

International Fish Trade Profile: Indonesia

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INTRODUCTION

Indonesia encompasses 1,923 km² of land area and 3,258 km² of water area including inland seas, bays, shelf, and other bodies of water as well as an exclusive economic zone of around 2.7 million km² (BIG, 2017). The country consists of 17,504 islands and 99,093 km long coastline, with a population of 225,000,000.

Indonesia, as an archipelagic state, has started its commitment in the management of its marine and fishery resources in 1999 by establishing the Department of Marine Exploration and Fisheries and later on changed its name to Ministry of Marine Affairs and Fisheries (MMAF) in 2009, which is responsible for the development of marine exploitation, protection, and conservation. The gross domestic product (GDP) of fisheries in Indonesia was USD 16.83 billion in 2017 and the contribution of fisheries sector to GDP was 6.8 % (KKP, 2018a). The average fish consumption is about 46.49 kg per capita per year (KKP, 2018a). There are about 538 fishing ports in various sizes and capacities situated all over the country (**Figure 1**). The country has 11 Fisheries Management Areas (FMA) (**Figure 2**) where each one has its specific resources, allowable catch, maximum sustainable yield (MSY), and exploitation rate.



Figure 1. Location of fishing ports in Indonesia

Source: PIPP, 2018

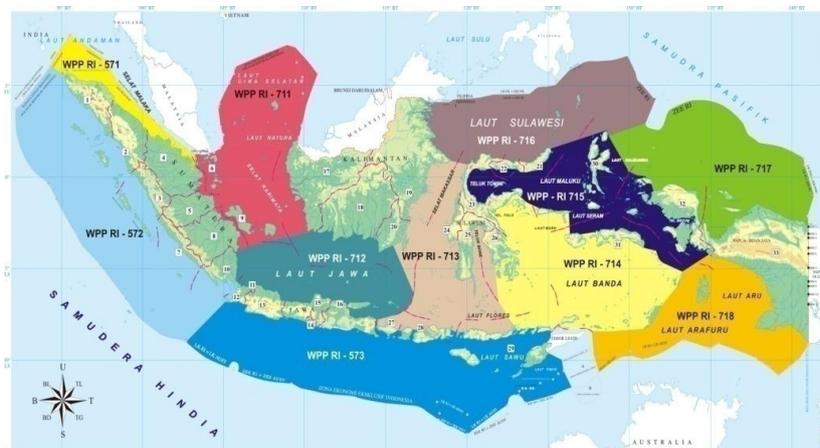


Figure 2. Marine fisheries management areas (FMAs) in Indonesia

Source: FAO, 2018

Government regulations declared some species of fish as staple food for Indonesian people and controlled its trade to ensure the availability of these nutritional sources with affordable prices. For other fish species, the government strives to boost exportation to generate income despite of the challenges in reaching the international market with minimum tariff. Moreover, Indonesia is actively involved in regional and world organizations such as Asia-Pacific Economic Cooperation (APEC), Indian Ocean Rim Association (IORA), ASEAN Free Trade Area (AFTA), among others, and ratified several agreements concerning fisheries management, environment and development, international trading, resource conservation, food safety, and food security.

FISHERIES PRODUCTION

In 2017, the total fisheries production of Indonesia was more than 24 million MT comprised of 6.99 million MT from capture fisheries and 17.21 million MT from aquaculture (**Figure 3**). There are several aquaculture systems in Indonesia and mariculture had the highest production from 2011 to 2015 (**Figure 4**).

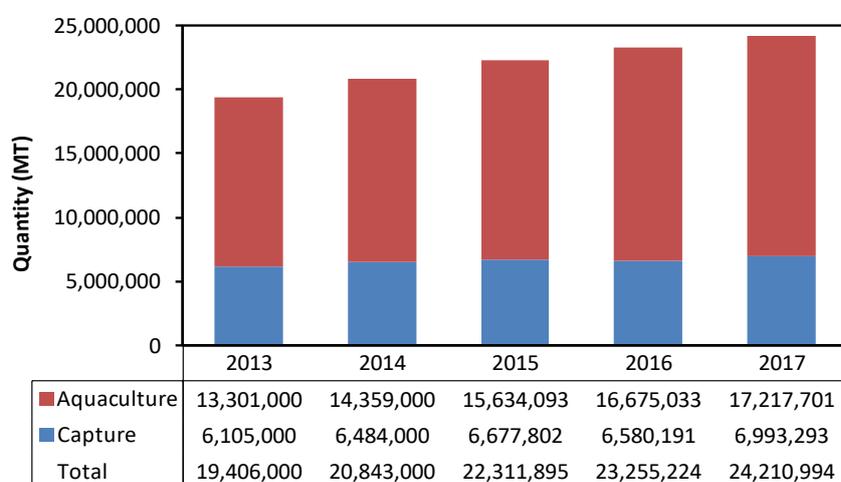


Figure 3. Fisheries production of Indonesia in 2013-2017 by quantity (MT)
Source: KKP, 2018b

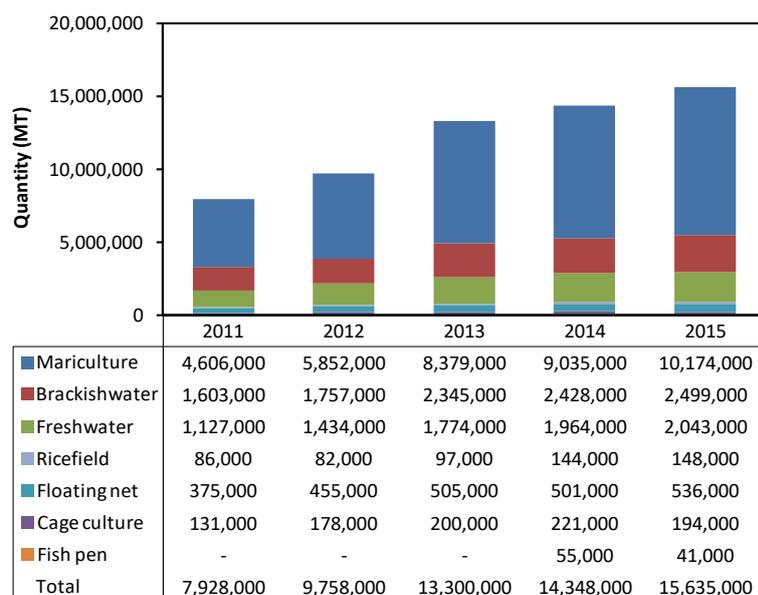


Figure 4. Production of different aquaculture systems of Indonesia in 2011-2015 by quantity (MT)
Source: BPS, 2018

Figure 5 shows the top 10 aquaculture commodities. It is noted that the high production of the aquaculture sub-sector was due to the high volume of seaweeds which is about more than half of the total aquaculture production. The government of Indonesia was successful in developing the cultivation of *Euचेuma* sp. and *Gracilaria* sp. and made the country to be the largest seaweed producer in the world. The production the two seaweed species are shown in **Figure 6**.

