Beyond Maritime Research: Export Under the Indonesian Transportation Law

Zahry Vandawati Chumada[1], Bambang Sugeng Ariadi Subagyono[1], Hilda Yunita Sabrie[1], Mochamad Kevin Romadhona[2]

Fishery products are one of the mainstays of Indonesia's exports. In order to increase fisheries exports in Indonesia, the government has made a breakthrough in the development of maritime logistics, especially during COVID-19. The role and activities of tracking companies, freight forwarders or Marine Cargo Expeditions are very important for the development of logistics, as they facilitate the work of exporters. This research aims to analyze the maritime transport regulations on fish exports and the implementation of transport regulations in practice, especially the role of tracking and forwarding companies in supporting government programs to increase fish exports in Indonesia. The research uses a normative legal method, i.e. theories, concepts, legal principles, laws and regulations relevant to this research are examined based on the most pertinent legal material. Legal research is a process of identifying legal norms, legal principles, and legal doctrines in order to answer legal questions that arise in practice. The legal materials used are primary and secondary legal materials. Primary legal materials are laws and regulations that relate to the problems. Secondary legal materials are books and journals dealing with research topics.

Key words:
Fisheries,
Freight forwarding,
Maritime,
Exports policy,
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[1]Universitas Airlangga, Faculty of Law, Department of Civil Law, Surabaya, Indonesia
[2]Universitas Airlangga, Faculty of Social and Political Sciences, Surabaya, Indonesia
e-mail: vanda@fh.unair.ac.id
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1. INTRODUCTION

In its report *The State of World Fisheries and Aquaculture 2022,* FAO wrote: "*The activity of marine fishing during 2020 was severely disrupted due to the COVID-19 pandemic*".

During the COVID-19 pandemic, Indonesia faced the challenge of exporting fish by sea (Wiradana et al., 2021). The Coordinating Minister for Maritime Affairs stated that it was time for Indonesia to increase fisheries exports (Anshari & Afriansyah, 2022). His statement is important considering that Indonesian waters provide habitat for 44.7% of fish, and fishery products are among Indonesia's most important commodities (Mahmud, 2021), especially given the shift in diet from red meat to white meat, opening up opportunities for the consumption of fishery products in the global community (Sunyowati et al., 2022). This is very encouraging for Indonesia as an island nation whose waters abound with fish. Fishery products are one of the mainstays of Indonesian exports (Luhur et al., 2019). Indonesian waters have the surface of approximately 3.1 million km² (0.3 million km² territorial waters and 2.8 million km² archipelago waters), and its Exclusive Economic Zone (EEZ) approximately 2.7 million km². They are home to many species of fish and other aquatic products that have significant economic value (Jaya et al., 2021) (Sunyowati et al., 2023). The commercialization of fishery products from the Indonesian Exclusive Economic Zone targets the export market (Bashir et al., 2019). Considering the shear size of Indonesian waters, there is ample opportunity to increase production volumes and exports, and give a significant boost to the nation's foreign exchange (Romadhona, 2022).

The export of frozen fish products from Eastern Indonesia has to go through Surabaya or Jakarta, due to the availability of harbors and vessels to export countries (the issue of the lack of direct export routes from Eastern Indonesia was analyzed in Jones et al, Fish For Export: Working in the Wild Capture Seafood Industry in Indonesia. According to Yaumidin and Zuas, "Eco-Labelling And International Trade Agreements: The Case of Marine Stewardship Council Certification for Indonesia's Shrimp Potential Market", on 1 April , 2020, the Minister of Maritime Affairs and Fisheries released 3,200 tons of fishery products for export to 13 countries, namely France, Germany, Italy, Japan, South Korea, Thailand, the USA, Vietnam, and Lithuania." The value of exports from Jakarta reached Rp. 194.6 billion (Rahayu et al., 2020). For export-import transport, Indonesia already has a Regulation of the Minister of Trade Number 82 of 2017 on Regulations for the Use of Maritime Transport and National Insurance for the Export and Import of Certain Goods, amended by Permendag No. 48 of 2018, and Permendag No. 80 of 2019 (Regulation of the Minister of Trade of the Republic of Indonesia Number 01/M-Dag/Per/1/2017 on Export Regulations for Processed and Purified Mining Products, 2017). To increase Indonesian fisheries exports, the government has made a breakthrough in the development of maritime transport logistics, especially during COVID-19 (Raharja, 2022), opening up great opportunities for freight forwarders to transport cargo by sea. The role and activities of trucking companies (Romadhona et al., 2022), freight forwarders or marine cargo expeditions are of interest as they facilitate the work of exporters (Teodorović & Janić, 2017). It is therefore necessary to familiarize the general public and interested parties with this service, especially freight forwarders who transport fish by sea, in order to increase the value of Indonesian fish exports.

This study aims to identify the main obstacles in the export process, especially in the export of fish, as well as the role of transport legislation regulating freight forwarding and trucking companies, in order to increase Indonesia's fishery exports. The importance of trucking and freight forwarding companies in supporting the increase in fish exports in Indonesia can not be overstated. The specific goal of this study is to contribute to the further development of transport legislation, especially regulations dealing with trucking and freight forwarding companies, in support of government programs that aim to increase fish exports in Indonesia. In addition, this research can help create independent learning materials for students at independent campuses. Students can immediately participate in seeing the process and application of transport legislation in practice. The implementation of transport

legislation in practice, especially by trucking and freight forwarding companies, is highly important to support government programs targeting the fish export sector.

2. RESEARCH METHODS

This research used normative legal research methodology (Hutchinson & Duncan, 2012) to analyze the implementation of transport legislation on trucking companies to increase the export of fish. The purpose of legal analysis and research is to examine events and identify any legal issues raised by such events, as well as pertinent legislation, and its application in practice, including any remedies that may be available. Normative legal research frequently portrays law as a prescriptive field that exclusively examines individual pieces of legislation through the lens of its norms, which are of course prescriptive. Research topics are as follows: 1) legal principles; 2) legal systematics; 3) vertical and horizontal synchronization levels; 4) comparative law; and 5) legal history (Ewick & Silbey, 1998). The goal of normative legal research is to identify legal regulations, legal tenets, and legal theories that deal with the legal issue at hand (Llewellyn, 2017).

