



Current status of policies and laws on training and utilizing of Japanese marine human resources – Lesson for Vietnam

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Abstract

Nation-building begins with human resource development. Nurturing, supporting, and developing human resources is one of Japan's important goals. With the strategic thinking of a maritime power, the Japanese government is fully aware that the maritime sector occupies an important position for the country's security and prosperity. From the perspective of the most comprehensive analysis of the current situation of training and using marine human resources in Japan, Vietnam will be able to draw some useful solutions and lessons in building a high-quality marine human resource team, serving the growth of the marine economy, marine security, and other fields related to the sea and islands.

Keywords: Marine human resources, policies and laws, lessons learned, Japan, Vietnam

Introduction

The 21st century is considered the century of the ocean, "reaching out to sea" has become a major trend, an important orientation for all countries with seas and even countries without seas. Many countries in the world are seeking to reach out to the sea, relying on the sea to develop their economy, trade, defense and security. Countries with seas, especially large countries, all have clear maritime strategies with the orientation of developing into maritime powers or depending on specific conditions to exploit the benefits of the sea and ocean to develop the country.

As a coastal country, Japan attaches importance to building and implementing the National Ocean Policy of Japan. Japan's maritime policy aims at socio-economic development and the livelihood of its citizens, promoting harmony between the ocean and people, between active and peaceful development and sustainable use of the ocean through international cooperation, in accordance with the 1982 United Nations Convention on the Law of the Sea (UNCLOS) and other relevant international treaties. To achieve this goal, Japan's Maritime Law provides general provisions related to:

1. Determining the responsibilities of the state, local governments, businesses and citizens related to maritime issues;
2. Ensuring harmony between the development and use of the ocean and the conservation of the marine environment;
3. Ensuring security and safety at sea;
4. Promoting scientific knowledge of the ocean;
5. Developing marine industries;
6. Comprehensive governance of the ocean;
7. International cooperation on the ocean;

8. Establishing the Headquarters for Ocean Policy and formulating a basic plan to promote the comprehensive and systematic implementation of ocean-related measures. This has contributed to the vigorous development of Japan's marine human resources in recent years.

Vietnam is a coastal country with large seas and continental shelves, containing rich and diverse natural resources. Vietnam's seas and islands are not only potential economic development areas, where vital traffic routes at sea are located, along with resources and marine economy, but also important combat environments in the strategy of protecting the Fatherland. Aiming to develop Vietnam into a strong maritime nation, with sustainable development, prosperity, security and safety; the marine economy makes an important contribution to the country's economy and economic development. In order to achieve this goal, building and developing marine human resources, especially high-quality marine human resources, is one of the indispensable requirements. Therefore, Vietnam needs to promote the experience of countries around the world, especially Japan, to gain useful lessons.

Material and methods

Researching the current situation of training and using marine human resources in Japan, thereby drawing lessons for Vietnam, is a new and complex issue that requires a multidisciplinary approach. To clarify the research content, the author has applied a combination of many different research methods, the most typical of which are the following methods:

1. The dialectical materialism method is the main methodology to clarify basic theoretical and practical issues on the research topic.
2. The historical materialism method is used to explain the history of the East Sea dispute, the process of establishing and implementing Vietnam's legitimate rights and interests in the East Sea, the current situation of applying the mechanism to resolve disputes over maritime claims of countries in the region, and the process of establishing and implementing sovereignty and other legitimate rights and interests of Vietnam in the East Sea.
3. **Method of analyzing available documents:** The research topic collects and analyzes available documents related to policies and laws on training and developing marine human resources in Japan; the current status of marine human resources in this country.
4. **Method of analyzing and synthesizing documents:** The author will collect information on the research contents of the article through documents published on the websites of agencies, organizations, reports and assessments of researchers, universities, and state management agencies, as well as published research results of scientists in domestic and international journals on related issues. On the basis of collecting and systematizing theoretical and practical documents, the author conducts research, analysis, and in-depth study to clarify specific issues and aspects.
5. **Method of classifying and systematizing documents:** This method is used to collect and systematize documents related to the research contents of the article.
6. **Statistical method:** This method is used to collect documents and materials related to the implementation of the topic.
7. **Comparative research method:** The topic uses the comparative research method to clarify the similarities and differences in training and developing marine human resources in Japan and Vietnam, thereby drawing lessons for Vietnam.
8. **Typical research method:** Researching the broad and multifaceted issues of the topic requires using typical methods according to certain criteria to ensure the effectiveness of the research results, contributing to achieving the general goals of the topic, and being suitable for the capacity and conditions of practical implementation.
9. **Interdisciplinary and multidisciplinary method:** The research content of the topic is related to many specialized scientific fields such as educational science, political science, legal science, historical and social science... Therefore, to achieve the objectives of the topic, the research methods of these disciplines are all applied.