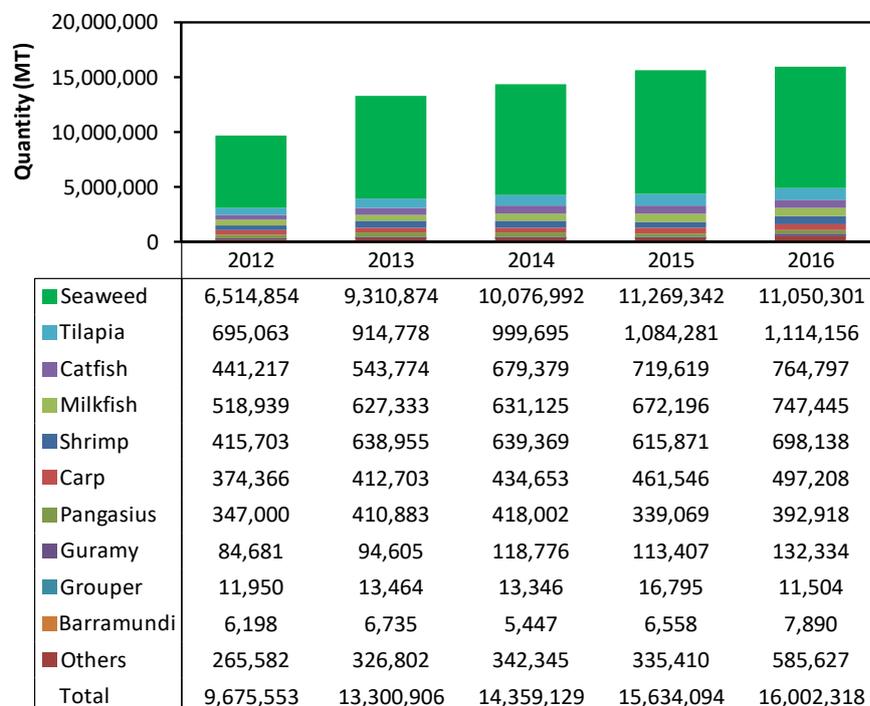


Figure 5. Production of top 10 aquaculture commodities of Indonesia in 2012-2016 by quantity (MT)
Source: DJPB, 2016

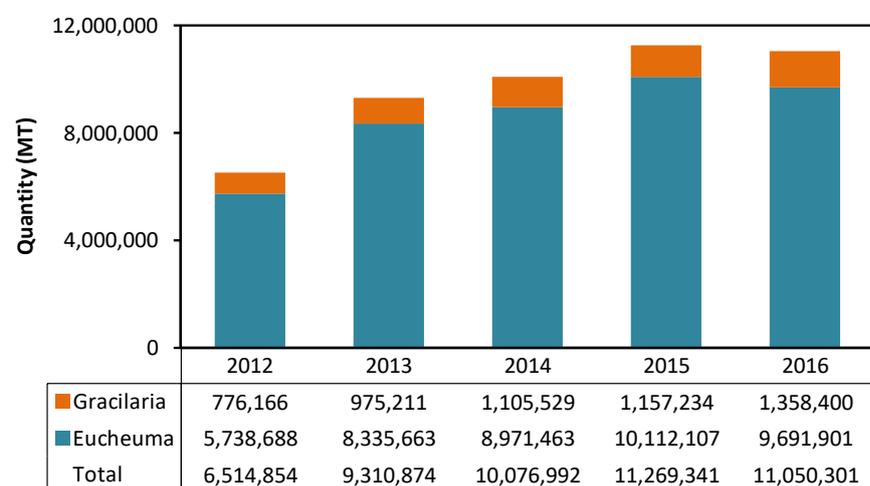


Figure 6. Seaweed production of Indonesia in 2012-2016 by species and quantity (MT)
Source: DJPB, 2016

FISH PROCESSING

Fish processing plants are important part of the fishery industry in Indonesia which help stabilize the price of fish through preservation and value-adding fishery products when the fish supply is abundant. The fish processing plants in Indonesia are mostly located near fishing ports such as in Bitung (North Sulawesi), Semarang, Rembang, Brebes (Central Java); Surabaya, Banyuwangi, Pasuruan (East Java);

Medan, Deliserdang (North Sumatea); Jakarta; Makassar (South Sulawesi); Bandar Lampung (Lampung); Ambon (Maluku); Sorong (West Papua); Denpasar (Bali). Some of the processing plants are involved in exporting and importing of fish products. Moreover, the processing of fishery products is also conducted on fishing vessels following the standards of hazard analysis for critical control point (HACCP). The local fisheries agency and MMAF also conduct surveillance for food safety assurance.

The fish processing industries are categorized as small-scale, medium-scale, and big-scale. There are more than 40,000 units of small-scale industry with 126,623 employees, 1,843 units of medium-scale with 79,660 employees, and 258 units of big scale industry with 91,922 employees (OJK, 2016). The medium- and big-scale industries process the following fish products:

- chilled fresh fish
- frozen fish
- boiled fish meat
- fish oil
- canned fish
- quick served seafood (nugget, meat ball, sausage, presto, otak-otak etc.)
- smoked and grilled fish
- salted fish, brined fish
- fish meal
- surimi (fish extraction)
- alkaline treated carrageenan
- agar powder
- fillet
- fish leather
- jelly food
- fish/shrimp crackers
- animal diet

The government supports the fisheries industry to obtain value added products especially for export commodities and allows the industries to import the raw materials when the local fish stock could not fulfill the industrial requirement due to seasonality or other reasons.

INTERNATIONAL FISH TRADE

The international fish trade in Indonesia is in a fast increasing trend during the last decade, which was stimulated by the growing demands from global consumers and the increasing awareness on the health benefits of seafood. The country contributes significant volume and value in the international fish trade and because of this the country is gaining foreign currencies as well as providing employment and income to the fisherfolk. In 2015, Indonesia ranked 11th in the world in exporting fishery products with the value US\$ 2.7 million (ISW Group, 2017a). It is predicted that Indonesia is still able to export fishery products until 2030 including re-exporting of imported products after processing (Chan *et al.*, 2017).