3. RESULT AND DISCUSSION

3.1 Global marine fishery trends: The position of Indonesia

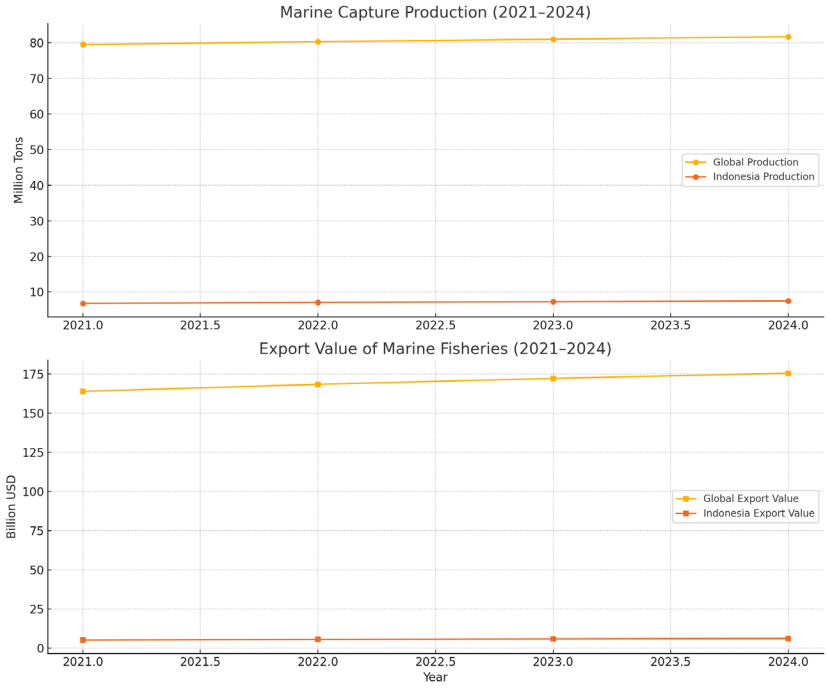
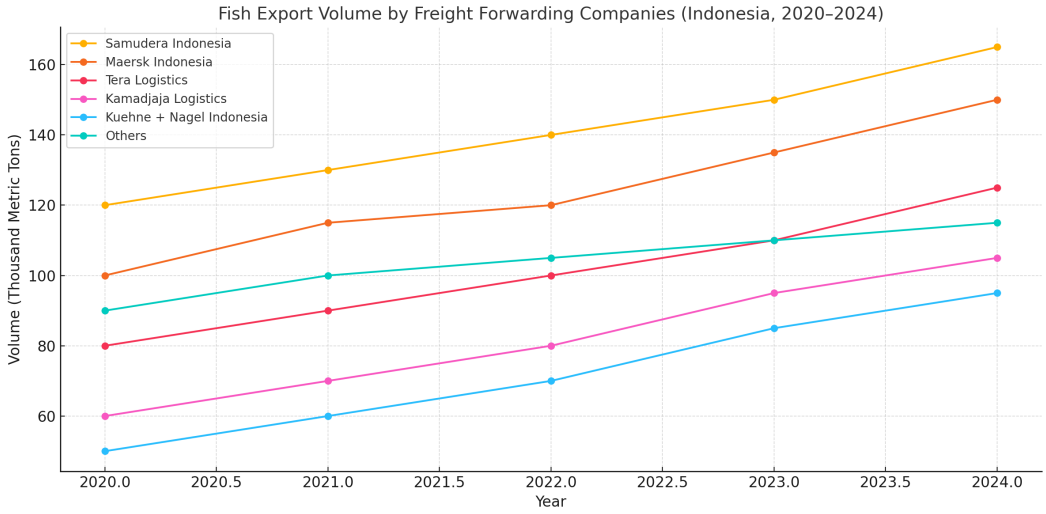


Fig 1. The majority of fish producing countries, source BPS, processed by author

The global marine fisheries sector experienced a steady upward trend in both production and economic value from 2021 to 2024. Global marine fish production increased from 79.5 million tons in 2021 to 81.7 million tons in 2024. This moderate growth reflects the continued demand for marine resources, even in the face of increasing environmental concerns and calls for sustainability. The stable increase suggests that countries are maintaining or even slightly increasing their catches through improved fisheries management, technological support and expanded fishing areas. Indonesia, one of the world's leading producers of marine fish, has followed a similar trend, albeit at a more

dynamic pace. In 2021, Indonesia's marine catch production amounted to 6.8 million tons. This figure rose steadily in the following years, reaching 7.5 million tons in 2024. Compared to global growth, Indonesia's production increased faster, indicating improved domestic capacity, infrastructure investment and utilization of the vast archipelago's abundant marine resources. More importantly, Indonesia’s share of global marine catches increased from 8.6% to 9.2% during this period, indicating a stronger role in the international fisheries landscape. The export value of marine fisheries also recorded an upward trend. Globally, the export value increased from USD 164.0 billion in 2021 to USD 175.6 billion in 2024. This growth corresponds to the continued expansion of global seafood markets, particularly in Asia and Europe, and the increasing consumer preference for marine proteins. At the same time, the value of Indonesian exports increased even more significantly over the same period - from USD 5.2 billion to USD 6.2 billion. This increase indicates not only an increase in the volume of exported marine products, but also an improvement in the value chain. This increase is likely due to improved product quality, compliance with international standards and diversification of seafood exports.

During this period, Indonesia's position in the global seafood industry has become increasingly strategic. Indonesia has steadily increased its share of the international market in terms of both volume and value. This performance can be attributed to policy improvements, including the promotion of sustainable fishing practices, better monitoring and control, and increased public-private investment in the marine sector. However, this growth also demonstrates the importance of careful governance. As production and exports increase, so does the risk of overfishing, ecosystem degradation and socio-economic imbalance in coastal communities. If the current pace continues, Indonesia will consolidate its role as a major global player in marine fisheries. There are opportunities for expansion, particularly through the development of value-added marine products, the digitalization of fisheries logistics and participation in regional trade and sustainability agreements. However, these prospects must be tempered by the reality of environmental limits and the need for long-term conservation of resources. Indonesia’s trajectory in global marine fisheries, while promising, depends on its ability to balance growth with resilience and environmental responsibility.



Sources: Author, 2025 (edited)

From 2020 to 2024, the fish export sector in Indonesia showed a steady upward trend in terms of export volumes managed by the main shipping companies. The data reflects both the growing global demand for Indonesian marine products and the increasing capacity and competitiveness of logistics providers in the country. Samudera Indonesia has

emerged as the leading freight forwarding company in the fish export industry. In 2020, around 120 thousand tons were handled, gradually increasing each year to 165 thousand tons in 2024. This growth indicates a strong logistics network and long-term cooperation with fish exporters, positioning Samudera as a dominant player in the sea transportation of perishable goods. Closely followed by Maersk Indonesia, which also recorded a steady increase in export volume from 100 thousand tons in 2020 to 150 thousand tons in 2024. Maersk, a globally recognized shipping and logistics company, has leveraged its international networks and cold chain capabilities to succeed in the Indonesian seafood sector.

Tera Logistics and Kamadjaja Logistics, both domestic logistics providers, have also significantly increased their seafood handling capacity. Tera Logistics increased its export volume from 80 to 125 thousand tons during the reporting period, while Kamadjaja Logistics increased its from 60 to 105 thousand tons. These companies have likely invested in cold storage infrastructure and improved the efficiency of their supply chain to meet the increasing export demand, especially for high-value seafood such as tuna and shrimp. Kuehne + Nagel Indonesia, part of the global logistics company Kuehne + Nagel, recorded a modest growth of 50 to 95 thousand tons in five years. Despite the relatively lower volume compared to other leading players, its steady growth shows a growing participation in the Indonesian seafood logistics landscape, likely targeting high-value or niche export markets. Finally, the "Other" category, which represents smaller or lesser known carriers, also saw a steady increase in volume from 90 to 115 thousand tons. This indicates a healthy level of competition and a dynamic market environment in which multiple players have access to segments of the fish export supply chain.

The line chart visually confirms these trends and shows a steady increase for all companies. Samudera Indonesia and Maersk Indonesia lead with the highest increases, while the remaining companies show a steady upward trend. The overall pattern not only highlights the growth of fish exports from Indonesia, but also reflects how logistics companies have scaled their operations to meet increasing international demand and comply with cold chain and export regulations. The five-year period from 2020 to 2024 shows a competitive and expanding fish export logistics sector in Indonesia, driven by domestic and international shippers taking advantage of Indonesia's vast marine resources and improved infrastructure.