Results and discussions

1. Policies and laws related to the use and training of Japanese marine human resources

Japan is a country with difficulties in ensuring high-quality labor resources. However, it cannot be denied that Japan's policy of developing high-quality labor resources has brought about remarkable successes, which have been demonstrated in all areas of training, use, management, and attracting human resources in all sectors in general and in the marine and island sector in particular. These successes are based on the Japanese government's implementation of appropriate policies, focusing on human resources, the most important factor for the country's development.

Japan's ocean policy is a cross-sectoral policy, enacted in the form of a basic law, the Ocean Policy Basic Law, enacted in 2007. Under this law are basic ocean policy plans promulgated by the Japanese cabinet every five years to specify the ocean policy for each period. The Ocean Policy Basic Law consists of 38 articles, structured into 04 chapters and 02 additional provisions on the effective date and requirements for implementation assessment. This law stipulates the basic principles and responsibilities of the central government, local governments, businesses, and citizens; the formulation of basic plans related to the oceans and other basic issues related to implementation measures; establishing a steering committee for implementing ocean policy to contribute to sustainable economic and social development and citizens' lives; promoting harmony between the ocean and people; and promoting positive and peaceful development and sustainable use of marine environmental resources on the basis of the 1982 United Nations Convention on the Law of the Sea (UNCLOS) and other relevant international treaties.

Furthermore, in the past, to manage the seas and oceans, Japan managed them vertically, with each sector related to the sea falling under the corresponding management of specialized ministries, such as maritime transport being overseen by the Ministry of Transport, and fisheries managed by the Ministry of Fisheries, and so on. However, vertical management of the sea creates disadvantages when addressing comprehensive, interdisciplinary issues such as marine resource and environmental problems, as well as maritime economic issues... Therefore, Japan has transitioned to a unified management model for seas and oceans by establishing an independent agency under the Prime Minister.

Since the enactment of the Basic Law on Ocean Policy in 2007, according to the provisions of the Law, Japan established the Agency for the Promotion of Ocean Policy, headed by the Prime Minister, with members being cabinet ministers from various ministries related to maritime affairs; among them, there is a dedicated minister who assists the Prime Minister in directing the activities of the Agency. Japan has established the Ocean Policy Promotion Office, an agency under the Cabinet, headed by a minister responsible for assisting the Prime Minister on maritime policy to support the directing agency. The ministries and sectors with ministers who are members of the Ocean Policy Steering Agency will be the bodies responsible for implementing the plans and solutions proposed by the Ocean Policy Steering Agency. Specifically:

- The Ministry of Natural Resources and Environment is primarily responsible for ensuring maritime traffic, protecting and managing islands, and overseeing integrated coastal zone management.

- The Ministry of Education, Culture, Sports, Science, and Technology is primarily responsible for researching and developing marine science and technology; preserving and protecting the natural environment of the sea.
- The Ministry of Economy, Trade, and Industry is primarily responsible for promoting the systematic development of energy and mineral resources in the maritime area.
- The Ministry of Agriculture, Forestry, and Fisheries is primarily responsible for the conservation and management of aquatic resources, as well as enhancing the productivity of fishing areas.
- The Ministry of Foreign Affairs is primarily responsible for ensuring international coordination and promoting international cooperation; fostering development in the exclusive economic zone and continental shelf.
- The Ministry of Home Affairs and Information is primarily responsible for identifying measures to address natural disasters caused by the sea.
- The Ministry of Environment has the primary responsibility for protecting the marine environment and alleviating environmental pressure.
- The Ministry of Finance is primarily responsible for controlling the import and export of goods and vehicles in accordance with customs regulations.
- The Ministry of Justice has the primary responsibility for notifying flag states about maritime violations in accordance with the provisions of the United Nations Convention on the Law of the Sea 1982.
- The Ministry of National Defense is primarily responsible for ensuring safety in waterway traffic and maintaining laws and regulations at sea.
- The Ministry of Health, Labor, and Welfare is primarily responsible for training and enhancing human resources in maritime and marine issues.