Figure 7 shows the dynamics of export and import of fishery products of Indonesia from 2012 to 2017. In terms of quantity and value, the country's exported fishery products are much greater than imported fish products. The decrease in the volume and value of exported fishery products could be attributed to the moratorium of issuance of fishing license particularly to the foreign fishing vessels in 2015, thus the supply of raw materials to the processing plants decreased (Idris, 2015). In addition, the export and import of live and non-live fishery products are shown in **Figures 8** and **9**, respectively.

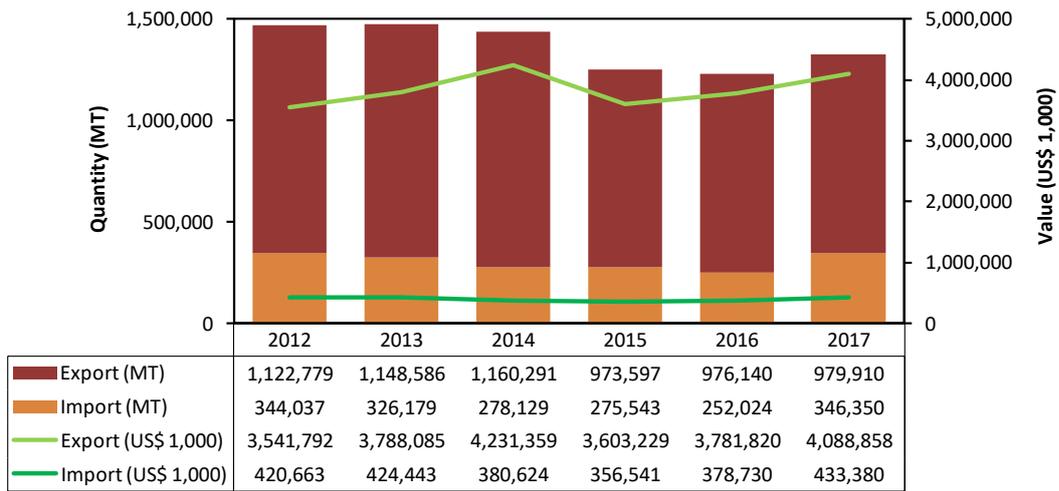


Figure 7. Quantity (MT) and value (US\$ 1,000) of fishery products exported and imported by Indonesia in 2012-2017

Source: KKP, 2018a

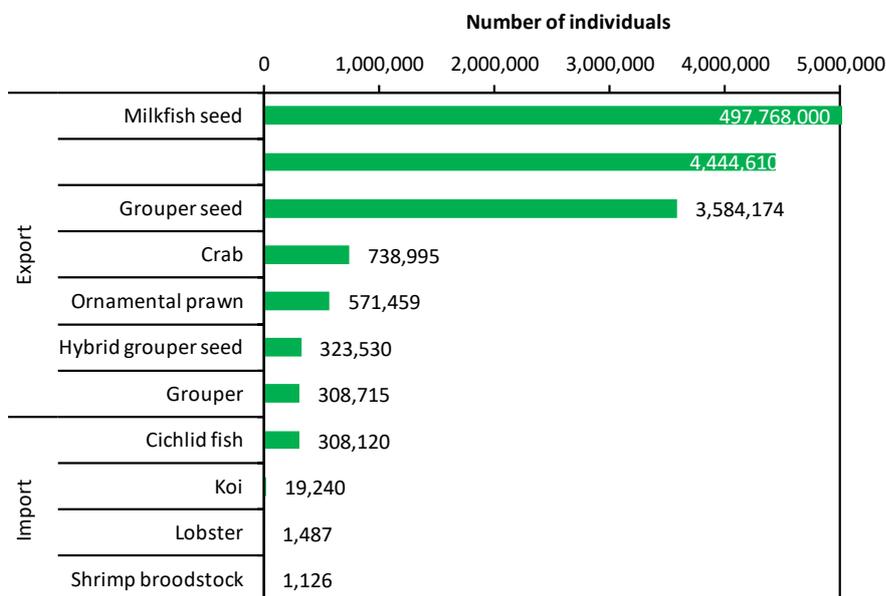


Figure 8. Number of live fishes traded in Indonesia in 2017

Source: ISW Group, 2017b

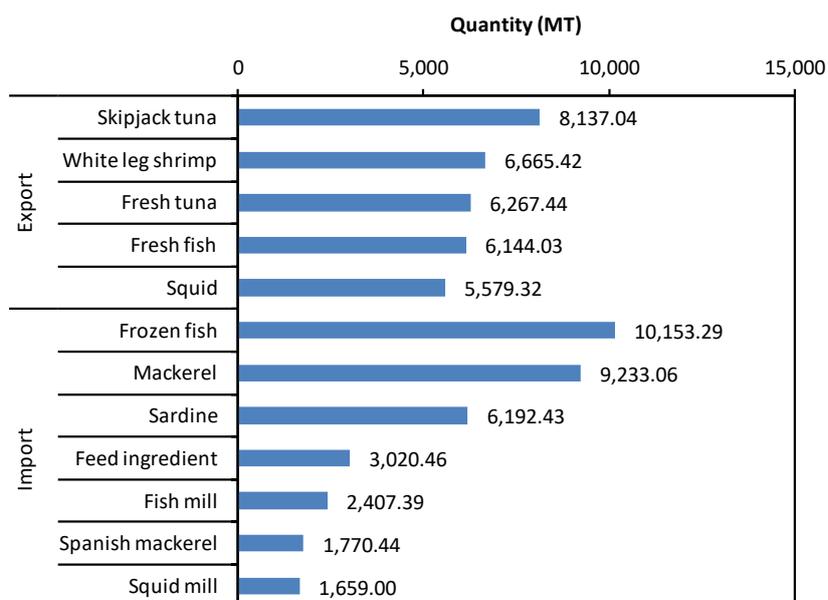


Figure 9. Quantity (MT) of non-live fishes traded in Indonesia in 2017
Source: ISW Group, 2017b

The Harmonized System (HS) codes of major traded products are described in **Table 1**. Using the HS codes, **Figure 10** shows the value of dominant exported fish commodities of Indonesia from 2013 to 2017.