3.2 Legal and theoretical framework for fisheries exports

The increase in fish exports in 2022 is an encouraging development for the Indonesian fisheries sector, particularly for companies involved in freight forwarding and transportation logistics. However, behind this growth lies a complex web of legal structures, obligations and challenges that need to be addressed. Exporting fishery products, especially in a developing country like Indonesia, is not just a question of logistics or market dynamics. It is deeply embedded in various legal frameworks - from international trade law and environmental law to national administrative regulations and sector-specific legal instruments in the fisheries sector. From the perspective of international trade law, fish exports from Indonesia are primarily subject to the multilateral legal architecture created by the World Trade Organization (WTO). Within this framework, three important agreements are of central importance: the General Agreement on Tariffs and Trade (GATT), the Agreement on Sanitary and Phytosanitary Measures (SPS Agreement) and the Agreement on Technical Barriers to Trade (TBT Agreement). The basic legal principles of world trade are enshrined in the GATT, in particular the principles of non-discrimination, which include Most-Favoured Nation (MFN) treatment and National Treatment. In the context of Indonesian fish exports, the imposition of high tariffs by the European Union - often above 15% - raises legal concerns, especially when comparable exporters such as Vietnam or the Philippines benefit from reduced or no tariffs due to preferential trade agreements. This scenario raises potential issues of tariff discrimination in violation of the MFN obligation, unless justified by recognized mechanisms such as the Generalized System of Preferences

(GSP). In addition, the challenges posed by non-tariff barriers to trade are also of legal significance. The SPS Agreement allows WTO members to take the necessary measures to protect human, animal and plant health, provided these measures are based on scientific evidence and do not restrict trade more than necessary. For Indonesia, exporting fish to industrialized countries such as Japan or the EU means complying with strict food safety standards and procedures, many of which are based on the Codex Alimentarius. The TBT Agreement, on the other hand, deals with technical specifications and regulatory standards, including packaging, labeling and quality characteristics. While these provisions are intended to protect the interests of consumers, they often serve as indirect barriers to trade for exporters from developing countries that do not have the necessary infrastructure to comply with such standards. The legal debate here therefore revolves around the trade-off between regulatory sovereignty and fair market access - a balancing act that is enshrined in WTO law.

When it comes to natural barriers such as weather anomalies, the legal framework extends to the area of international environmental law and disaster risk management. Events such as oceanic temperature fluctuations, high waves or climate-related disruptions during harvesting or shipping periods have a serious impact on the profitability of fish exports. Although such phenomena are beyond human control, legal theory offers instruments such as the precautionary principle, which obliges states to pursue a proactive and preventive policy even in the face of scientific uncertainties. This principle is a recognized doctrine in international law and supports proactive measures such as climate forecasting, contingency planning and adaptive regulations in national fisheries and export policies. International FAO guidelines and global climate frameworks such as the UNFCCC also provide soft legal standards that influence national legal responses. In terms of the national legal and regulatory framework, Indonesia has enacted a number of laws and regulations to support the quality assurance and safety of its fisheries exports. In particular, Ministerial Regulations PER.01/MEN/2007 and PER.03A/DJ-P2HP/2007 provide the legal basis for controlling the safety of fishery products. These regulations authorize the Directorate General of Fisheries and the Directorate General of Processing and Marketing of Fishery Products to implement standards that meet international expectations. These national efforts reflect the legal principle of regulatory harmonization, where national laws are brought in line with international obligations to ensure market access and reduce the risk of rejection of consignments due to safety concerns. Administrative barriers are equally important from a public administrative law perspective. A number of documents are required to export goods, including the Goods Export Notification (PEB), invoices, packing lists and bills of lading. These are regulated by the Indonesian Customs Law (Law No. 17/2006) and the implementing regulations. Legal principles such as efficiency, legal certainty and bureaucratic transparency must guide the design and implementation of administrative procedures. If document processing is inefficient, exporters risk delays, demurrage costs or even missed delivery dates, all of which have legal and financial consequences. Therefore, administrative law plays a crucial role in facilitating or preventing smooth export operations.

To summarize, the Indonesian fish export sector operates in an interdisciplinary legal environment. International trade law regulates how foreign markets can accept or reject fish products; environmental law addresses climate risks that affect production and transportation; national sectoral law ensures product safety and export integrity; and administrative law provides the procedural framework for compliance and documentation. Legal theory supports the view that for Indonesian fish exports to be globally competitive and legally resilient, all of these areas of law must function in a coordinated and responsive manner. This integrated legal framework shows that export barriers - be they natural, tariff, legal or administrative - are not only operational barriers but also legal challenges. Overcoming them requires not only logistical solutions, but also legal reforms, international diplomacy, regulatory cooperation and institutional strengthening of the Indonesian fisheries export system.

3.3 Strategies to increase Indonesia's fishery exports

The increase in export shipments in 2022 is certainly very encouraging, especially for companies that support fish exports. Freight forwarding and trucking companies involved in the rationalization of fish export activities have certainly also overcome various obstacles that can jeopardize the success of fisheries export activities (Rodrigue, 2017):

A. Natural obstacles

The discussion of fisheries export activities in Indonesia cannot, of course, be separated from the obstacles that can lead to the cessation or even failure of these export activities. In this case, the main obstacle to the export of fishery products is the occurrence of weather anomalies. The weather anomaly is literally a deviation of weather from its normal average due to several prevailing factors, namely the wind direction, the differences in surface air pressure in Darwin and Tahiti and the Indian Ocean dipole. This weather anomaly can lead to weather phenomena such as prolonged drought, flash floods, rising and falling seawater temperatures and can even affect large waves in the ocean (Gatot Irianto, 2006).

In general, weather anomalies in the export of fishery products in Indonesia are one of the factors for the failure of these activities (FAO of the UN, 2018). Prior to shipment to exporting countries, weather anomalies can hinder the processing of these goods, e.g. the cultivation process, so that export activities are indirectly affected (FAO, 2021). For exports by sea, the possibility of unfavorable weather, including storms and high waves, is difficult to avoid, so transportation problems can arise (Subagyono et al., 2022). Weather anomalies can also affect the volume of fish production as an export commodity, as there are some fish in the fishery products whose cultication is greatly affected by climate change (Deepananda, 2013). Weather anomalies are one of the factors that hinder fish export that are beyond human control (Cheung et al., 2022). Therefore, export losses due to weather anomalies can be minimized by taking preventive measures and/or countermeasures when the effects are already felt. Some preventive steps that can be taken before exporting fish to counter the effects of weather anomalies are:

a. Maximize the availability of weather forecast information from various national and international institutions to detect potential drastic changes in seawater temperatures, droughts or vice versa. These weather forecasts can be taken into account to determine the best time for exports, the choice of technology to be used, etc.
b. Develop climate change adaptation guidelines for the fisheries sector. Fishermen, who play one of the most important roles in the production of fishery products, should be equipped with sufficient knowledge to take preventive measures in case the fishing season is affected by anomalous weather conditions. This should minimize export losses due to reduced production of fishery products, as the smooth export of fishery products is known to be influenced by fish production itself.

B. Tariff measures

The European Union is an alternative market for Indonesia's fisheries exports, as a destination country for Indonesian fisheries exports, in an effort to increase Indonesian fisheries exports after doing the same for Japan and the United States as potential markets (Khaliqi et al., 2019). Shrimp is one of the most important fishery products after tuna to increase the country's foreign exchange earnings and domestic economic activities (Khaliqi et al., 2019). However, this opportunity cannot be maximized because the international trade of Indonesian fishery products faces various marketing problems, especially tariff and non-tariff barriers which hinder the trade of products entering importing countries, which are developed countries with strict requirements. Therefore, exporters, in this case Indonesian fishery entrepreneurs, are required to carefully examine any obstacles that the European Union imposes on the import of products from their country. Obstacles in the form of tariffs include import duties and different treatment of importing countries (tariff discrimination). Customs duties levied by the importer are one of the aspects that also

influence the buying and selling process between countries. In general, the tariffs levied by each country are based on the Most Favoured Nation (MFN) rate of 12% for various goods (Sunorita & Tjarsono, 2014).