Japan also emphasizes the role of local governments in areas such as seafood exploitation, coastal marine environment protection, marine ecosystem conservation, and island economic development. With the management apparatus as described, Japan's ocean policy is implemented independently, comprehensively, and effectively^[5].

In addition, the Japanese Coast Guard Law has been meticulously crafted to reinforce the operational objectives of the coast guard, while also specifying the organizational structure and operational methods of this force in relation to the nation. In addition, there are several other laws enacted related to the use of Japan's marine human resources, such as the Law on the Enforcement of Coast Guard Duties, the Law on the Establishment of the Maritime Transportation Safety Board, and so on^[11].

The main content of policies and laws related to the training, education, and attraction of marine human resources in Japan focuses on the following key issues:

Firstly: Focus resources on improving the quality of the education and training system. The Japanese government places special emphasis on education and training, truly considering it a top national policy. The reality of Japan's development of high-quality human resources has shown that training human resources from the ground up, linked to the education and university training system, is the key to success. Japan considers education to play a crucial role in developing high-quality human resources, where quality is not only about quantity but also includes educational attainment and high levels of professional skills.

The Japanese government has issued policies, established a training system, and provided financial support. In addition, with the government's consent, educational institutions in Japan offer special admission policies for working individuals (such as evening classes, courses for certifications, etc.). Japan is transforming its training system for people of all ages, with a widespread implementation of a public education system that has led to a rapid increase in the number of participants in graduate studies. With the aim of enhancing quality as the focus, the scale of universities has been expanded, but it remains subject to strict scrutiny. Japan values the acquisition of experiences and achievements in human resource training from other developed countries. The sending of individuals to study abroad is carried out through various funding sources. In the use and management of human resources, Japan implements a salary increase and bonus system based on seniority. There is no case where a young official, with little experience, holds a position and salary higher than someone who has worked for many years.

Secondly: The policy of recruiting high-quality labor is focused on aligning with specific conditions. Japan places special emphasis on developing talent in the field of management leadership. Students with excellent grades from prestigious universities in Japan will be selected for training to become leaders in the Japanese government. The recruitment system is constantly being reformed and adjusted to fit specific historical circumstances and is carried out according to clear directions and objectives. All efforts are aimed at making the high-quality human resource recruitment system as effective as possible while also aligning with the development trends of the era. High-quality workers, especially those in the shipbuilding industry, can enjoy extremely high benefits and social welfare schemes in Japan when they are recruited.

Thirdly: A good compensation policy is an important factor in attracting high-quality human resources. Japan implements social welfare systems for foreigners just like for Japanese citizens. Foreign workers in this country still receive benefits, and their young children can attend school and go to the hospital for free. For knowledge workers and talented individuals, Japan offers very high salaries and a commendable reward system to motivate them. The compensation policy is implemented in two basic forms: financial compensation and non-financial compensation. Financial compensation in a business is a form of remuneration carried out through financial tools, including various types such as salaries, bonuses, allowances, subsidies, and shares. The government is offering higher salaries and more opportunities for advancement to prevent brain drain, especially in industries that require extensive technical skills in the maritime sector, such as shipbuilding, mineral extraction, and oil and gas.

Fourthly: To promote the workforce's participation in development processes, it is essential to encourage support not only in primary education but also in other educational opportunities such as higher education, vocational training, and practical training in fields like administration. Japan has implemented policies to support the development of human resources primarily through technical cooperation to receive international students, enhance the capacity and functions of higher education institutions, develop the skills of

management personnel, improve vocational skills, enhance occupational safety and health, and strengthen competitiveness in the industry. The education development policies include supporting the enhancement of industrial competitiveness, in which Japan has been and is cooperating to promote the development of small and medium-sized enterprises in mineral resources.

2. The structure of Japan's marine human resource

a. The agency for the integrated management of seas and islands

In the past, to manage the seas and oceans, Japan operated under a vertical management system, where each sector related to the sea was under the corresponding management of a specialized ministry, such as maritime transport managed by the Ministry of Transport, fisheries managed by the Ministry of Fisheries, and so on. However, vertical management of the sea creates disadvantages when addressing comprehensive, interdisciplinary issues such as marine resource and environmental problems, as well as maritime economic issues. Therefore, Japan has transitioned to a unified management model for the sea and ocean by establishing an independent agency under the Prime Minister.

