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SOME ISSUES OF DEVELOPMENT OF JAPAN 'S FISHERIES SECTOR AND LESSONS LEARNED FROM THE DEVELOPMENT OF VIETNAM 'S FISHERIES SECTOR IN THE CURRENT CONTEXT

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ABSTRACT

With the development of the marine economy in the current context, Vietnam desperately needs models of marine economic development of countries with strengths in the field of marine economic development, especially sustainable development based on the values of aquatic resources brought by marine areas. Japan has much potential for marine economic development because the country has a long coastline and rich marine resources. The article focuses on the study of fisheries development issues for Japan, based on which some experiences are synthesized to create a basis for proposing solutions to develop Vietnam's fisheries sector in a sustainable trend to improve the effectiveness and efficiency of Vietnam's marine economic policy in the current context.

Keywords: Fisheries Sector, Aquaculture, Seafood, Sustainable Development.

INTRODUCTION

Japan is one of the largest exporters of aquaculture products globally. From 2007 to 2017, Japan's seafood exports increased by 36% in export turnover, while seafood imports increased by 1%. In 2017, Japan accounted for 3.725% of global fish production, 0.902% of global aquaculture production, 1.48% of global aquaculture exports, and 9.857% of global

aquaculture imports¹. Besides, Japan is also the third-largest seafood importer in the world. In 2019, Japan's seafood import turnover drifted \$15.6 billion and reached 2.5 million tons. From 2015 to 2019, the average growth rate of import turnover and import volume was 3.1%/year and -0.2%/year, respectively. The Japanese seafood market is increasingly dependent on imports. The aquaculture industry in Japan plays an important role in the daily life of the people here.

A coastal country strategically located in Southeast Asia and Asia, Vietnam has an exclusive economic zone of over 1 million km², with a coastline of more than 3,260 km and about 4,000 islands and islands. Over 60 years of needy, creative, and difficult to develop, Vietnam's aquaculture industry has become one of the key economic sectors, achieving high growth rates; large scale, and value of production; many export products reach a turnover of over USD 1 billion²

Vietnam also has a long developed fishery, possessing a variety of diverse fisheries distributed based on geographical and climatic differences, stretching from North to South.

Developments in the Economic Sector of Fisheries and Seafood in Japan

The Issue of Output Associated with the Value of Aquaculture and Fishing

Japan is an island, resource-poor country that has long relied heavily on maritime trade routes across the Strait of Malacca and the South China Sea for economic development. The development of Japan's fisheries and seafood sector is mainly based on aquaculture and fishing. In the period 2018-2020, fishery production in Japan remained at 4.421 million tons (2018), 4.196 million tons (2019), and 4.175 million tons (2020). The main fish caught in Japan are tuna, zebrafish, sardines, mackerel, shellfish, crabs, squid, and salmon. Aquaculture production in 2018-2020 in Japan reached 1.005 million tons (2018), 915 thousand tons (2019), and 967 thousand tons (2020). The main aquaculture products grown in Japan are oysters, cherry, seaweed, mackerel, and freshwater fish, of which seaweed and oyster are the two main farming products in Japan.

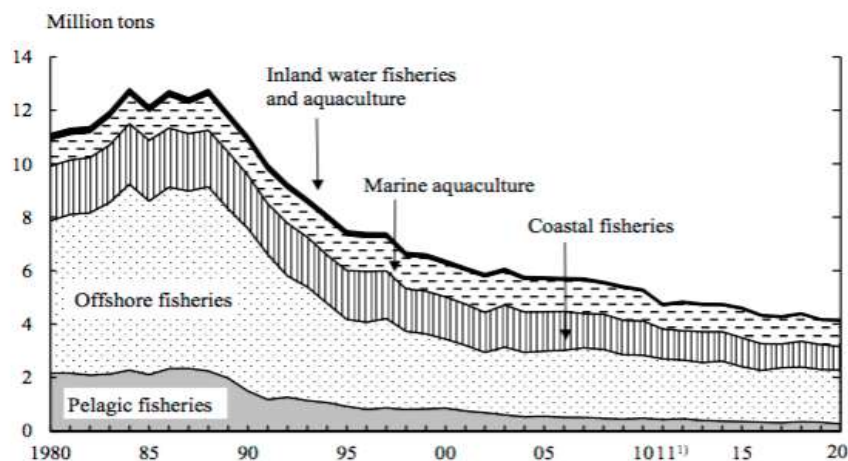


Figure 1. Fishing and aquaculture production in Japan in 5 sea areas, 1980-2020 (million tons)

Source: OECD (2021), Fisheries and aquaculture in Japan, January.