One of the tariff policies implemented by the European Union for Indonesia, especially for fishery products, is the Generalized System of Preferences (GSP) which imposes a tariff rate below the usual tariff rate for a number of specific quotas (Xie & Zhang, 2017). Indonesia's fisheries exports to the European Union tend to stagnate as import tariffs are set quite high (Destiningsih et al., 2020). The biggest disadvantage Indonesia has when exporting fishery products is import tariffs. The Indonesian import duty rate for fishery products to the European Union is over 15% (Duggan & Kochen, 2016). In contrast, neighboring countries such as the Philippines and Vietnam, both of which export fishery products to the European Union (Duong, 2021), are not subject to tariffs. This makes it difficult for Indonesian fishery products to compete on the global market, especially in terms of price (Umroh et al., 2020). In addition to the high import duty rates, the price that the EU charges for Indonesian fishery products is much lower than the prices offered to other countries (Rahayu et al., 2020).

Given that obstacles in the form of tariffs are influenced by relations between countries (Ibragimova, 2020), a way to overcome these obstacles is to maintain good bilateral relations with the importing country. In addition, membership in an international organization can have an impact on reducing tariff barriers (Chin & Che Rusli, 2015). For example, member countries of the ACP (Africa, Caribbean and Pacific) group benefit from tariff reductions in the European Union (EU) (Magbadelo, 2010). In order to maintain good relations with other countries, it is necessary to lobby in the importing countries, as well as in the countries that are members of bilateral and multilateral organizations.

C. Non-tariff measures (NTM)

Fish exports are often subject to non-tariff measures or non-tariff barriers to trade, which are divided into two areas, namely the Sanitary and Phytosanitary Measures Agreement (SPS Agreement) and the Technical Barrier to Trade Agreement (TBT Agreement) (Permata et al., 2020). These two agreements are often used by developed countries to allow exporters from developing countries to set the same standards that are consistent with the country's existing laws and do not raise concerns among developed countries about the standardization of goods exported by the exporting country. The Sanitary and Phytosanitary Measures Agreement (SPS Agreement) is an agreement to protect humans, animals and plants in state territory from plant pests (insects, bacteria and viruses), addictive substances, pesticide residues, contaminants or toxins in food, beverages and diseases transmitted by these animals (Kurniasih & Panennungi, 2021). This is set out in Article 2(1) and (2) of the SPS Agreement (Manalu et al., 2021):

1. Members have the right to take sanitary and phytosanitary measures necessary for the protection of human, animal or plant life or health, provided that such measures are not inconsistent with the provisions of this Agreement.
2. Members shall ensure that any sanitary or phytosanitary measure is applied only to the extent necessary to protect human, animal or plant life or health, is based on scientific principles and is not maintained without sufficient scientific evidence, except as provided for in paragraph 7 of Article 5.

With respect to the export of fish, the SPS Agreement establishes a more specific standardization for the export of fish as food or as cultivation (Adiwibowo, 2020), as explained in Annex A(3)(a) and (b) of the SPS Agreement (Gruszczynski, 2010):

1. International standards, guidelines and recommendations
    a. for food safety, the standards, guidelines and recommendations established by the Codex Alimentarius Commission on food additives, veterinary drug and pesticide residues, contaminants, analytical and sampling methods, and codes and guidelines for hygienic practice

b. for animal health and zoonoses, the standards, guidelines and recommendations developed under the auspices of the International Office of Epizootics;

In addition to compliance with the provisions set out in the SPS Agreement, other non-tariff barriers must also be observed for successful fish exports (Dey et al., 2005), namely the Technical Barrier to Trade Agreement (TBT Agreement) (Rao, “Understanding Technical Barrier To Trade Agreement"). The TBT Agreement itself is a binding technical regulation and a voluntary standard that defines the specific characteristics that a product must have. The characteristics regulated by the TBT Agreement include size, color, texture, force and conductivity (WTO, 2013). For fish exports, the TBT Agreement defines the specific size and shape of fisheries products intended for export, in accordance with the General Agreement On Tariffs And Trade (WTO). This is because fish exports serve different purposes, such as cultivation, consumption and others, so shippers and transporters need to adapt to the destination of fish exports.

One of the consequences of non-tariff barriers is the rejection of export products by the importing country - UNCTAD, Non-Tariff Measures To Trade: Economic And Policy Issues For Developing Countries Developing Countries In International Trade Studies. This may be due to differences between the results of national testing and the results of testing conducted by importing countries, as well as the inability to test in-country due to inadequate national metrology infrastructure for product measuring, testing and quality control. Inadequate national metrology infrastructure can be exploited by destination countries' trade policies to lower the value of products or even reject Indonesian export products. One of the strategies that Indonesia has implemented to align national measurement standards with those set by importing countries, such as the CD2006/236 of the European Union, is the revision of national regulations (Sutrisno, 2019).

The Regulation of the Minister of Maritime Affairs and Fisheries on the Control of Quality Assurance System and Safety of Fishery Products (Suseno & Suadi, 2021) No. PER.01/MEN/2007 was adopted in 2007. It stipulates that the Directorate General of Capture Fisheries, the Directorate General of Aquaculture and the Directorate General of Processing and Marketing of Fishery Products are responsible for controlling the safety of fishery products in their respective areas (ILO, 2019). In addition, the Directorate General of Processing and Marketing has been designated as the competent authority for the quality assurance and safety of fishery products, so that the Directorate General P2HP has issued an Arrangement on Quality Control and Hygiene Safety of Import and Export Fish and Fishery Products, 2009 No. PER.03A/DJ-P2HP/2007 on the Operationalization of the Quality Assurance System for the Control and Safety of Fishery Products (Rindayati & Kristriana, 2018). Another supporting regulatory product is the Decree of the Minister of Fisheries and Marine Affairs of the Republic of Indonesia PER.01/MEN/2007.

D. Administrative obstacles

Export documents are one aspect of export activities, and the use of export documents depends on the type of product being exported, as well as on the laws and regulations applicable in each export destination country. Some of the documents included in the export process are (Helmania, 2021):

a. The Goods Export Notification (GED) is a document used to notify the customers about exported goods in writing or through an electronic medium. The Goods Export Notification (GED) itself is usually submitted for each export transaction;
b. The invoice, also known as Invoice or Note, is a document that serves as proof of the transaction or invoicing carried out by the exporter and bears the title of the exporter's company letter;
c. Packing list is a packing document that indicates the quantity, type and weight of the exported goods, as well as an explanation of the description of the goods in the commercial invoice;
d. Bill of Lading (B/L) is a receipt for goods loaded on a ship or proof of ownership of an item.

3.4 Enhancing Indonesia's maritime transportation sector

Fig 3. Driving forces of exports performances, source: author

The strategic direction for the development of the maritime transport sector is to ensure safe, smooth, comfortable and environmentally conscious maritime transportation for the island communities and to build the strength of the national transport fleet to dominate both the national and international maritime transport markets. Key steps include optimizing the strength of the national shipping fleet and developing an efficient and integrated national maritime traffic management system with land and air transport systems. The maritime transportation sector is an important industry for island nations such as Indonesia. Maritime services have evolved to facilitate the transportation of goods and passengers from one island to another, serving both as a distribution function and as a driver of the local economy. The application of the blue economy concept in maritime transportation can focus on the establishment of strategic hubs as main ports or feeder ports to build a comprehensive maritime transportation system using efficient and effective resources. A smoothly functioning and well-suited transportation sector will have an impact on investment. In 2011, the impact of private and government investment was published based on studies conducted in North Sumatra, West Java, East Java, South Sumatra, West Kalimantan, East Kalimantan, North Sulawesi and South Sulawesi, which used mathematical economic modeling. The studies have shown that increased productivity resulting from increased government and private investment would enhance economic performance at both national and regional levels.