Since the enactment of the Basic Law on Ocean Policy in 2007, according to the provisions of the Law, Japan established the Policy Implementation Agency (Cabinet Office), which includes Japan's maritime policy led by the Prime Minister, with members being cabinet ministers from relevant sectors; among them, there is a dedicated minister who assists the Prime Minister in directing the activities of the Implementation Agency. (Ministers of State for Special Missions).

Japan has established the National Ocean Policy Secretariat, an agency under the Cabinet, headed by a minister responsible for marine policy who assists the Prime Minister, to support the directing agency. The office is tasked with:

1. Drafting and proposing measures to implement the Basic Plan for Marine Policy;
2. Coordinating and linking the implementation of policies among agencies, ministries, sectors, and organizations in the Basic Plan;
3. Implementing issues related to planning and drafting important matters concerning the ocean as well as coordination efforts. There is the National Ocean Policy Secretariat in the office ^[8].

In addition to the Ocean Policy Promotion Office, the Prime Minister of Japan has also established a National Advisory Council to provide advice and make policy recommendations and implementation measures for the Basic Plan to the Prime Minister and the agency responsible for ocean policy implementation.

In addition, Japan has established the Japan Traffic Safety Commission as an independent agency of the Ministry of Land, Infrastructure, Transport, and Tourism of Japan. The objective of this agency is to investigate the causes of aviation accidents, railway accidents, maritime accidents, and major incidents. Request the Minister of Land, Infrastructure, Transport, and Tourism or those involved in the case to take necessary measures based on the results of that investigation and to work towards preventing accidents and minimizing damage ^[12].

b. The maritime and island management agencies according to specific fields

The ministries and sectors with ministers who are members of the Ocean Policy Steering Agency will be the bodies that implement the plans and solutions proposed by the Ocean Policy Steering Agency, assisted by a secretariat for these agencies. Specifically:

1. **The Ministry of Land, Infrastructure, Transport, and Tourism:** This agency is primarily responsible for ensuring maritime transportation, protecting and managing islands, and overseeing integrated coastal zone management. This agency has the Japan Coast Guard (also known as the Japan Maritime Self-Defense Force). The structure and organization of this force can be found in the section on Japan's maritime law enforcement agencies.
2. **Ministry of Economy, Trade, and Industry:** The Ministry of Economy, Trade, and Industry was established in 1949, originally as the Ministry of Trade and Industry. In the field of the marine economy, the Ministry has the primary responsibility for promoting systematic development of energy and mineral resources in the marine area.
3. **The Ministry of Agriculture, Forestry, and Fisheries:** The Ministry of Agriculture, Forestry, and Fisheries is a cabinet-level ministry in Japan responsible for overseeing the agriculture, forestry, and fishing sectors. The predecessor of the Ministry was the Ministry of Agriculture and Commerce (1881-1925, 1943-1945) and the Ministry of Agriculture and Forestry (1925-1943, 1945-1978). In marine and island management, the Ministry has the primary responsibility for the conservation and management of fishery resources, as well as enhancing the productivity of fishing areas.
4. **Ministry of Foreign Affairs:** The Ministry of Foreign Affairs of Japan is a ministry in the Japanese Cabinet, responsible for managing Japan's diplomatic relations with countries around the world. The Ministry of Foreign Affairs of Japan was established based on Clause 2, Article 3 of the National Government Organization Act and the Act on the Establishment of the Ministry of Foreign Affairs. In maritime and island management, the Ministry has the primary responsibility for ensuring international coordination and promoting international cooperation; fostering development in the exclusive economic zone and continental shelf.
5. **The Ministry of Internal Affairs and Communications:** The Ministry of Internal Affairs and Communications is a cabinet-level ministry in Japan, established on January 6, 2001. The ministry is responsible for overseeing the Japanese administrative system, managing local governments, elections, telecommunications, postal services, and government statistics. In marine management, the Ministry bears primary responsibility for identifying measures to address natural disasters caused by the sea.
6. **Ministry of the Environment:** The Ministry of the Environment of Japan is a ministerial agency under the

Cabinet of the Japanese Government responsible for environmental conservation, pollution control, and nature preservation. The ministry was established in 2001 when it transitioned from the Environmental Agency, which was founded in 1971, into a ministry. Regarding marine management, the Ministry has the primary responsibility for protecting the marine environment and reducing environmental pressure.