From the late 2000s onwards, aquaculture production and fisheries have decreased in all five above sea areas but declined sharply, especially offshore. Catches in marine areas in 1980 reached approximately 2.2 million tonnes, then plummeted and reached only 480 thousand

¹OECD (2021), Fisheries and aquaculture in Japan, January.

² Baochinhphu.vn

tonnes in 2010 and declined more sharply in subsequent years. In 2017, fishery production in remote areas was only 314 thousand tons. Although Japan has signed many bilateral fishing cooperation agreements on the high seas with Pacific and Indian Ocean countries, Japan's offshore fishing production has continued to decline sharply.

The development of Japan's aquaculture and seafood products consumption market

It can be affirmed that Japan is a country where seafood export and import markets tend to develop sustainably.

Japan is the largest seafood exporter in the world. In terms of export partners, most Japanese seafood is exported to Hong Kong, the US, China, Thailand, South Korea, and Vietnam. These five major trading partners accounted for 75.5% of the total export value of Japan in 2017-2018, of which Hong Kong accounted for 29.5%, China for 15.9%, the United States for 11%, Thailand for 7.8%, Vietnam for 6.1% and South Korea for 5.2%. The main Japanese products are scallops, farmed pearls, orange fish, processed sea cucumbers, mackerel, and tuna - including tuna. These items account for about half of the total exports in this category. Cultured pearls represent about 11.5% of the total.

Along with developing products for export, the Government of Japan also developed sustainable development directions for the fisheries and seafood sector. It is demonstrated by free trade agreements to facilitate the export of fishery products; typically, the management of TPP in 2016; the Japan - EU Economic Partnership Agreement in 2017; the economic partnership agreement with the United Kingdom in 2019; signed RCEP multilateral trade agreements including China, ASEAN countries, Australia and New Zealand in 2019. Japan also strengthened the implementation of bilateral governmental agreements with Russia, South Korea, China, and Taiwan in matters related to fishing in shared waters.

Besides, Japan is also the third-largest seafood importer in the world. In 2019, Japan's seafood import turnover drifted \$15.6 billion and reached 2.5 million tons. From 2015 to 2019, the average growth rate of import turnover and import volume was 3.1%/year and -0.2%/year, respectively. The Japanese seafood market is increasingly dependent on imports. In 2011, seafood products imported into Japan amounted to 2.7 million tons and 1455 billion yen. China is Japan's most important source of fishery products and provides 18% of total import value. Chile (9%), Thailand, the US, and Russia (8% each) are important partners. The main species imported to Japan are shrimp (13% of total import value, with processed shrimp increased by 4%), tuna and swordfish (13%), and salmon (11%). Shrimps, which Japan produces relatively limitedly, are imported mainly from Thailand and Vietnam. The main tuna suppliers are China, South Korea, Indonesia, and Thailand, while salmon is mainly imported from Chile. Eel, an important commodity on the Japanese market, is mainly sourced from China. Mauritania and Morocco are Japan's main sources of octopus.

Some Shortcomings in the Development of Japan's Fisheries Sector

Firstly, the exploitation of fisheries in Japan is at an excessive level.

Japan's fishing industry faces the limitations of nature as fishery resources have been showing signs of decline over the past two decades. From 2007 to 2017, Japan's aquaculture and fishing production decreased by 25% in volume and 10% in value³. Overfishing is largely the cause of this decline. The increasing use of motorized fishing boats and other equipment improvements and the increasing demand for seafood has led to overexploitation of marine

³OECD (2021), Fisheries and aquaculture in Japan, January.

resources. According to the report of Planet Tracker, one of the 100 largest seafood companies globally, Japan represents more than any other country⁴.

Even if not damaged by natural disasters, fish resources throughout Japan are still at risk. The Pacific bluefin tuna is the species that attract the most media attention because of its threatened supply and high economic value. Japan's bluefin fisheries have plummeted in recent decades, with some scientists estimating that its current stock is only 4% of 1980s production. As the world's largest consumer of bluefin tuna, Japan is primarily responsible for this decline. Most bluefin tuna are caught by large pelagic vessels that fish of all sizes and ages, including juveniles, for a long time in Japan.

