in general and Tra Vinh in particular is higher. Compared with rival countries, the production cost of a shrimp seed of Vietnam is nearly 2 times higher than that of India. In addition, due to many environmental factors and diseases, the success rate of Vietnam's shrimp farming is only about 33% - 40%, while Indonesia or India's success rate is up to 70%. The structure of exports to the European market increased, exports to North America continued to decrease to 1.66% of the total structure of seafood export turnover in 2018 because of the high anti-dumping tax on shrimp products from 1.16% to 1.42% for the 9th administrative review - POR9), the dollar depreciated. In addition, the US also has regulations on seafood exporting countries (13 kinds, including shrimp) to comply with requirements to combat illegal IUU fishing from January 1, 2018. In parallel, the requirements for traceability have been legislated in the field of food safety control, associated with the seafood processing industry.

Although, Vietnam's seafood exports to the EU market were affected by the media on catfish consumption, and the EU warned "yellow card" related to the issue of combating illegal fishing, unreported and unregulated (IUU) but the total export value to the EU in the year was still positive thanks to the sharp increase in shrimp consumption, the total export value in 2016 was 41.37% to 2018 accounted for 65.54% of the total structure. In addition, the Korean market accounted for a significant proportion from 0.49% in 2017 to 3.29% in 2018, double the North American market structure in the same period. After the Vietnam-Korea Free Trade Agreement (AKFTA) officially took effect, the Korean side committed to give Vietnam preferential treatment to eliminate tariffs and open quotas for key export resources of Vietnam, including seafood products. Especially, for 07 shrimp products from Vietnam exported to Korea, the tax rate will be reduced from 20% to 0% right after the Agreement came into effect with a quota of 10,000 tons/year.

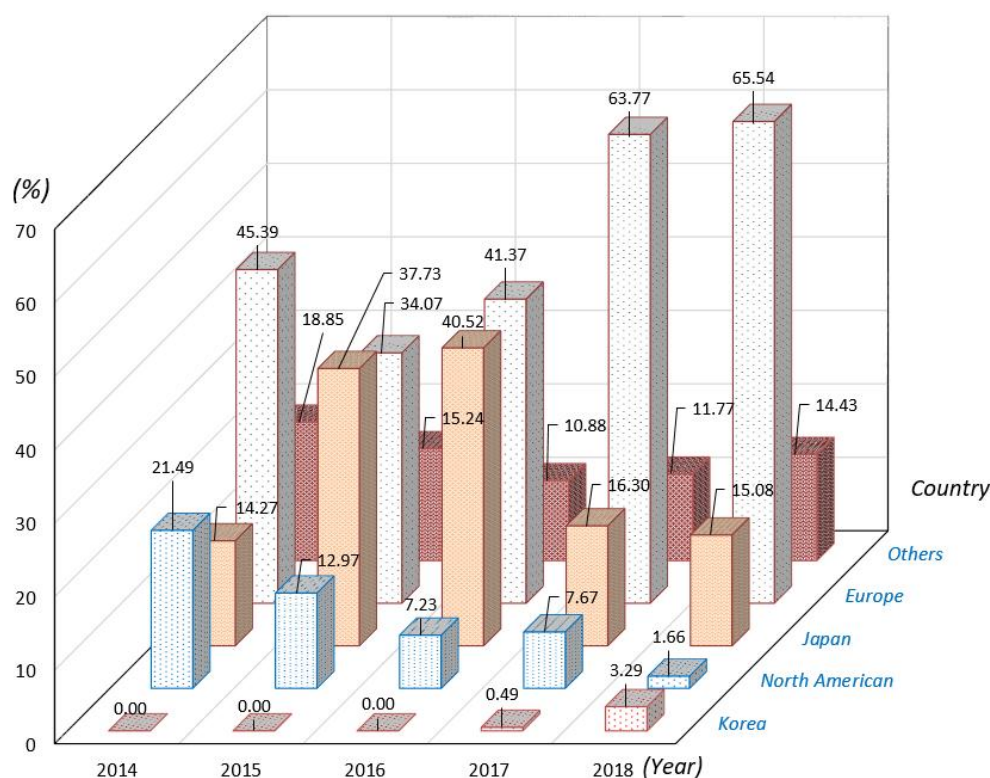


Figure 4. Structure of seafood export market in Tra Vinh
(Source: Survey in 2019 and author's analysis)