Table 1. Harmonized System (HS) codes for major fishery products exported by Indonesia

HS Code	Product label
0306	Crustaceans, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine
0303	Frozen fish (excluding fish fillets and other fish meat of 0304)
0304	Fish fillets and other fish meat, whether or not minced, fresh, chilled or frozen
0307	Mollusks, fit for human consumption, even smoked, whether in shell or not, live, fresh, chilled
0302	Fish, fresh or chilled (excluding fish fillets and other fish meat of 0304)
0301	Live fish
0305	Fish, fit for human consumption, dried, salted or in brine; smoked fish, fit for human consumption
0308	Aquatic invertebrates other than crustaceans and mollusks, live, fresh, chilled, frozen, dried

Source: KKP, 2018a

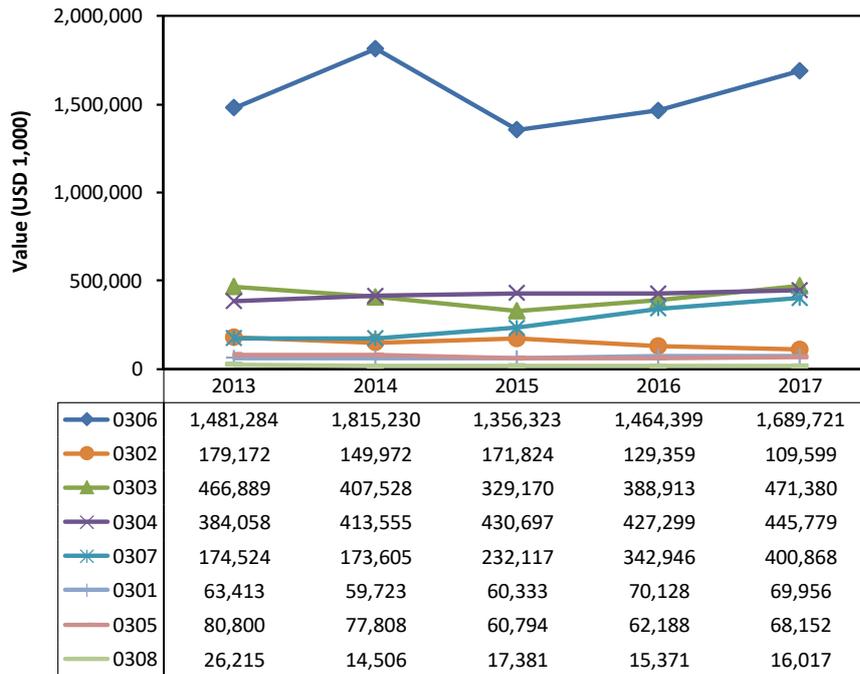


Figure 10. Major fishery products exported by Indonesia using the Harmonized System codes from 2013 to 2017 by value (US\$ 1,000)

Source: KKP, 2018a

The major exported fish commodities of Indonesia include shrimps, tunas, crabs, seaweeds, and others (Figure 11). The “others” category comprises low value fishes, pearls, freshwater fishes (eel, *Pangasius*, tilapia), and live fish (ornamental fishes and high value live marine fishes). Moreover, the processed fishery products commanded higher values than the unprocessed fishery products (Figure 12).

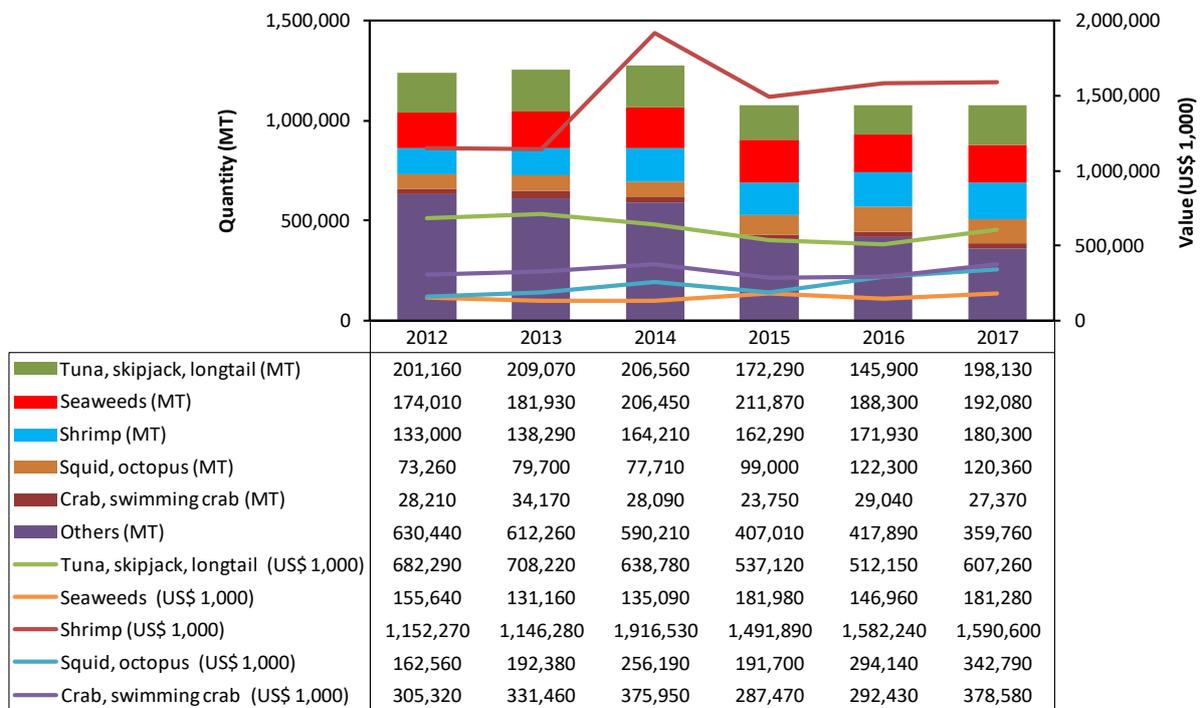


Figure 11. Major fishery products exported by Indonesia in 2012-2017 by quantity (MT) and value (US\$ 1,000)