7. **Ministry of Finance:** The Ministry of Finance was established in 2001 and is a ministerial agency within the Cabinet of the Government of Japan. The ministry is primarily responsible for controlling the import and export of goods and waterway vehicles in accordance with customs regulations.
8. **Ministry of Justice:** The Ministry of Justice was established on February 15, 1948, and is a ministerial agency within the Cabinet of the Government of Japan. The ministry is responsible for the judicial system, rehabilitation services, family matters, property, and business registration, and it also serves as the legal representative of the government. In maritime management, the Ministry has the primary responsibility to inform flag states about maritime violations in accordance with the regulations of the United Nations Convention on the Law of the Sea of 1982.
9. **Ministry of Defense:** The Ministry of Defense of Japan is a part of the Japanese Government Cabinet, responsible for the protection and defense of Japan. In maritime management, the Ministry has the primary responsibility for ensuring safety in waterway traffic and maintaining laws and regulations at sea. The department was established on January 9, 2007.
10. **The Ministry of Education, Culture, Sports, Science, and Technology:** The Ministry of Education, Culture, Sports, Science, and Technology, formerly known as the Ministry of Education, Science, and Culture, is one of the ministries of the Japanese government, established in January 2001. The ministry is primarily responsible for researching and developing marine science and technology; preserving and protecting the natural environment of the sea.

c. Japan's maritime law enforcement forces

Firstly: The Japan Coast Guard (commonly referred to as the Coast Guard or the Japan Maritime Safety Agency): As an administrative agency of Japan, the independent force and security agency under the Ministry of Land, Infrastructure, Transport, and Tourism, it is responsible for protecting and enforcing functions related to security, order, safety, and ensuring compliance with Japanese law, with the aim of protecting human life and property, preventing violations of the law, and investigating and suppressing incidents at sea; operating under the Japan Coast Guard Act ^[12]. This force is under the management and operation of the Provincial Transportation Authority (Ministry of Land, Infrastructure, Transport, and Tourism).

The missions of the Japan Coast Guard are:

1. To protect territorial waters and exclusive economic zones, such as the waters near the Senkaku Islands,

Takeshima Islands, and the Northern Territories Japan's maritime rights and interests;

2. To explore the ocean;
3. To maintain maritime order; to carry out rescue and relief work at sea;
4. To prepare for disasters, develop and implement measures to deal with major/hazardous oil spills and toxic substances;
5. Ensure maritime traffic safety.

Secondly: The Japan Maritime Self-Defense Force (JMSDF) is one of the three branches of the Japan Self-Defense Forces under the management of the Ministry of Defense. The Japan Self-Defense Forces consist of three branches: the Japan Ground Self-Defense Force, the Japan Maritime Self-Defense Force, and the Japan Air Self-Defense Force.

The Japan Maritime Self-Defense Force will continue to maintain maritime security through defense in the waters surrounding Japan and maritime traffic security by prosecuting crimes, conducting anti-submarine operations, and other countermeasures, effectively cooperating with other countries, and striving to build a "multi-domain defense force" as called for in the NGPG.

d. Research institutes focused on marine and island sciences in Japan

Notable research institutes in Japan focused on marine and island sciences include the Maritime Technology Institute, the National Port and Aviation Institute, the Ocean Policy Research Institute, the Japan Agency for Marine-Earth Science and Technology, the Japan Maritime Institute, the National Institute for Occupational Safety and Health of Japan, the Japan Ship Technology Research Association, the Marine Information Research Center, and the Japan Hydrological Society; and the International Maritime Law Institute.

e. Educational training institutions in the field of the sea

Notable educational institutions in the field of marine studies include: Maritime Technical College; Tokyo University of Marine Science and Technology; National Institute of Technology, Toyama College; Japan Coast Guard Academy; Faculty of Marine Science, Kobe University; National Institute of Technology, Toba College; and Japan Maritime Self-Defense Force Cadet Corps.

3. The current state of marine human resources in Japan

a. Achievements of Japan's national marine human resources

The human resources in the maritime and island sectors in Japan are quite substantial, covering all areas such as fishing, shipbuilding, seafood processing, mineral extraction, and marine tourism. Not only is Japan's marine human resource numerous, but it also possesses a high level of professional expertise, resulting in many positive achievements related to the sea and islands that have been recognized by other countries around the world. Some specific examples that can be mentioned are:

Firstly: The Japan Maritime Self-Defense Force (Japanese Navy - JMSDF) has a very large number of ships, including 155 vessels (40 destroyers) and 50,000 personnel, focusing on national defense tasks, operating alongside allies, United

Nations peacekeeping forces, and maritime interdiction forces ^[4]. With a large and powerful military force and professional combat skills, the Japanese Navy, along with the Japan Coast Guard, has been active in preventing North Korean intruders from entering Japan, engaging in combat and sinking a North Korean spy ship during the Amami incident due to unusual incursions into Japanese waters.