Regarding links in the SPI

The survey results showed that the linkage model in SP in Tra Vinh is implemented in the form of vertical linkage. The link between inputs and processing facilities. Aquatic raw materials for processing are provided by actors including farmers, fishermen and distribution intermediaries (TGPP). Processing establishments (CSCBs) have links with input agents, but not at origin (farmers, fishermen). Again, the study calculated the average score from the survey data set. The results for the TGPP with the most linkage, cooperation with 3.59 points; the benefit CSCB brings to this agent is only sharing information about prices, demand for quantity, items and sizes; Links with fishermen are loose and temporal. Currently, farmers do not have a cooperative relationship.

The link between processing and consumption establishments: SPCB mainly supplies through TGPP to consumers (100% establishments). In which, 8.7% of establishments are associated with exporters, 4.3% are associated with importers and do not have facilities to directly deliver products to supermarkets. Although the constraint between CSCB and TGPP is through an oral contract, most of commitments in terms of quantity, time as well as ensuring product quality are still fulfilled. Actually, oral contract orders often fluctuate according to customer needs. Linking with exporters and importers is done through a paper contract that fully shows the volume, product standard, price and delivery time. No orders returned due to breach of contract in recent years.

In general, the CSCBs have weak vertical linkage and there is no link between CSCBs. The linkage is needed to solidify the position, reduce costs, and increase profits for the establishment in particular and the industry in general.

Regarding socio-economic efficiency and environmental protection

The economic efficiency of the industry is assessed through labor productivity and capital productivity (NSV). Labor productivity of the industry in period of 2014-2018 increased on average by 2.53% in 2010 constant prices and by 4.93% at actual prices while Vietnam's labor productivity in the handicraft industry decreased by 2.72%. Capital productivity of the industry in the period 2014-2018 decreased by 7.8% on average.

The industry has brought remarkable social effects. Specifically, in 2018 created jobs for 1,408 employees, an increase of 3.0% compared to year of 2017. The average income of an employee in SP in general and in SP in particular in the period 2014 - 2018. It is always higher from 2.0 to 2.2 times the per capita income

of the province. In addition, each year this sector has contributed an amount of foreign currency of about (16-26)% of the total exports of the province.

Environmental protection includes preventing, controlling and thoroughly treating sources of air, water and noise pollution that affects on health of human. According to the survey results, the province's construction industry having 73.91% of establishments that have not yet invested in industrial wastewater treatment systems, 50.78% of establishments have made environmental impact assessment reports, 15.22 % of establishments applying QCVN, and 15.22% of establishments applying cleaner production. According to Vietnam regulations, without specified criteria is used to be assessed the waste of solid, liquid, noise, gas exhaust that exceeds a certain level. In general, the handling of solid waste, wastewater, odor and noise SPI industry in Tra Vinh harm the lives and activities of people.

III. Limitations, opportunities and challenges

Based on the obtained results, it can be seen that the BBT industry in Tra Vinh still has limitations: Firstly, the number of establishments participating is large, but mainly small-scale. Hence which has not yet attracted investors. Secondly, technology investment in production is still limited. Thirdly, there has been no interest in building linkages with input agents, no linkage with the supermarket system, and no cross-linking between CSCBs and between farming households. Fourthly, the infrastructure is still weak, the risk of environmental pollution always exists.

Causes of limitations: Firstly, the processing situation is fragmented, lacks capital, and is limited in corporate governance. Secondly, most CSCBs lack the scale and resources to try to develop new products and markets. Traceability requirements become more stringent. Thirdly, the input alignment is loose. Fourthly, the source of investment capital for the infrastructure still depends on the policy, and the work on the environment is still no strict.