The increase in productivity due to such investments will lower prices for both capital goods and output prices. The decrease in product prices will increase the competitiveness of domestic industry in the international market. The implementation of the free trade agreement between ASEAN and China has led to a trade deficit between Indonesia and China. This situation has continued to deteriorate since 2004. The growing trade deficit is due to the fact that Indonesia's competitiveness is relatively low compared to China’s. Therefore, an improvement of the existing policy is necessary. Policy implementation requires cross-sector coordination and must be closely monitored and consistently implemented without being influenced by pressure from trading partner countries. In addition, implementation must also be accompanied by medium and long-

term measures. China's competitive advantages include a favorable investment climate, innovation in high technology and strong research and development.

3.5 Enhancing compliance in Indonesia's fishery export sector

The obstruction of export documents should not be taken lightly, as obstructing the processing of these documents will later cause the export flow to stall, and if in the case of export of fish, it requires even more attention, as the export of fish generally requires fish to be fresh. In 2022, the Ministry of Maritime Affairs and Fisheries (KKP) has projected the export value of fishery products to increase to USD 7.13 billion or IDR 101.95 trillion (exchange rate of IDR 14.300/US dollar) (Ulya, 2022). For this reason, the Indonesian government encourages exporters to further increase fish exports in order to increase the value of foreign exchange. It is not easy for exporters to meet this demand, as different international regulatory standards apply in the importing country. In the international marketing of fish and fishery products, one of the difficulties exporters face is the different standards and regulations that importing countries impose on exporting countries to ensure that products meet food safety requirements (Wahidin & Purnhagen, 2018). Even after the ratification of the Sanitary and Phytosanitary Agreement (SPS) and the Agreement on Technical Barriers to Trade (TBT) by the World Trade Organization (WTO), the differences between the various national standards and testing systems may maintain or create new non-tariff barriers to trade (Correa & Ferreira, 2021).

The obstacles for exporters are related to the quality of the fish to be exported, especially the uncertain weather conditions which can make it difficult to catch good quality fish, leading to a decrease in production and exports (Emam et al., 2021). In addition, it is difficult to obtain food safety certification which is a prerequisite for the implementation of a quality assurance system and the safety of fishery products. Operators need quality certification to handle quality fish, ensure traceability and food safety (Qijun & Batt, 2015). The Ministry of Maritime Affairs and Fisheries is certainly authorized to conduct inspections, such as during unloading, to ensure that the temperature is maintained in terms of quality and quantity of fish (Napitupulu, 2017).

Traceability is the key to ensuring the quality of fish products to be exported (Dwiyitno, 2009). Traceability is a comprehensive activity that includes both the inputs and the processes involved in fish processing and harvesting and must identify the origin or source of raw materials and the recipient of the products (from the producer to the consumer). In addition, the government can provide guidance to economic operators, from upstream to downstream, to ensure the quality and safety of fishery products (Oliveira et al., 2021). This quality assurance is important for increasing foreign confidence in fishery products from Indonesia. In addition to food safety certificates, there is also catch certification, which is carried out to combat and curb illegal fishing (Nur & Hajir Susanto, 2021). One of the objectives of catch certification is to ensure that the entire product process, from catching to processing, packaging, transportation and delivery, meets the standards prescribed (Zhang & Bhatt, 2014). The competitiveness of fisheries export products on the global market depends on their quality (Hidayat & Razak, 2021).

A common obstacle faced by exporters is their failure to meet the requirements set by the export destination country, resulting in export rejection (Fitrianti, “The Exchange Rate Volatility And Export Performance: The Case Of Indonesia’s Exports To Japan And The US”. This happens due to the shipped fish being contaminated with heavy metals (mercury and cadmium), pathogenic bacteria, its histamine content exceeding the limit, poor temperature control, deterioration of product quality, feces-contaminated products and drug-contaminated fish exceeding the specified threshold (Lehel et al., 2020). According to the Indonesian Ministry of Fisheries and Marine Affairs, the rejection of fish export products from Indonesia can be avoided through continuous and systematic monitoring supported by data and information, the containment of pollution sources, as well as by ensuring the effectiveness of monitoring through the application of early warning systems and zoning of

area management (Haryati, 2021). The development of the integration system of the National Fish Search and Logistics System (Stelina) is the implementation of Government Regulation No. 27 of 2021 on the Implementation of Marine and Fisheries Management (Aprian, 2022).

Other challenges that can hinder exports, according to exporters, are policy and institutional overlaps and less supportive regulations, particularly in the areas of financing, taxation and cargo facilities (Wilson, 2003). Empowering the national shipping industry to transport Indonesian fish exports to be competitive in the international market is in line with the provisions of Law No. 17 of 2008 on Shipping (Hartanto et al., 2019), especially Article 57 paragraph (1), which also states that the government supports the national transportation industry by providing financing and tax facilities (Nugroho, 2017). When exporting, especially fish, there are of course many things that need to be prepared. This is because fish is a material that rots easily, so special handling is required upon delivery (Sampels, 2014). These fishery commodities can also be processed into fishery products (end products), which can be categorized into the following groups depending on their treatment and/or processing: live products; fresh products by pressing/freezing; frozen products either raw or cooked; products preserved by heating at high temperature (sterilization) and pasteurization; products dried by natural or mechanical drying; salted products dried by natural or mechanical salting and drying; smoked products obtained by fumigation; fermented products obtained by fermentation; cooked products obtained by boiling/steaming; surimi-based products obtained by leaching or pressing (minced meat) (Irianto et al., 2014).

In the export of fishery products, several factors pose barriers, namely: low use of technology, uneven development of infrastructure in various fishing centers, limited capital, low utilization of Indonesia's marine potential, production processes that still rely on the catch system which are unable to fully exploit Indonesia's marine potential, export of Indonesian shrimp products can only be carried out by the industry, and regulatory issues in the destination country. The role of shipping companies in the shipment of fish exports is also fraught with obstacles due to inadequate conditions in Indonesian ports. The draft or depth of the Indonesian port basin is shallow (Ratnawati, 2021), so that ships with heavy container cargoes cannot travel via the normal routes, but have to pass through toll roads (canal toll), which means that exporters and importers have to pay a high price of up to several hundred million per trip (Dierker, 2022). As a result, many exporters and importers cannot exceed 2000 teus of goods, as Indonesian ports can only accommodate low-capacity ships (Brooks, 2009).

In addition to the obstacles mentioned above, there are other obstacles to logistics distribution, namely the scarcity of containers for shipping, the increase in sea freight and the lack of cargo space on board ships (Notteboom & Rodrigue, 2008). To overcome the obstacles to logistics distribution, the Ministry of Transport has formulated a solution by strengthening the national shipping industry through the Indonesian Shipping Enterprises Alliance (SEA) program (Jati, 2020). This is an alliance of national shipping companies that aims to ensure that national shipping companies transport cargo to foreign markets or take over export that was previously more likely to be carried out by foreign fleets (Nguyen, 2016). Furthermore, it is in line with President Joko Widodo's vision and mandate in Presidential Instruction (INPRES) No. 5 of 2020 on Shaping the National Logistics Ecosystem (Akhlas, 2020), which aims to improve national logistics performance, improve the investment climate, and increase the competitiveness of the national economy (Arimbhi et al, 2021) through the development of SEACOM (Shipping Enterprises Alliance Communication Media), a digital communication medium for shipping companies (providers of cargo space) and exporters (owners of goods) that can be used to exchange information on the availability of cargo space, the quantity and type of export products, the origin of export products and the exporting companies (Sitorus & Nahry, 2017). The system will be integrated into the existing master system of the Directorate-General for Maritime Transport, which can be accessed through a web-based application (Triantoro, 2020).