Regarding recruitment and training, the Japanese government places great emphasis on education. Most of the Japanese Navy personnel are trained through a strict and systematic process to meet the country's established criteria: New recruits of the Japan Maritime Self-Defense Force undergo three months of basic training, followed by courses on patrolling, firearms use, mine sweeping, convoy operations, and maritime transport. Graduates from four-year universities, four-year military academies, and outstanding enlisted soldiers will undergo a one-year officer training course at the Officer Candidate School.

Secondly: The Japan Coast Guard (JCG), a civil maritime organization with 15,000 personnel, operates a highly capable fleet of approximately 450 patrol vessels and aircraft to carry out various missions (including law enforcement, hydrography, etc.). The Japan Coast Guard is assisting the U.S. Coast Guard and the Philippines Coast Guard in joint exercises. The Japan Coast Guard has dispatched four members of its mobile cooperation team, a special unit that provides technical support to foreign coast guard agencies regarding maritime security and safety, to the Philippine Coast Guard. Japan has been and is providing technical assistance to coast guard agencies in the Indo-Pacific region in addition to its mission of ensuring maritime safety and security ^[2].

In addition to providing such support in this field, JCG is also investing a lot of time and manpower in developing coast guard officers. This work is reflected in the Maritime Security and Safety Policy program, a master's degree program for junior coast guard officers in Asian countries ^[10].

Japan has proposed a regional cooperation agreement to combat piracy and armed robbery against ships in Asia, emphasizing the importance of sharing information about distressed vessels and those suspected of engaging in piracy and armed robbery. The Japanese Coast Guard has the capability to provide all the assistance that the region needs, making the country's diplomatic efforts easier ^[7].

Despite the tensions surrounding the islands, the budget of the Japan Coast Guard has remained relatively stable over the past ten years. Despite the transfer of some funds from the previous year's supplementary budget, the supplementary budget for 2015 is only 4.8% higher than that of 2006. However, internally, the Japan Coast Guard has reallocated funds to establish a fleet and is providing resources for shipbuilding.

Thirdly: Regarding the human resources for the development of the marine economy, the workforce in the fishing and seafood harvesting industry in Japan has made the country one of the largest fish-catching nations, ranking 7th in the world in catch volume in 2018. Japan was ranked as the world's leading fishing nation from 1970 to 1991, but coastal countries established 200 nautical mile exclusive economic zones, with permits, catch limits, and protections—area bans that reduced opportunities and

transformed Japan's once-dominant fishing fleet globally. During the same period, Japan built a world-class community for marine science research, fisheries, and ocean technology ^[4].

Fourthly: Regarding the workforce in the shipbuilding industry, by the end of 2020, the labor force contributed to making Japan the second-largest ship-owning country in the world, only behind Greece, with over 233 million tons of deadweight and approximately 3,900 modern vessels. As of March 2023, the employees engaged in Japan's shipbuilding industry totaled roughly 70.15 thousand, decreasing from around 67.35 thousand in the preceding year. The domestic shipbuilding industry supplies around three in four ships to the Japanese merchant fleet.

b. The limitations of marine human resources in Japan

Some areas related to Japan's islands and seas are currently facing a severe shortage of human resources, especially young, healthy individuals and highly skilled personnel. The reason is the increasing aging rate of Japan's population, and moreover, the fishing profession poses many dangers and challenges, so most young people rarely choose to pursue this career. This forces Japan to utilize foreign labor to compensate for that shortfall, but this very action has led to many other limitations in the country's development. To illustrate this, some shortcomings regarding Japan's marine human resource include:

Japan's seafood production industries are facing a labor shortage. The fishing villages that once thrived are now struggling to find and train a new generation to carry on the legacy. In these cases, foreign labor is considered an immediately available workforce that is significantly increasing in number. However, this poses a risk of becoming a warning sign for the long-term growth of the maritime manufacturing sectors in Japan, as the domestic workforce is severely lacking ^[9].