Regarding development opportunities including: (1) The seafood consumption demand of countries all over the world is very large, but the internal production capacity only meets a small part. The rest is imported from Vietnam[12-15]. The domestic consumption market is very large. According to FAO's forecast, in 2030 the total consumption will reach about 3.81 million tons if Vietnam's population reaches 104 million people; (2) Government has been gradually improving the business environment, encouraging the transformation from individual economic households to enterprises; (3) Vietnam has a stable political regime, fast and stable growth, and an open-door economic integration policy; (4) The seafood processing industry has the Association of Seafood Exporters and Producers and the Association of Fisheries of the Provinces. The association have to role as a bridge between the Government and businesses in the province and region.

Currently, the industry is facing challenges that need attention. The first is the trade and technical barriers of importing countries. For example, Japanese government implements new trade barriers in importing seafood such as mandatory laws, food hygiene laws, agricultural product standards, product labelling regulations, and product liability laws [16]. According to US requirements, to meet all tariff preferences when the product is proven to be farmed and processed for export from Vietnam. Similarly, to pass the requirements of the EVFTA, the processing standards of Vietnamese seafood must be tightened. Secondly, the Covid 19 epidemic situation has disrupted the supply chain of many global products. Hence, production and business stagnated and consumer demand reduced. The ability for maintain and develop businesses is very difficult because they have to take high costs. Thirdly, natural disasters including drought, the prolonged saline intrusion that affects raw materials for production.

IV. Solutions to develop the SPI in Tra Vinh province

Increasing the scale of the SPI

Firstly, consolidate and perfect the legal framework to ensure transparency, and ensure non-overlap of laws. Implement, review and perfect investment incentives and attraction policies that include policies on land, capital, procedural support, and public services. Promote the implementation of improving the ranking of indicators on administrative reform, provincial competitiveness and information technology application, Building e-Governance for development.

Secondly, promote investment promotion and trade promotion for enterprises who want to invest in the field of SP in the province. Organization of learning experiences on management, invitation, investment encouragement, promotion development of CSCB. Consolidate and improve the quality of investment promotion activities through policies to attract human resources, reward and train qualified staff to carry out investment promotion. Innovate promotional activities with a focus to create a spillover effect.

Thirdly, directing the implementation of institutional reform, improving the investment environment, creating appreciation of friendly and safe for investors when looking for investment opportunities. Propaganda, advocacy and support for households to transform into businesses. In addition, mechanisms and policies also

need to focus on encouraging and supporting the establishment of starting a business, training in the knowledge of idea generation, business/start-up planning.

Fourthly, reorganize production to have enough quality raw materials to promptly meet the processing industry. It is necessary to have an appropriate conversion incentive mechanism to ensure the supply of raw materials for processing. Research on breeding stock that can adapt to specialized saline waters. Develop and raise saltwater aquatic species, and change the time of crops. Reorganize farming areas in the direction of close linkage and harmonization of interests between farmers and aquaculture establishments. Create farming areas with large output, high quality and stability to ensure traceability, contribute to improving the value of Vietnamese seafood products and Tra Vinh province in particular.

Fifthly, raise awareness and skills for CSCB owners. Associations or colleges and universities open training courses on knowledge, management skills, production and trade for CSCB owners. In addition, supporting CSCB owners to access and study models and production and business experiences of establishments in priority goods. Moreover, improve skills in exploiting and using databases and useful information for CSCB.

Restructuring products and consumption markets

Firstly, CSCBs need to switch to processing value-added products, researching and developing new products, mainly to meet the tastes of consumers. Regularly updated information on the market, consumer tastes, product categories, market capacity and level of competition with other exporting countries. To build effective production and consumption plans of aquatic products and improve forecasting capacity. Apply high technology and upgrade production lines to reduce the proportion of preliminarily processed products, and increase the finishing proportion in seafood processing.

Secondly, ensure sufficient capital for production and business and investment in technology to meet business requirements. On the one hand, improving and operating more effectively the existing funds of the province such as the Development Investment Fund, the Cooperative Development Support Fund, the Science and Technology Development Fund, and the Local Industrial Promotion Fund. First of all, to be transparent about access to capital; need a flexible mechanism to help institutions meet the conditions of funds and simplify procedures. On the other hand, solve financial difficulties, especially with banks.