The expansion of the logistics sector is expected to lead to an increase in export production, particularly in the area of fisheries exports. This should reduce the difficulties of waiting for available, very expensive containers. In addition, export of goods by sea is still dependent on foreign ships, as more than 80% of Indonesian exports are still transported by foreign ships. For this reason, strengthening the Indonesian sea transportation is urgently needed to increase Indonesian fisheries exports and competitiveness in international sea transportation. To reduce the dependence on export transportation by foreign-flagged vessels, the government has developed the principle of cabotage, which favors the use of Indonesian-flagged vessels so that exporters do not have to wait for foreign vessels or the availability of cargo space, especially in the fisheries sector.

The purpose of introducing cabotage in Indonesia is to help the country maximize its foreign trade activities as an engine of growth by seeking to secure potential foreign exchange from cargo traffic, which is losing IDR 120 trillion per year (Ya et al., 2021). Given the obstacles in Indonesia's fisheries exports, the support of all relevant parties and the government is needed to increase the value of Indonesia's fisheries exports. It is unfortunate that Indonesia, as an island nation two-thirds of whose territory consists of waters that produce great marine wealth that can be exported to increase Indonesia's export earnings, has not used that potential to its maximum. The government needs to build fishing logistics infrastructure evenly in various fishing centers given that perishable fishery products require more complex and expensive logistical handling, especially during storage. In addition, ports need to be open to export and shipment. Support is also needed for the certification of fishery products, the construction of laboratories in fishery production centers and the development of traceability systems with integrated information systems. Fleet modernization and capital support for vessel procurement, as well as support for the shipbuilding industry are also needed to improve fish quality to meet applicable standards.

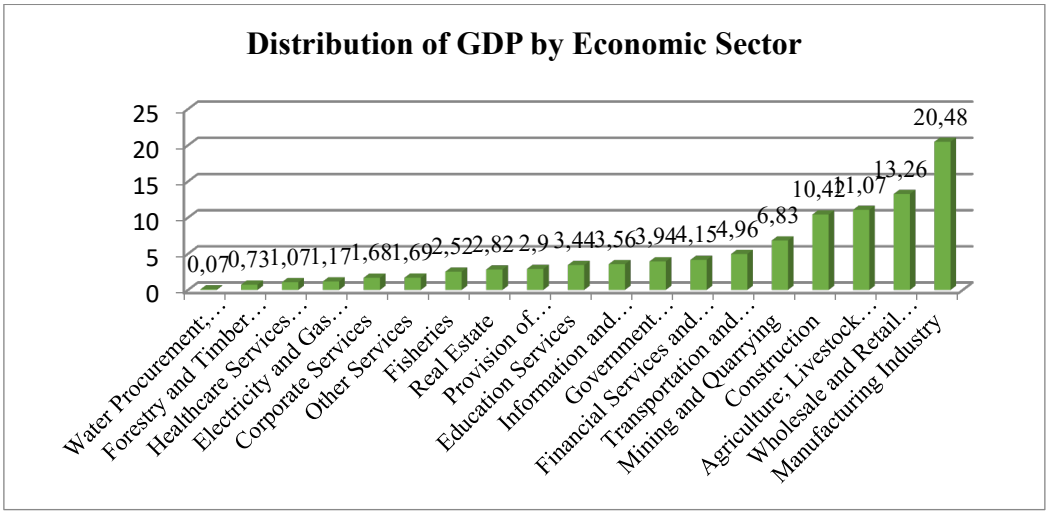


Fig 6. Distribution of GDP in Indonesia. Sources: BPS, processed by author

The fisheries sector in Indonesia contributes 2.5 percent to the national gross domestic product (GDP) growth rate. Although this contribution is still relatively low compared to other sectors of the economy, it has increased annually over the last three years. Previously, the growth rate of this sector was 2.4 percent; in 2014 it was only 2.26 percent. The growth of the fisheries sector is driven by an increase in both catches and aquaculture production. According to data from the Ministry of Marine Affairs and Fisheries for 2011-2016, the export value of Indonesian fisheries products to several major destinations increased, including an 11 percent increase in exports to the United States,

14.5 percent to China and 4.2 percent to the European Union. Only exports to Japan decreased by 7.7 percent.

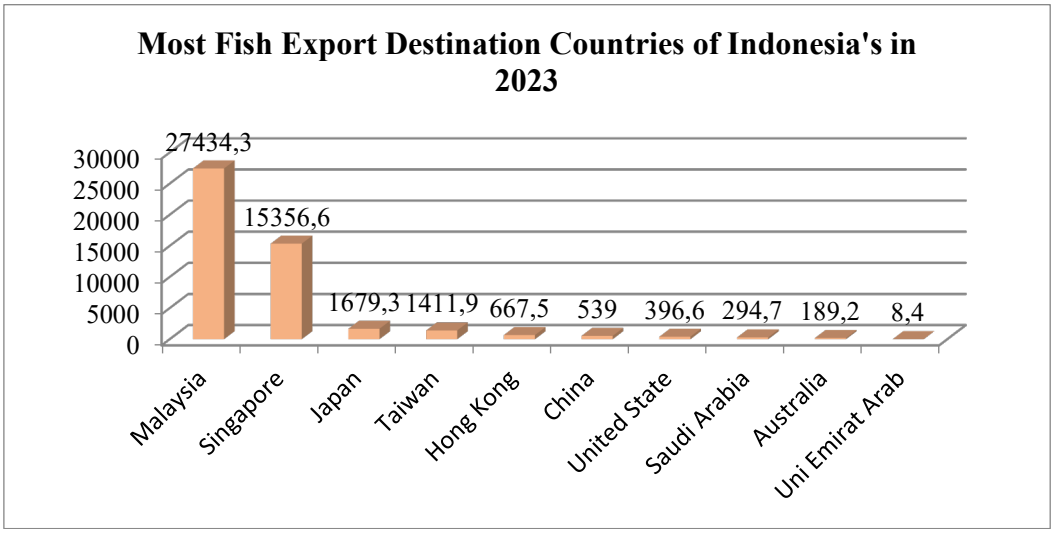


Fig 7. Destinations of Indonesian fishery exports. Sources: BPS, processed by author

According to the report by the Indonesian Central Bureau of Statistics (BPS), the amount of fresh/cold export fish from national catches will reach 48.11 thousand tons and the value of US$106.71 million by 2023. The main destination countries for Indonesia's fresh fish exports last year were countries in the Asian region. In 2023, Indonesia mainly exported fresh fish to Malaysia, with the volume of 27.43 thousand tons or 57% of total national exports. The export value reached US$ 39.99 million. The next largest destination countries for fresh fish exports are Singapore with the volume of 15.35 thousand tons (worth US$36.15 million) and Japan with 1.67 thousand tons (worth US$10.88 million). They are followed by Taiwan with the volume of 1.41 thousand tons (worth US$5.11 million), Hong Kong with 667.5 tons (worth US$2.98 million) and China with 539 tons (worth US$2.99 million). Furthermore, fresh fish exports from Indonesia also went to the United States with 396.6 tons (valued at US$4.05 million), Saudi Arabia with 294.7 tons (worth t US$1.15 million), Australia with 189.2 tons (worth US$2.13 million) and the United Arab Emirates with 8.4 tons (worth US$50.6 thousand). In addition to the 10 countries mentioned above, Indonesia also exported a total of 141.1 tons (worth US$1.18 million) of fresh fish to other countries.