Source: KKP, 2018a

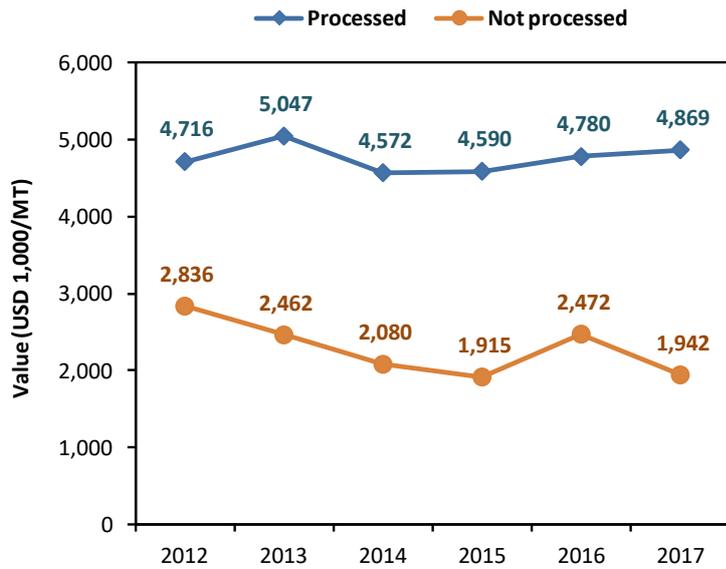


Figure 12. Value (US\$ 1,000) of processed and not processed tuna, skipjack, and long tail tuna exported by Indonesia in 2012-2017

Source: KKP, 2018a

The major destination countries of exported fish commodities from Indonesia are USA, Japan, ASEAN, China, and EU (**Figure 13**). The control and import tariff applied by USA to exported fishery products from Indonesia is the Generalize System of Preference (GSP) which is about 11 % of the value. For EU countries, the MoU between Indonesia and EU bound the 117 exporters by Approval Number that issued to the exporter by EU Authority, after they were verified and enrolled by Indonesia Competence Authority, which is the Board of Fish Quarantine and Quality Control under MMAF.

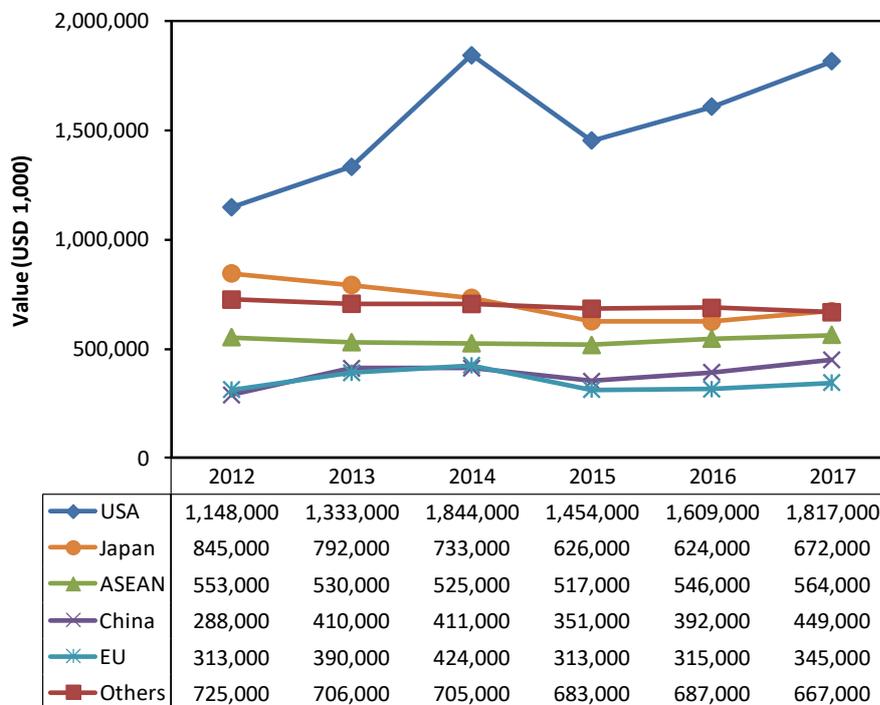


Figure 13. Major destination countries of fishery products exported by Indonesia in 2012-2017 by value (US\$ 1,000)

Source: KKP, 2018b

For non-food commodity, pearl (*Pinctada maxima* and *Pinctada margaritifera*) contributed a significant export value. In 2013-2014, the production was about 5,400 kg, or almost half of the estimated world production which was 12,700 kg. Since 2015, the pearl from Indonesia shared 43 % of the world market with value of US\$ 29.43 million which put the country at the 9th place in world ranking (Ditjen, 2016).

The major fishery products imported by Indonesia include fish meal (for aquaculture and poultry feeds), mackerel and sardine (for processing), fish oil (for pharmaceutical industries), and salmon and trout (for modern market) (**Figure 14**). The dominant origin countries of imported mackerel are China, Japan, Norway, and Malaysia. Some of the imported mackerel are re-exported for domestic supply. The species of imported mackerel include *Scomber japonicas*, *S. scombrus*, and *S. australasicus*. Even though Indonesia produced and exported crabs and swimming crabs, the country still imported these commodities which imply that the production could not fulfill the domestic demand as well as sufficiently supply the fish processing industry.

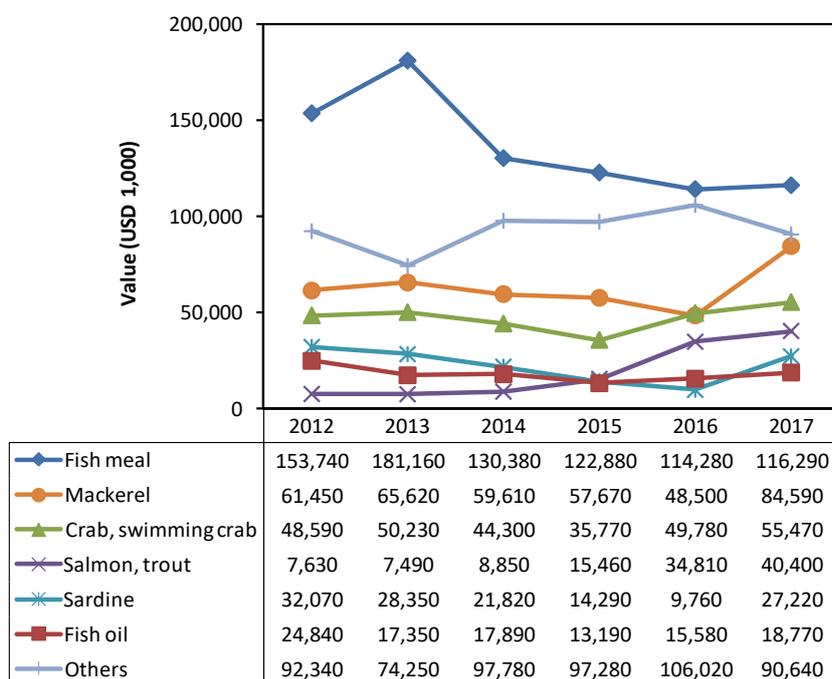


Figure 14. Major fishery products imported by Indonesia in 2012-2017 by value (US\$ 1,000)
Source: KKP, 2018b

China was the dominant supplier of fishmeal in 2012 as seen in **Table 2**. Aquaculture and poultry feeds generate high demand for fish meal as a source of protein.