For coastal fishing and seine net fishing, the decline in income from fish catches has created a shortage of successors. Additionally, there is a growing labor shortage for onshore jobs related to the farming of shellfish such as oysters and scallops in the aquaculture industry. The offshore fishing industry is also struggling with a lack of manpower due to the harsh working conditions. The harsh reality of the fishing industry is the decline in the number of fishery workers, which has decreased by 53.3% in just 25 years. The fish processing industry is also easily affected by this increasingly severe situation. Ensuring stability in the workforce has become challenging due to the aforementioned issues and the increasing aging population ^[9].

In Japan, the maritime industry is facing the impacts of a rapidly aging population and a severe labor shortage. According to the Ministry of Land, Infrastructure, Transport, and Tourism of Japan, there were 28,435 sailors working in the coastal transport sector in 2019. But nearly half of them are over 50 years old, and this creates additional consequences for safety ^[3].

The current situation of a shortage of high-quality human resources is a concerning issue not only in the field of islands and seas but also across all other sectors in Japan. This is a country with the highest average life expectancy in the world, so the supply of labor is always in a state of severe shortage due to an increasingly aging population,

facing an extremely serious labor shortage, especially in terms of high-quality labor. It is estimated that the number of crew members on the deep-sea vessels of this country is around 55,000 people. However, among them, about 75% are Filipinos and 20% are other Asians (Indians, Chinese, Indonesians, etc.), while the proportion of Japanese crew members is estimated to be around 3.5%. It can be seen that Japan primarily relies on foreign crew members, as the capacity and number of Japanese crew members are insufficient to meet the country's needs ^[1].

In addition, the workforce in Japan's fisheries sector lacks a broad mindset when engaging in unsustainable fishing practices; currently, Japan is facing limits on natural catches. Reports indicate that from 2010 to 2019, overfishing has led to a decline in domestic seafood supply. This directly affects domestic consumption demand and the country's economic growth rate. The production of seafood has significantly declined, becoming one of Japan's challenges. For example, mackerel decreased from 229,000 tons in 2014 to about 30,000 tons in 2020, while salmon dropped from 147,000 tons in 2014 to around 56,000 tons in 2020. The reason for these declines is due to the weak management of marine resource benefits and the frequent occurrence of illegal fishing by fishermen ^[10].

4. Lessons for Vietnam in training and developing marine human resources from studying Japan

The seas of Vietnam hold immense potential, and to transform that potential into a resource for the country's development, we need to implement a range of solutions in a coordinated manner; among them, "promoting education, training, and the development of marine human resources" has been identified as one of the key solutions to successfully carry out the Strategy for Sustainable Development of Vietnam's Marine Economy by 2030, with a vision towards 2045, in accordance with Resolution 36-NQ/TW dated October 22, 2018, of the Central Committee of the Communist Party (session XII).

In recent times, while our country's efforts in developing marine human resources have achieved many positive results, there are still some limitations, such as a shortage in the quantity of marine human resources, weaknesses in quality, and an imbalance in structure, and they have yet to become a key factor in the sustainable development of the maritime economy. The main reason is that training institutions and research institutes related to the sea have not been developed with adequate investment; researchers and educators, as well as equipment and facilities, do not meet the requirements for training high-quality marine human resources; and international cooperation in the field of marine human resource training has not been prioritized. The training, vocational education, and support for job transition for coastal residents have not been organized in a fundamental and scientific manner; the training of maritime workers is mainly done in a traditional way, where those who came before pass their experiences to those who come after. The succession of professions is viewed by the majority of fishermen as a given, without any changes. In addition, the crew force not only meets limited domestic demand but also lacks the capability to export to countries like the Philippines, Indonesia, South Korea, and China due to the absence of a systematic training program that adheres to international standards. The research and creative workforce is still limited, and the quality is not high, so the

scientific achievements related to the sea and technology serving marine activities do not meet the requirements.

Drawing from experiences in the use, training, and development of marine human resources in Japan, Vietnam can learn the following lessons to overcome the limitations and shortcomings of its marine human resource:

Firstly: It is important to focus on and pay special attention to the development of human resources, always emphasizing the crucial role of this issue and establishing a connection between the development of economic strategies and human resource strategies.

Secondly: Not only should we build and develop marine human resources to serve the national strategy in our coastal areas, but we must also strive to develop human resources and other resources to participate in the increasingly fierce competition and influence occurring in the seas and oceans worldwide, particularly in the Pacific and Indian Oceans, including the East Sea (as known as South China Sea) region.

Thirdly: Build a unified and consistent training program with career orientation from the lowest levels to higher levels, actively integrating learning models in the form of practice instead of emphasizing the current lecture format.