3.6 Critical role of transportation law and shipping companies in Indonesian fisheries exports

As Indonesia is an island nation surrounded by a vast ocean, the number of fish in the Indonesian sea is becoming increasingly diverse (Towadi and Mandjo 2021). Therefore, fishing by Indonesian fishermen is certainly not intended only for their own consumption or sale in Indonesian territory (Azhar and others 2018), but can also be exported to other countries. The government stated that the fishing industry is one of the five economic drivers in Indonesia today (Mahmud, 2021). Therefore, the government wants to encourage the fishing industry to further develop through the export of fish by expanding the role of freight forwarding and transportation companies to support and increase the value of Indonesia’s fish exports (Towers, 2014). The value of fish exports is increasing, reaching USD 48.35 million, or the equivalent of Rp. 7.87 trillion in March 2022 (Indonesian Embassy in Bern 2022). This is 22.48% more than in February 2022 and 14.87% more than in March 2021 (Humas Ditjen PDSPKP, 2022). Overall, the export value of fishery

products reached USD 1.53 billion, which is an increase of 21.63% in January-March 2022 (Humas Ditjen PDSPKP, 2022). The above data suggests that Indonesian fishery products are becoming increasingly popular in foreign export markets. The most popular fishery products abroad are shrimp, tuna, skipjack tuna, crab, squid and cuttlefish. The most important destination countries for fish exports in January-March 2022 were (Muhammad, 2022):

1. United States with an export value of USD 727.27 million;
2. China with an export value of USD 214.39 million;
3. Japan with an export value of USD 78.17 million.

The above data shows that the marine and fisheries sector is growing. In addition, the Ministry of Marine Affairs and Fisheries has launched three priority programs to improve the welfare of the population through sustainable management of marine and fisheries resources:

1. implementation of quota-based, measurable fishing policies to ensure environmental sustainability;
2. development of export-oriented culture of fisheries based on high-quality commodities for export to the global market, including shrimp, crab, lobster;
3. development of aquaculture villages based on local wisdom

For this reason, Indonesia as a country with high trade volume (Laksana, 2022) needs a transportation service provider that can truly support and increase the export of raw materials, especially sea products, at a quality that meets international standards. In this regard, freight forwarding and transportation companies play a very important role in the export of fishery products (Mudunkotuwa and Gamachchige 2017). Freight forwarding companies bring empty containers to exporters' warehouses to load goods into containers. The containers are then taken to the port for unloading and then loaded onto the ship, which carries them to the importer. Freight forwarders also play a very important role in export-import activities, namely as helpers/intermediaries in the shipment of export goods abroad. A freight forwarder is a company that undertakes all the activities required for the shipment, transportation and receipt of goods by land, sea and air, including receiving, storing, packing, weighing the goods and processing the required documents. Some of the advantages of freight forwarding are: easy delivery, time saving, fast and accurate transportation to the destination, shipment of various types of goods, suitable for e-commerce and small and medium enterprises (Smes) (Budisantoso Wirjodirdjo Alain Widjanarka, I Nyoman Pujawan, Iffan Maflahah, 2021).

The role of freight forwarders in export-import is extensive (Laloma et al. 2017), and includes conducting procedures and documentation formalities required by exporting, transit and importing countries, the completion of documents such as letters of credit/ receipts/ waybills/ sea waybills/ air waybills/ house waybills/ delivery orders and so on, as well as meeting the costs of transportation activities, cargo handling at ports/warehouses. The costs incurred by the freight forwarder are then reimbursed by the client, increased by the service fee. The role and activities of international freight forwarding companies, commonly referred to as freight forwarders, are very important as the volume of imports and exports increases every year (Kirova, 2014); (D. Song, 2021). Freight forwarders are in the middle, serving as a link between exporters or shippers and importers or consignees with transportation companies until the delivery or receipt of goods is completed.

3.6 The role and challenges of freight forwarders in facilitating export and import by the fishing industry

Freight forwarders are an extended arm of shipping companies that provides freight forwarding services, as well as an agent responsible for all transportation activities from the origin to the destination of goods, from domestic to foreign, the destination country of exporters and importers, helping shippers and consignees to find a shipping company that can offer lower transportation costs or special prices according to their own classes. Freight

forwarders assist exporters and importers to provide and handle transportation services and process export clearance documents, prepare and perform all services requested by exporters with respect to export goods shipping, choosing the itinerary, picking up the goods from the exporter's location, packing, booking space, estimating shipping duration (mutual date) and facilitating customs clearance owing to their longstanding relationship with customs services. Freight forwarders can act as trade and distribution supporters (trade and transportation logistics) (Lai et al., 2019), i.e. as the sole responsible party for all links in the transportation chain, from the beginning to the destination, as contractual freight forwarders and transportation service providers at the local level, e.g. EMKL (Ocean Cargo Expedition). This is required because a service company such as a freight forwarder must be able to hold a certificate equivalent to EMKL (Ocean Cargo Expedition), EMKU (Air Ship Cargo Expedition) and other licenses related to shipping and receiving imported export goods around the world.

Freight forwarding companies play an important role in the execution of imports and exports (Hämäläinen et al., 2017), especially in fish exports, where freight forwarders play an important role in cargo consolidation, dealing with documentation, packaging and insurance matters (Branch, 2009). The role of freight forwarders in conducting the import-export business has been well established, although there may still be some obstacles in conducting import-export activities, such as incompatibility between the documents and the goods checked, the influence of weather factors and means of transportation not used by their own company, such as ships, etc. Freight forwarders are responsible for the loss or damage of goods (Ritonga et al., 2021). In addition, freight forwarders are also liable for loss or damage if the loss or damage was caused by (Daujotas, 2011):

1. Damaged packaging, defective labeling and incorrect quantities in invoices;
2. Strike, which is beyond the control of freight forwarders;
3. Handling, loading, airing or unloading of goods where the freight forwarder acts as the representative of the owner of the goods;
4. A nuclear accident, if the power operator of a nuclear installation or a person acting on his behalf, is liable for damages under international conventions and national laws governing liability related to nuclear energy.

Freight forwarders also:

1. Help promote Indonesia's export commodities abroad;
2. Assist government efforts to simplify the procedures and documents for shipping goods, considering that all developed countries that are export destinations use international trade facilities;
3. Assist the government in developing a national commercial fleet by supporting Indonesian ships.

The development of fish exports abroad led to market competition (Fayaz & Ahmed, 2020) which was so intense that the goods offered on the market were ranked in terms of quality, quantity and punctuality (Hosseini et al., 2018). For this reason, freight forwarding companies must implement the provisions of national and international law in the transportation/delivery of general goods. There are several international law instruments that regulate the transportation/delivery of general goods, such as (Pejovic, 2020):

1. Convention on the Delivery of Goods by Road;
2. International Convention on the Delivery of Goods by Rail;
3. International Convention on the Delivery of Goods by Sea (Hague and Hamburg Conventions);
4. Warsaw Convention on the Delivery of Goods by Air.

Shipping companies need to prepare the following documents to export fish (Voudouris & Plomaritou, 2020):

1. Shipping instruction
   is a document prepared by the exporter in the form of shipping instructions for the shipping company (shipping line/liner) or forwarder

2. Packing list

   Packing list is a packing document that specifies the quantity, type and weight of exported goods. Packing list is just as important as the invoice. The packing list contains the following information: date the packing list was created, the name and address of the exporter, the name and address of the importer, order number, full description of goods, quantity of goods, gross and net weight. In simple terms, the packing list can be considered a cover letter for the consignment.