Thirdly, the local government and businesses promote trade for processed seafood products to target large, high-demand markets. Encourage CSCBs to display products at fairs and promoted productions on information channels. Exploit potential markets to expand product supply markets. Diversify consumption markets to avoid dependence on a few markets. Focus on implementing solutions to improve the efficiency of established distribution channels.

Developing cooperation

Building and developing sustainable cooperation between farming households and fishermen is to control the origin and quality of raw materials to pass the requirements of the consumer market. CSCB signed a contract to consume products for farmers and fishermen. In addition, coordinate with agricultural and fishery extension agencies to provide technical and aquaculture support. Fishermen need to comply with fishing, preliminary processing and preservation techniques to ensure quality after exploitation. It is necessary to control the purchasing of raw materials, to prevent adding impurities into the product.

The chain of cooperation among CSCB, fishermen and farmers needs more support from the government that aims to improve operational efficiency. Creating policy for encouraging actors to join the chain. Industry associations need to promote their roles so that people and fisheries CSCBs uphold the spirit of building close links, supporting, sharing experiences and information in production and business, towards developing industry development.

Develop logistics system in asynchronous. Developing the models of cooperation and linkage models from production to consumption according to orders between farmers, fishermen and CSCB, between CSCB and the consumer market to create a suitable value chain to serve the needs of domestic consumption and export. Create a suitable link between distribution intermediaries and farming households and cooperative groups to minimize market and price risks and increase production efficiency.

Improve socio-economic efficiency and protect the environment

Firstly, strengthen policies to attract and call for foreign enterprises to invest in the field of SP. The aim is to contribute to increase capital and have the opportunity to access new technologies. That leads to an increase in the number and scale of businesses. Then will create many direct and indirect jobs for labor resources of the province.

Secondly, finalize the policy on technology and human resources to improve labor productivity. Concretize preferential policies in technological innovation such as encouraging enterprises to participate in, receive and use research results to develop products and apply high technologies to production. Moreover, enterprises need to apply new technologies, upgrade equipment, and restructure products to produce value-added products. Encourage training institutions to organize research in association with enterprises. Promote the capacity of employees to improve labor productivity by building a working environment, salary and bonus policies, training to improve human resources and opportunities for promotion.

Thirdly, improve business users by choosing suitable production and business plans. Research and apply "Lean" method in production to change employees' thinking, ensure quality and progress. Exploiting and using resources thoroughly, not leaving capital idle, improving the capacity of financial managers, allocating and using capital appropriately. Research and select suitable output products. In addition, it is necessary to evaluate the quality of inputs and outputs to solve food safety issues, traceability, and meet technical barriers of seafood importing countries.

Fourthly, upgrading the industry's production technology equals the top provinces of the Mekong Delta. Prioritize the use of provincial funds - especially the fund of science and technology development to support small and medium enterprises, implement projects, and programs to modernize technology, production processes, and product development. Continue to reform and simplify regulations on administrative procedures to facilitate improvement or enhancement of production technology.

Fifth, improve social responsibility in SP. On the one hand, strengthen orientation and support CSCBs to perform their social responsibilities, specifically environmental responsibilities. Implement planning on an industrial park, or concentrated SP. Create policies to encourage CSCBs to invest in environmental protection, reserve capital for businesses to build waste treatment systems. Moreover, promoting inspection and supervision of environmental protection activities to raise awareness for establishment owners about environmental protection. It is necessary to handle acts that violate the provisions of the law on environmental protection. Strictly control the amount of wastewater, solid waste, labor protection and safety for purchasing and processing establishments. In addition, CSCBs need to comply with legal regulations on environmental protection, invest in the construction and operation of a pollution treatment system as committed, or upgrade wastewater treatment technology; need to find out solutions using microorganisms to treat wastewater.