In recent years, the production of mackerel has seriously decreased, from 518 thousand tons (2017) to 450 thousand tons (2019) and 377 thousand tons (2020). The Japanese bluefin tuna, mackerel, and swordfish have low production. The analysis shows that Japan's fishery production has declined continuously over the past 20 years. Before 2007, sustainable exploitation of resources was not the foremost goal of the Japanese fishery. Fleets will fish in many fisheries until depleted and catch different species. The Government supports the development of untapped marine resources and new fisheries.

Secondly, the aquaculture sector tends to reduce its size and output.

Japan's aquaculture industry tends to decline sharply, especially after the 2011 earthquake. Powerful tsunamis devastated coasts from central to northern Japan, destroying coastal towns and their aquaculture facilities. Total aquaculture production decreased to the bottom in 2011, which tends to increase in the following years, but still cannot recover strongly after 2011 to 2020, although some aquaculture species are trending upwards. Some of the challenges for the aquaculture industry in recent years can be mentioned: (1) high feed costs and fierce competition in the prices of aquaculture products on the world market; (2) prevailing epidemics, especially white spot diseases in prawns; (3) pollution from the Fukunk nuclear power plant due to the impact of earthquakes and tsunamis in 2011; (4) red tides affecting aquaculture facilities in western Japan; (5) nutrient-depleted coastal waters, affecting shellless aquaculture and seaweed, reducing the value of the product; (6) population aging and lack of labor in the aquaculture industry; (7) large aquaculture enterprises are small enterprises, poor competitiveness.⁵ In recent years, massive aquaculture and intensive use of industrial feed for fish and shrimp has led to the environmental degradation of aquaculture sites and appears to have become a major cause of overnutrition, pollution, red tides, and epidemics for fish and other aquaculture species.

For a long time, Japan faced competition from seafood imports from neighboring countries. High export prices reduced import prices and reduced Japan's per capita seafood consumption in response to overproduction. The Government and seafood enterprises are trying to create branded products, applying an internet-based production traceability system to differentiate products and create more credibility in food safety. Businesses and governments are also promoting traditional Japanese food culture and seafood consumption and creating new seafood products or recipes that match modern cuisine, honoring Japanese aquatic culture to deal with the domestic aquaculture industry's constraints and challenges.

⁴Vasep (2021), the Japanese aquaculture industry will have to limit exploitation, Vietnam Seafood Processing and Export Association.

⁵Satoshi Watanabe and Tomoko Sakami (2019), Problems and challenges of aquaculture in Japan; National Research Institute of Aquaculture, Japan Fisheries Research and Education Agency, 422-1 Nakatsuhamaura, Minamiise, Mie, 516-0193, Japan

Thirdly, the Japanese fisheries sector relies on foreign workers.

The aging of the population is causing a serious shortage of labor in the fisheries sector. In 2008, the total number of workers in the fisheries sector was 435,067, accounting for 0.68% of the total number of workers working in Japan; 221,908 were engaged in fishing activities, mainly male workers. The distribution and processing sector employs 213,159 workers, mainly female workers. The number of fishers is declining, and this trend is likely to continue as fishermen aged 65 and over account for more than a third of the total number of fishers, and the number of newly recruited workers is very limited⁶. In 2018, the number of workers in the fisheries sector dropped sharply to 202,430, down 19% from 10 years earlier⁷. Japanese fishery workers used to be predominantly in their 40-59 age group, but from 2007 onwards, they were predominantly in their 60s and over. As of 2019, the elderly rate in Japanese fishing villages reached 39.7%⁸. Male workers account for about 0.42% of Japan's workforce, and female workers in the aquaculture sector account for about 0.26% of Japan's aquaculture workforce. In recent years, the proportion of foreign workers in the Japanese fisheries sector has been increasing, mainly in the types of jobs: offshore fishing, aquaculture, and aquaculture processing. The dependence on foreign labor is causing the Japanese fishery industry to increase labor costs, making the fish processing industry vulnerable when labor decreases. Many fish processing plants are located in coastal areas, and their main workforce is residents around fishing villages. As labor becomes increasingly scarce, the fishing and aquaculture processing industry are increasingly dependent on foreign workers; the system of training technical trainees for foreign employees, including the number of offshore fishing crews who are foreigners, to be able to maintain the scale and quality of exploitation as well as seafood processing. The risk of employing foreign workers in the offshore fishing industry is that most members have fishing boat licenses at 55-64 years old (accounting for 50%), while the foreign crews used for offshore fishing vessels are young workers. It leads to the training of young Japanese workers engaged in offshore fishing, which is increasingly hindered by young Japanese workers who will have little personal experience accumulated on board and access to generations of older crew members. In aquaculture and aquaculture processing, over-reliance on foreign workers is becoming a risk because foreign workers need to ensure stable and long working time to meet the technical requirements of aquaculture and processing that the Japanese have trained. If foreign workers are in short supply or out of work, aquaculture processing plants and aquaculture sites will face significant challenges, and many processing plants will be forced to cut down their production lines due to labor shortages.