1. Bill of Lading

   Bill of Lading (BL) is an import document issued by the shipper. The BL contains information in the form of the BL number of the shipping company, the shipper or the name of the shipper of the goods, the consignee, the name of the transport vessel, the name of the port of loading of the goods, the name of the destination port, container name and number, name, type and quantity of goods. The simple BL is also referred to as an agreement between the forwarder, the carrier and the consignee. One of the functions of the BL is to serve as proof of the ownership of goods, which can be used as proof of collection of the goods by the carrier at the port. The fish is transported to ships by refrigerated trucks or trucks with a special refrigerated containers. Refrigerated trucks help to ensure the freshness and safety of food when it is transported to areas far from its origin. Refrigerated trucks play an important role in the delivery of fresh produce and foodstuffs, as well as goods that are sensitive to temperature fluctuations. If refrigerated trucks could not keep their cargo refrigerated during transportation so that the quality and safety of the goods is preserved, consumers would be forced to travel far to receive the desired goods. Therefore, refrigerated transporters also play an important role in the economy. Refrigerated trucks have contributed to this development through a growing network of pull-out facilities (Meneghetti et al., 2021). Refrigerated vans are the perfect resource for companies that want to offer high-quality products and services (B. Song & Ko, 2016).

   Some interesting facts about refrigerated container trucks (Castelein et al., 2020):

1. Safe transportation of products

   Refrigerated trucks have been used to transport a variety of products that are susceptible to temperature fluctuations, from medicines to live animals.

2. Combination of design and refrigeration unit

   Refrigerated trucks are necessary to keep the fish alive during transportation at a temperature suitable for their environment. The transportation of live animals also requires adequate ventilation in the cargo hold. There are two types of refrigeration systems commonly used by transportation companies, roof-mounted and end-mounted box. The end-mounted box refrigeration unit is ideal for medium sized trucks and trailers. The refrigeration unit is installed at the rear end of the cabin. This design can facilitate mechanical access for routine maintenance. Roof-mounted refrigeration units are ideal for large trailers and trucks as they require ventilation facilities. The amount of refrigerant required depends on the average outside temperature during transportation, as well as on the appropriate temperature for the product, the amount of heat the product can generate and vehicle insulation. This type of equipment is recommended for companies specializing in the delivery of frozen meat, milk or seafood.

3. Adapting the truck to its load

   The design of the refrigeration unit must be adapted to the characteristics of the product. Refrigerated vans can be used for short and long-distance transportation. However, it is worth considering how long the distance is, as this determines the overall cost and service life of the truck. In addition, in many cases a new truck must also be considered. The new truck has higher mileage, better insulation and lower operating costs. Most refrigerated trucks are equipped with a temperature monitoring system. Frozen cargo should always be loaded onto a pre-cooled trailer at a suitable temperature. Cool the box in advance so that the properties of the load do not change

during transportation. It is important to know how long it takes for the cargo space to cool before the load is loaded so that the truck can be used for long-distance transportation. The transportation of raw materials from the suppliers to the companies is done by truck and is carried out with a refrigeration machine (thermo-cooling), which is used to keep the temperature of the fish low and fresh (Kusano, 2016). Suppliers pack the raw materials in containers that have a high insulating effect, such as fiber boxes, Styrofoam and others. Raw materials are packed with refrigerants in the form of ice cubes. There are also suppliers who use only plastic tarpaulin to ship raw materials, with fish and ice layered in a car tub and covered with plastic tarpaulin. This type of packaging is usually done by suppliers that are not too far away from the company (less than 1 hour). For fish that is exported, of course, more special handling is required as the fish is exported abroad, which takes longer time.

4. CONCLUSION

Indonesia's fisheries export sector has made remarkable progress and reached the export value of USD 7.13 billion in 2022 - a testament to the country's vast marine potential and the growing global demand for Indonesian seafood products such as shrimp, tuna, squid and crab. This upward trend not only reflects the resilience and adaptability of Indonesia's maritime economy, but also underscores the strategic role of the freight forwarding and logistics industry and export-oriented aquaculture in boosting the country's trade performance. However, despite this positive development, the export of fishery products remains deeply embedded in a complex and multi-layered legal, institutional and logistical framework that requires urgent attention and reform. Legally, the fisheries export sector must navigate through overlapping international and national regulations. At the global level, Indonesia is required to comply with World Trade Organization (WTO) rules, including the General Agreement on Tariffs and Trade (GATT), the Sanitary and Phytosanitary Measures Agreement (SPS) and the Agreement on Technical Barriers to Trade (TBT). These international instruments aim to ensure fair competition, ensure food safety and eliminate discriminatory trade practices. However, compliance with these standards is often difficult for Indonesia, especially when faced with tariff and non-tariff barriers in key markets such as the European Union and the United States. High import tariffs, preferential trade access for regional competitors and strict product certification requirements often limit Indonesia's competitiveness and access to key global markets. Environmental and natural factors further aggravate the situation. As an island nation, Indonesia is highly vulnerable to disruptions related to climate change, ranging from unpredictable weather patterns to the devastation of the marine ecosystem. These challenges are regulated by environmental law doctrines, such as the precautionary principle, which requires states to take proactive measures to mitigate environmental risks. As fishery products are perishable and highly sensitive to temperature and handling conditions, compliance with health and traceability standards is not only a market requirement but also a legal necessity. Rejections due to contamination, lack of certification or non-compliance with hygiene standards can significantly affect the reliability and reputation of exports. At the national level, the Indonesian regulatory framework is fragmented and often incoherent. Several ministries and authorities issue overlapping directives that lead to administrative bottlenecks, complicate export documentation and delay shipment clearance. Exporters are often burdened with redundant paperwork, including export declarations (PEBs), invoices, packing lists, waybills and health certificates. These administrative inefficiencies are not only procedural in nature, but also have legal and financial consequences that can lead to shipping delays, penalties and even the loss of international contracts. Public administrative law therefore plays a central role in ensuring legally secure, efficient and transparent export procedures. Freight forwarding and logistics companies act as important intermediaries in this ecosystem. They take care of the legal, technical and operational

aspects of the cross-border transportation of fishery products. Their ability to coordinate customs clearance, ensure the integrity of the cold chain and handle multimodal shipments has a direct impact on the success of Indonesian fish exports. However, these companies also face operational obstacles, such as limited infrastructure at seaports, high transportation costs, a limited number of national flagged vessels and insufficient cold storage facilities in remote production centers. While initiatives such as the SEACOM system and Presidential Instruction No. 5/2020 aim to close these gaps, implementation remains uneven, especially in underdeveloped regions. To realize the full potential of its fisheries export sector, Indonesia needs to implement comprehensive legal and institutional reforms. These include harmonization of trade regulations, better coordination between regulators and investment in export infrastructure, especially in cold chains and maritime logistics centers. In addition, building robust certification and testing capacity is essential to meet international SPS and TBT requirements and reduce product rejection rate. At the same time, improving digital traceability and simplifying export documentation will increase efficiency and boost exporters' confidence. It is equally important for Indonesia to pursue a proactive international trade diplomacy strategy. Negotiating better market access, securing bilateral trade agreements and aligning national standards with global norms will enable Indonesia to compete on a level playing field. Strengthening cooperation between exporters, shippers, regulators and local governments is also critical to building an integrated and resilient fisheries export system. Although Indonesia’s fisheries export sector has made encouraging progress, its long-term success depends on the country’s ability to overcome legal, regulatory, environmental and infrastructural challenges. A holistic and well-coordinated policy framework, based on sound legal principles and supported by strong institutions, is crucial for Indonesia's transformation into a globally competitive maritime nation. Only through sustainable reforms and cross-sectoral cooperation can Indonesia ensure the sustainability, quality and access to the global market for its fisheries exports and thus make an important contribution to national development and economic sovereignty.

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