Fourthly: Implement, invest in, and encourage on-the-job training at the workplace, linking the evaluation of work performance with the compensation policies such as salary, bonuses, promotions, or demotions.

Fifthly: Focus on investing in physical training and training and education on professional qualifications related to the sea and islands for human resources in the field of maritime security and defense through university and college training programs and at units of the maritime security and defense forces.

Sixthly: It is necessary to proactively create conditions for students with potential in the field of marine science and technology to participate in training programs funded by foreign sources, to establish cooperative relationships in education and training with other developed countries, and to send talented individuals abroad for study to return and contribute to the nation.

Seventhly: Be more proactive in organizing and implementing propaganda programs, disseminating national policies and laws on seas and islands to the people through events and programs on a national or local scale.

Eighthly: Be more proactive and make more efforts in establishing bilateral and multilateral relationships with countries around the world in international cooperation activities on education and training of marine human resources.

Conclusion

The current situation of training and using marine human resources in Japan in recent times has left many useful lessons for Vietnam. These lessons focus on the following main areas: marine policy and law; marine defense and security; marine economy; marine science and technology; protection of marine resources and environment;

international cooperation and settlement of international maritime disputes. In the current context of training human resources to serve Vietnam's seas and islands, training and development of marine human resources in some fields are also carried out in a cooperative manner between countries; typically, Japan's practical experience will be the most useful experience.

References

1. Akina. Seafarers Essential to Maritime Transport, 2021. Available online at: https://www-mol--service-com.translate.goog/blog/seafarers-essential-to-maritime-transport?_x_tr_sl=en&_x_tr_tl=vi&_x_tr_hl=vi&_x_tr_pto=sc.
2. Arabnews Japan. Japan Coast Guard assists US and Philippines coast guards in training exercises, 2022. Available online at: https://www-arabnews-jp.translate.goog/en/japan/article_75040/?_x_tr_sl=en&_x_tr_tl=vi&_x_tr_hl=vi&_x_tr_pto=sc.
3. Backtoblueinitiative.com. The future of the Japanese maritime industry lies in commercialising fully autonomous ships, 2022. Available online at: <https://backtoblueinitiative.com/the-future-of-the-japanese-maritime-industry-lies-in-commercialising-fully-autonomous-ships/>.
4. Captain Lawson Brigham. Japan and the 21st-Century Oceans (09/2020), 2020. Available online at: <https://www-usni-org.translate.goog/magazines/proceedings/2020/september/>
5. Central Theoretical Council, Some Issues on Japan's Maritime Strategy, Central Theoretical Council Website, <https://hdl.vn/vi/thong-tin-ly-luan---thuc-tien/mot-so-van-de-ve-chien-luoc-bien-cua-nhat-ban.htm>.
6. Foodnavigator-asia, Seafood resuscitation: Japan rolls out new fishery policy to revive and industrialise much-challenged sector, 2022. Available online at: <https://www-foodnavigator-asia.com/Article/2022/04/20/japan-rolls-out-new-fishery-policy-to-revive-and-industrialise-much-challenged-sector>.
7. GlobalSecurity.org, Japan Coast Guard, 2021. Available online at: <https://www-globalsecurity-org.translate.goog/military/world/japan/jcg.htm?>
8. Japanese Cabinet Office, The Cabinet Office's Role in the Cabinet/Structure, Cabinet Office. Available online at: https://www.cao.go.jp/en/pmf/pmf_about.pdf.
9. Ocean Policy Research Institute. The Marine Products Industry's Reliance on Foreign Workers and the Issue of Continuity, 2022. Available online at: https://www.spf.org/en/opri/newsletter/497_1.html?full=497_1.
10. The Government of Japan. The Japan Coast Guard – Maintaining maritime order, 2019. Available online at: <https://www-japan-go-jp.translate.goog/tomodachi/2019/>
11. The Nippon Foundation, Japan Coast Guard Law, 2001. Available online at: https://Nippon-zaidan-info.translate.goog/seikabutsu/2001/00500/contents/00021.htm?_x_tr_sl=en&_x_tr_tl=vi&_x_tr_hl=vi&_x_tr_pto=sc.
12. Yoshitaka Uchida, Fumiko Hama. Shipping Laws and Regulations Japan 2022, 2022. Available online at: https://iclg-com.translate.goog/practice-areas/shipping-laws-and-regulations/japan?_x_tr_sl=en&_x_tr_tl=vi&_x_tr_hl=vi&_x_tr_pto=sc.