Fourthly, fisheries cooperatives are experiencing many difficulties.

In Japan, fisheries cooperatives play a core role in improving fisheries management, rational use and management of fisheries resources, and supporting regional economies and social activities in fishing communities. By 2020, Japan's number of fishery cooperatives was 939, down from 1100 in 2007 and 2,136 in 1989. In parallel, the number of cooperative fishery members decreases with the decrease in the number of fishers, and most cooperatives are still

⁶Irina Ppopescu, Toshihiko Ogushi (2013), Fisheries in Japan, European Parliament, Policy Department B: Structural and cohesion policies.

⁷OECD (2021), Fisheries and aquaculture in Japan, January.

⁸Takafumi Sasaki, "The Actual Situation Surrounding the Introduction of Foreign Labor in the Fishing Industry and Future Prospects," Tokyo Fisheries Promotion Foundation, Fisheries Promotion (No. 625), October 2020.

small in size. According to Kyodo New's survey, the membership of fisheries cooperatives in 2010-2019 decreased by 24% in the three northeastern provinces of Japan, Miyagi, Iwate, and Fukushima, due to the severe impact of the 2011 earthquake and tsunami⁹, and also due to Japan's population aging and foreign labor dependency.

After the Law on Fishery Cooperative Union was promulgated in Japan in the 1960s, fishery cooperatives enjoyed a lot of incentives on subsidies, low-interest loans, exemption from income tax, and a massively developed number of cooperatives in the 1960s-1980s. In 1993, Japan began a wave of mergers of aquaculture cooperatives to cope with the risk of population aging, the number of cooperative members was getting smaller, and the size of the cooperative was decreasing. The decrease in the number of aquaculture cooperatives in Japan continues to occur in the 2000s, and aquaculture cooperatives are in fierce competition with aquaculture enterprises in terms of capital, production scale, workforce, and aquaculture preservation technology. The policies of support and subsidies for aquaculture cooperatives are tighter and less preferential. Although playing an important role in the aquaculture industry and being the focal point for aquaculture procurement for major Japanese aquaculture enterprises, aquaculture cooperatives' production and the business situation have not improved in recent years, especially since profits have decreased sharply the fields of credit, marketing, and purchasing. In recent years, the Japanese Government has continued to promote the merger of fishery cooperatives, restructuring their business activities to suit the new situation in the fishery sector.

Lessons Learned in the Sustainable Development of Vietnam's Fisheries and Seafood Sector based on Experience in Japan

Lessons Learned in the Development of Japan's Fisheries and Seafood Industry

From the situation of the development of Japan's aquaculture and seafood industry, the following lessons can be learned to develop Japan's aquaculture and seafood industry in the application to the development of Vietnam's aquaculture and seafood industry.

Firstly, the development of the marine economy in which aquaculture and fisheries are exploited requires the aim of sustainable development. The development of Japan's aquaculture and fisheries sectors shows that Japan always focuses on protecting fishery resources for a long-term development strategy.

Secondly, it aims at technological autonomy in developing the marine economy and the development of the fisheries and aquaculture sector. Although Japan is a leader in many developed aquaculture countries, it aims to achieve autonomy in aquaculture technology and fishing by investing in R&D for research institutes, universities, and large economic corporations in the construction of exploitation methods as well as aquaculture to meet the needs of the domestic market as well as export markets to ensure the balance of aquatic supply and demand for economic development.

Thirdly, combining the issues of development between traditional and modern for the sustainable development of fisheries and seafood. The practice of marine economic development in Japan shows that Japan still maintains the model of developing cooperatives and traditional markets in coastal areas and fishing villages; simultaneously, it is developing a modern and large-scale economic model of aquaculture and exploitation of aquaculture.