Table 2. Fishmeal suppliers to Indonesia in 2012 by quantity (MT) and value (US\$ 1,000; US\$/kg)

Country	Quantity (MT)	Value (US\$ 1,000/MT)	Value (US\$/kg)
China	82,310	58,395	0.71
India	17,905	10,251	0.57
Pakistan	10,072	6,287	0.62
Malaysia	8,892	7,605	0.86
Japan	8,587	14,584	1.70
Taiwan	1,397	4,296	3.07
Thailand	700	1,400	2.00
South Korea	660	635	0.96
Australia	377	1,399	3.71
Chile	274	1,586	5.80
Vietnam	172	247	1.43

Country	Quantity (MT)	Value (US\$ 1,000/MT)	Value (US\$/kg)
USA	148	933	6.32
Singapore	83	570	6.87
Others	7,965	19,191	2.41

Source: Sultan, 2002

FISH TRADE POLICIES

The fish trade regulations of the Government of Indonesia were established in order to: 1) maintain the fish stock to be sufficient for domestic consumption; 2) sustain the supply of raw materials for fish processing industries; 3) ensure the quality food fit for human consumption; and 4) protect the natural resource and environment from extinction and disease spread. Aside from MMAF, there are six ministries/agencies that take a part in regulating fish trade activities, namely: 1) Ministry of Trade, 2) Ministry of Finance, 3) Ministry of Industry, 4) Agency for Drug and Food Surveillance, 5) Ministry of Environment and Forestry, and 6) Coordinating Investment Board. The process of exporting fishery products in Indonesia is illustrated in **Figure 15**. The roles of ministry/agency in regulating the fish trade in Indonesia are described in **Table 3** and the operational measures in trading fishery products in Indonesia are summarized in **Table 4**.

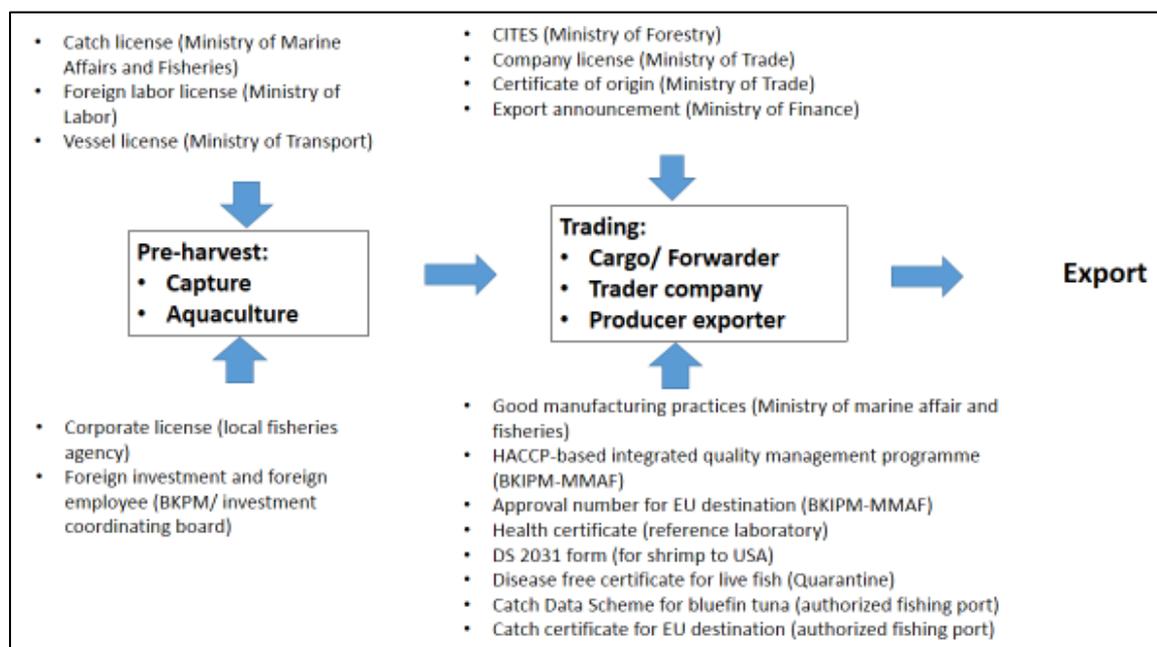


Figure 15. Procedures on exporting fishery products in Indonesia

Source: Pramono, et al., 2015

Table 3. Ministries and agencies involved in regulating the fish trade in Indonesia

Issues/authorization	Ministry/agency	Legal basis
Product supply and logistic	<ul style="list-style-type: none"> MMAF 	<ul style="list-style-type: none"> Act 45/2009 Government Reg 54/2002 Ministry Reg 5/2014
Resources management and protection	<ul style="list-style-type: none"> MMAF Ministry of Environment and Forestry 	<ul style="list-style-type: none"> Act 45/2009 Act 32/2009
Product standardization	<ul style="list-style-type: none"> Ministry of Industry MMAF Ministry of Trade 	<ul style="list-style-type: none"> Act 3/2014

Issues/authorization	Ministry/agency	Legal basis
Quality control, inspection, and assurance	<ul style="list-style-type: none"> • MMAF • Drug and Food Surveillance Agency • Ministry of Industry • Quarantine Agency 	<ul style="list-style-type: none"> • Presidential decree 166/2003 • Act 25/2009 • Act 45/2009 • Act 16/1992 • Act 18/2012 • Government Reg 57/2015 • Ministry Reg 74/2016
Import-export policy, restriction, and limitation	<ul style="list-style-type: none"> • Ministry of Trade • MMAF 	<ul style="list-style-type: none"> • Act 7/2014 • Government Reg 9/2018 • Ministry Reg 16/2011 • Ministry Reg 66/2018
Tariff policy	<ul style="list-style-type: none"> • Ministry of Finance • Ministry of Industry 	<ul style="list-style-type: none"> • Act 03/2014 • Ministry Reg 17/2018
Market access and promotion	<ul style="list-style-type: none"> • MMAF • Ministry of Trade 	<ul style="list-style-type: none"> • Act 45/2009 • Act 7/2014
Licensing and registration for trader and industrial company	<ul style="list-style-type: none"> • MMAF • Ministry of Industry • Ministry of Trade • Coordinating investment Board 	<ul style="list-style-type: none"> • Act 3/1982 • Act 7/2014 • Government Reg 24/2018 • Ministry Reg 7/2018 • Act 4/2009 • Ministry Reg 66/2018