V. Conclusion

This article has presented the current situation of the seafood processing industry in Tra Vinh province in recent years in terms of the number of processing facilities, capital, product structure, market structure, and the relationship between agents and processing facility, between the processing facility and the consumer market, between society and environmental protection. Research results show that the development of the industry still reveals many limitations. Management is based on experience, not focusing on product restructuring, lack of links in the system, high risk of environmental pollution. This article also proposed the solutions to promote the development of the industry. That includes expanding the scale, shifting production methods, product structure and expanding the product consumption market of the seafood processing industry. The research results can be applied to local authorities for reference to improve industry development policies.

References

- [1]. Phan Phùng Việt. (2010). Định hướng phát triển công nghiệp chế biến thủy hải sản của tỉnh Bạc Liêu giai đoạn 2011-2015 và tầm nhìn đến năm 2020. *Tạp chí Công nghiệp*, 10, 34-35.
- [2]. Amaya Vega and et al.(2014). Economic impacts of seafood production growth targets in Ireland. *Marine Policy*, 47, 39-45.
- [3]. Ministry of Agriculture and Rural Development (2011). Quyết định số 2310/QĐ-BNN-CB 04/10/2011 về việc phê duyệt Quy hoạch phát triển chế biến thủy sản toàn quốc đến năm 2020.
- [4]. Kulapa Supongpan Kuldilok. (2009). An economic analysis of the Thailand tuna fish industry (PhD Thesis), Newcastle University.
- [5]. Miret-Pastor and et al. (2014). Empirical analysis of sustainable fisheries and the relation to economic performance enhancement: The case of the Spanish fishing industry. *Marine Policy*, 46, 105-110.
- [6]. Zhengyong Yang and et al. (2016). China's aquatic product processing industry: Policy evolution and economic performance. *Trends in Food Science & Technology*, 58, 149-154.
- [7]. Sam Siril Nicholas S and et al. (2015). Indian seafood Industry strength, weakness, opportunities and threat in the global supply chain. *International Journal of Fisheries and Aquatic Studies*, 3(2), 199-205.
- [8]. Gabriela Sabau, & F.I.M. Mukhtadir Boksh (2017). Fish trade liberalization under 21st century trade agreements: the CETA and Newfoundland and Labrador fish and seafood industry. *Ecological Economics*, 141, 222-233.
- [9]. Trond Bjørndal and et al. (2016). Fish processing in Portugal: An industry in expansion. *Marine Policy*, 72, 94-106.
- [10]. Quan Minh Nhứt. (2010). Các nhân tố tác động đến hiệu quả sản xuất của các doanh nghiệp chế biến thủy sản khu vực Đồng bằng Sông Cửu Long. *Tạp chí Khoa học Trường Đại học Cần Thơ*, 13, 137-143.

- [11]. Nguyễn Văn Hiếu. (2014). Phát triển bền vững ngành chế biến thủy sản tỉnh Bến Tre. (Luận án Tiến sĩ), Trường Đại học Kinh tế thành phố Hồ Chí Minh,
- [12]. Dinçer, & Mehmet Tolga (2018). An Overview of the Seafood Processing Sector in Some Mediterranean Countries. *Mediterranean Fisheries and Aquaculture Research*, 1(1), 23-30.
- [13]. Inside Italy (2014). Inside Italy: the fish and seafood trade, Global Analysis Report Retrieved
- [14]. Eurostat (2014). Agriculture, forestry and fishery statistics: Luxembourg: Publications Office of the European Union, 2015.
- [15]. Crona, B. and et al. (2020). China at a Crossroads: An Analysis of China's Changing Seafood Production and Consumption. *One Earth*, 3(1), 32-44.
- [16]. Dao, L., & Vu, T. (2017). Strategic orientations for overcoming trade barriers in Vietnamese seafood export into Japanese market. *한국무역학회국제학술대회*, 209-223.

Duong Thi Tuyet Anh, et. al. "Solutions to Develop the Aquatic Product Processing Industry in Tra Vinh, Vietnam." *IOSR Journal of Economics and Finance (IOSR-JEF)*, 13(4), 2022, pp. 44-52.