⁹Chris Loew (2021), Membership wanes in Japan's Fishery co-op; <https://www.seafoodsource.com/news/supply-trade/membership-wanes-for-japan-fishery-co-op>

The Solution for Sustainable Development of Vietnam's Fisheries and Seafood Sector is based on Experience from Japan.

Fisheries Development must have a Long-Term and Sustainable Strategy

Vietnam can refer to the experience of Japan's sustainable development fisheries. A sustainable program can be deployed based on cooperation programs between people and enterprises. Moreover, research activities between governments, enterprises, and universities are carried out very well in Japan to identify aquatic species cultivated and exploited, determine productivity and quality, forecast risks to the sector, determine supply-market conditions, and determine the amount of seafood exported and imported for balance, invest in research modern machinery and equipment for the aquaculture, fishing, and processing. These issues are actively implemented and implemented in an organized and long-term manner by the central Government and coastal provinces to serve the plans and strategies. It is reflected in the development orientation of Vietnam's aquaculture and seafood industry. According to the target of 2030, the growth rate of aquaculture production is 3.0 - 4.0%/year. The total domestic aquaculture production is 9.8 million tons; the value of aquaculture export turnover is 14 - 16 billion USD; all aquaculture production and business establishments ensure food safety and environmental protection standards; create jobs for more than 3.5 million aquaculture workers, with a per capita income equivalent to the national average income [7]. The development strategy is evident in the Prime Minister's Decision No. 339/QĐ – TTg approving the Vietnam Fisheries Development Strategy to 2030 with a vision to 2045 with a strategic focus on developing the fisheries and aquaculture sector into a modern economic, trade, and services sector oriented towards sustainable development combining fishing and aquaculture ensuring the development proportion associated with the economic development structure as well as becoming a key development point in the Marine Economic Development Strategy.

Applying Science and Technology to Ensure Sustainable Development of Fisheries and Seafood Industries

For exporting aquaculture production and processing enterprises, it is necessary to invest in advanced scientific and technological applications to serve the cultivation and processing, especially the development of high-quality aquaculture production systems, key subjects, great economic value, and new potential species for putting aquaculture at sea into a field of goods production, industrial scale, creating a large volume of products for export processing and domestic consumption. Step by step, build the seafood processing industry into a key economic sector, large commodity production, deep processing center associated with the direction of commercial development, promoting the image of products to bring the image of the quality of Vietnamese seafood to international markets.

In addition, the fisheries sector should also pay attention to the policy of converting fisheries exploited near-shore by fishers to the development of marine husbandry, thereby both protecting and regenerating natural resources and sustainably developing fisheries. At the strategic level, it is necessary to build chain links and product consumption, ensure the input of offspring, and the production and consumption of seafood products to increase the content and value of aquatic seafood products.

Strengthening Development Cooperation in the Fisheries and Seafood Sector

It is one of the important cooperation contents in fisheries and seafood. Vietnam has now signed a large-scale Free Trade Agreement between the CPTPP and EVFTA, which has promised to bring new opportunities in tariffs for Vietnam's export products, including

fisheries. On November 15, 2020, Vietnam signed the Regional Comprehensive Economic Partnership (RCEP), which participates in the largest global trade volume with more than 2.2 billion people, accounting for 30% of the global product. The RCEP shall be effective for the next two years after ratification by the Member States. It is a condition for development in the field of cooperation of the aquaculture and seafood industry, which will help Vietnam's products have development conditions to avoid the challenges of the market in technical standards as well as trade protection issues, contributing to the integration of the aquaculture and seafood industry in the current context.

CONCLUSION

Japan's seafood development problems are presented based on the multidimensional approach that has raised the issues of the development output of the aquaculture and seafood sector. Besides, the development of a market for aquaculture and seafood consumption of Japan as a potential market as well as the balance in the development of the aquaculture sector of Japan to ensure domestic market as well as export aquaculture products based on the balanced quality of export, import products of the aquaculture sector.

From there, it shows that learning from experience in the development of Japan's fisheries and seafood sector, in order to gain lessons learned and develop some solutions to develop Vietnam's fisheries and seafood sector in a sustainable orientation and ensure product quality, is an important research issue that contributes to the development orientation of Vietnam's fisheries and seafood sector in the current context.

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