Table 4. The operational measures in trading fishery products in Indonesia

Legal aspect	Legal basis	Measure
Tariff and tax	<ul style="list-style-type: none"> • Ministry of Finance Regulation 17/PMK.010/2018 • Ministry of Finance Regulation 134/PMK.04/2018 • Ministry of Finance Regulation 18/PMK.010/2018 • Ministry of Finance Regulation 30/PMK.010/2017 • Ministry of Finance Regulation 110/PMK.010/2018 	<ul style="list-style-type: none"> • Classification of good and its importing tariff • Valuation advice before importing • Special tariff for ASEAN-Japan comprehensive economic partnership • Special tariff for Indonesia-Japan economic partnership • Import tax
Commodities restriction	<ul style="list-style-type: none"> • Ministry of environment and forestry decree20/MENLHK/SETJEN/KUM.2/6/2018 • MMAF regulation 56/PERMEN-KP/2016 • Presidential Decree 43/1978 	<ul style="list-style-type: none"> • Flora and fauna prohibited to trade • Restriction to catch and exit the undersize and gravid female of lobster, crab, and swimming crab • Ratification of CITES
Document and assurance	<ul style="list-style-type: none"> • Government Regulation No. 6/2007 	<ul style="list-style-type: none"> • Documents required for import, export, re-export activities

Legal aspect	Legal basis	Measure
Quality assurance	<ul style="list-style-type: none"> • MMAF decree 52A/KEPMEN-KP/2013 • Government Regulation 57/2015 	<ul style="list-style-type: none"> • Quality assurance measures and safety of fishery product in producing, processing and distributing. • Fishery product quality, assurance, safety and its added value.
Import-export policy	<ul style="list-style-type: none"> • Presidential Regulation 71/2015 • Government Regulation 9/2018 • Ministry of Trade Regulation 66/2018 	<ul style="list-style-type: none"> • Stipulating and repository of staple food and crucial good • The procedure to control the importing of fishery commodities and salt. • Fishery product import measure
Licensing and registration	<ul style="list-style-type: none"> • Government Regulation 24/2018 	<ul style="list-style-type: none"> • Integrated licensing by electronic (online single submission)

As a significant exporter of fishery products in the international fish trade, Indonesia proactively follows the global principles by means of regulations and enforcement according to international instruments. Indonesia ratified the General Agreement on Trade and Tariff (GATT) since 24 February 1950. Also, the country ratified the Act No. 7 1994 on 1 January 1995 to be the member of World Trade Organization (WTO), following the common principles in global trading: 1) non-discrimination; 2) reciprocity; 3) binding and enforceable commitments; 4) transparency; and 5) safety value. Moreover, the Agenda 21 from The Earth Summit in Rio de Janeiro in 1992 proposed the creation of the world trade system that is rule based, equitable, secure, transparent, and predictable (Valdimarsson, 2004). The following are the instruments in WTO agreement relevant to fisheries:

- Agreement on Sanitary and Phyto-sanitary Measure (SPS)
- Agreement on Technical Barrier to Trade (TBT)
- Agreement on Subsidies and Countervailing Measures
- Agreement on Import Licensing Procedures
- Agreement on Anti-Dumping
- Agreement on Rules of origin
- Dispute settlement
- Tariff Reduction

Also, the country has signed and implemented a number of free trade agreement with countries and region around the world, as independent market as well as a member state of ASEAN, such as:

- Indonesia-Japan Economic Partnership Agreement (20 August 2007)
- ASEAN-People's Republic of China Comprehensive Economic Cooperation Agreement (4 November 2002)
- ASEAN Free Trade Area (28 January 1992)
- ASEAN-Australia & New Zealand Free Trade Agreement (1-January 2010)
- ASEAN-India Comprehensive Economic Cooperation Agreement (13 August 2009)
- ASEAN-Japan Comprehensive Economic Partnership (2008)
- ASEAN-Korea Comprehensive Economic Cooperation Agreement
- Pakistan-Indonesia Preferential Trade Agreement (2012)
- Preferential Tariff Arrangement-Group of Eight Developing Countries

In addressing the issues on international fish trade, Indonesia adopted the International Plan of Action (IPOA) for combating IUU fishing and effectively enforced the regulation in 2012. The country also carried out fisheries management based on area, vessel size, and total allowable catch. The seafood importing countries require “clean products” which means the fishery products are free from IUU fishing and conform to quality standards. Indonesia comply with the Marine Stewardship Council (MSC) of European Union (EU) and Generalized Standard of Preference (GSP) and prepared for Seafood Import Monitoring program (SIMP) of USA.

The applied tariffs for fishery products imported to Indonesia are referred to Ministry of Finance Regulation 6/PMK.010/2017, as recently updated by Ministry of Finance Regulation 18/PMK.010/2018 subject to stipulated of classification and tariff of imported goods in general, including fish products. The classification and tariff of fishery products according to the regulation of Ministry of Finance are shown in **Table 5**. The tariff for fishery products imported to Indonesia are almost totally exempted since 2018, except for live tilapia, grouper, carp broodstock, and other species which are charged with 8.53 % in 2018, and reduced to 0.59 % every year until 2024. For the implementation of ASEAN-Japan Comprehensive Economic Partnership, the Ministry of Finance of Indonesia regulated the tariff by Ministry Regulation 18/PMK.010/2018, whereas all import tariffs for fishery products are exempted.

Table 5. Classification and tariff of fishery products according to the Ministry of Finance Regulation 18/PMK010/2018

HS code	Product specification	Total number of products	Range of tariff (%)	
			2018	2025 and beyond
0301	Live fish	16	0-8.53	0-5.0
0302	Fish, fresh or chilled, excluding fish fillet and other fish meat of handling	58	0-0	0-0
0303	Fish, frozen, excluding fish fillet and other fish meat of handling	60	0-0	0-0
0304	Fish fillets and other fish meat (whether or not minced) fresh, chilled, or frozen	48	0-0	0-0
0305	Fish, dried, salted or brine, smoked fish, whether or not cooked before or during the smoking process, flours, meals, and pellet of fish, fit for human consumption.	35	0-0	0-0
0306	Crustacean, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine; smoked crustacean, whether or not cooked before or during the smoking process; crustacean in shell, cooked by steaming or boiling in water, whether or not chilled, frozen, dried, salted or brine, flours, meals; and pellet of crustacean fit for human consumption.	66	0-0	0-0
0307	Mollusks, whether in shell or not, live, fresh, chilled, frozen, dried, salted, or in brine; smoked mollusks whether in shell or not, whether or not cooked before or during the smoking process; flours, meals and pellet of mollusks, fit for human consumption.	54	0-0	0-0
0308	Aquatic invertebrates other than crustacean and mollusks, live, fresh, chilled, frozen, dried, salted, or in brine; smoked aquatic invertebrate other than crustacean and mollusks, whether in shell or not, whether or not cooked before or during the smoking process; flours, meals and pellet of mollusks, fit for human consumption.	21	0-0	0-0

For the Sanitary and Phyto-sanitary (SPS) Agreement, Indonesia ratified this instrument by the Presidential Decree Number 20/1998. The state should protect the consumers from food born diseases or unexpected contaminants in food and protect the domestic plants and animals from the spread of foreign diseases. The regulations related to food safety are the following:

- Act number 45/2009 article 2 oblige to be certified for the consumption safety
- Ministry of MAF Decree number 52/ 2013, subject to quality assurance measures and safety of fishery product in producing, processing and distributing.
- Act number a16/1992 about quarantine for animal, fish, and plant
- Government Regulation number 15, 2002: about fish quarantine
- Ministry of Trade Decree number 05/ 2016, subject to export and import of animals and animals product
- Ministry Marine Affairs and Fisheries Decree number 74/ 2016 subject to quality control and safety of fishery product entering the RI jurisdiction
- Ministry Marine Affairs and Fisheries Decree number 16/ 2011 subject to risk analysis on fish and fishery product importation
- Government Regulation number 57/2015 subject to fishery product quality assurance, safety and its added value.

The following are the regulations for trading of restricted commodities (BSN, 2013):

- Ministry of Environment and Forestry Decree P20/MENLHK/SETJEN/KUM.2/6/2018 - there are 20 species fish and five species of aquatic mollusks protected
- MMAF Regulation 56/PERMEN-KP/2016 - restriction to catch and trade the gravid female of lobster and crab and the undersized animal (200 g)
- Presidential Decree 43/1978 - as a member state of CITES, all flora and fauna listed in CITES Appendix 2 are prohibited to export and import
- Presidential Regulation 71/ 2015 - national and local government control the availability of staple food and in sufficient quantity in the country, good quality, and affordable price. Fresh fish include milkfish, short mackerel, tuna, long-tail tuna, skipjack tuna. This regulation implies the state could refuse to issue the license to export or import these commodities due to its availability for domestic consumption
- Indonesia National Standard (SNI). There are more than 14 fishery products had been standardized as national standards that should be complied by the producer or trader for Indonesia domestic market (**Table 6**)

Table 6. Indonesia National Standard (SNI) of fishery products

Standard	Fishery product
SNI 7755/2013	Fish sausage
SNI 7756/2013	Fish <i>siomay</i>
SNI 7757/2013	Fish <i>otak-otak</i>
SNI 7758/2013	Fish nugget
SNI 7759/2013	Fish <i>kaki naga</i>
SNI 7760/2013	Crunchy fish
SNI 7761/2013	Seaweed jelly
SNI 7762/2013	Fish <i>amplang</i>
SNI 6927/2013	Fresh yellow tail fish
SNI 7143/2013	Frozen whole tilapia fish
SNI 2712/2013	Canned sterilized fish
SNI 2725/2013	Smoked fish by hot smoke
SNI 2729/2013	Fresh fish
SNI 2696/2013	Frozen fillet

CONCLUSION AND WAY FORWARD

The performance of Indonesia in the international fish trade is promising. From its abundant production from capture fisheries and aquaculture, the country could continue to supply fish to the world until 2030. The international fish trade offers numerous opportunities to the nation including economic growth, employment, income generation, food industries development, sustainable utilization of fishery resources, and food security. But the growing population and increasing fish consumption could affect the exploitation rate of the resources of capture fisheries and/or the carrying capacity of aquaculture, thus the export potential could also be affected. The government established regulations to ensure that the trading of fishery products comply with the principles of the international agreement and to maintain the balance in international fish trade. When the fish supply reduces due to export, it should not threaten the domestic food supply with sufficient availability, affordable price, and suitable quality. Moreover, Indonesia would continue to import fishmeal as main ingredient in fish feed as well as fresh or frozen fish products to supply the processing industries.

REFERENCES

- BIG. (2017). Pentingnya informasi geospasial untuk menata laut Indonesia. Badan Informasi Geospasial [online]. Retrieved from <http://www.bakosurtanal.go.id/berita-surta/show/pentingnya-informasi-geospasial-untuk-menata-laut-indonesia> [Accessed 13 March 2017]
- BPS. (2018). Produksi perikanan tangkap menurut propinsi dan sub sector (ton) 2000-2015. Retrieved from <https://www.bps.go.id/statictable/2009/10/05/1705/produksi-perikanan-tangkap-menurut-provinsi-dan-jenis-penangkapan-2000-2015.html>
- BSN. (2013). Standar sebagai alat penjaga membanjirnya produk impor dalam menghadapi AEC 2015. Badan Standar Nasional. Retrieved from http://bsn.go.id/main/berita/berita_det/4860/Standar-sebagai-Alat-Penjaga-Membanjirnya-Produk-Impor-dalam-Menghadapi-AEC-2015#.W8AOF9ycGT8
- Chan, C., Tran, N., Dao, C., Sulser, T., Phillip, M., Batka, M., Wiebe, K., & Preston, N. (2017). Fish to 2050 in the ASEAN region. Penang, Malaysia: WorldFish and Washington DC, USA: International Food Policy Research Institute (IFPRI). Working Paper 2017-01.
- Ditjen, P., (2016). Peluang ekspor produk perikanan Indonesia. Warta ekspor. Ditjen PEN/MJL/005/6/2016
- DJPB. (2016). Peta sentra produksi perikanan budidaya. Direktorat produksi dan usaha budidaya. Kementerian Kelautan dan Perikanan. Indonesia.
- FAO. (2018). Fishery and Aquaculture Country Profiles: The Republic of Indonesia. Food and Agriculture Organization of the United Nations, Fisheries and Aquaculture Department. Retrieved from <http://www.fao.org/fishery/facp/IDN/en>
- Idris, M. (2015). Moratorium berakhir, susi tetap larang kapal eks asing beroperasi. Retrieved from <http://finance.detik.com/berita-ekonomi-bisnis/>
- ISW Group. (2017a). Daftar Negara eksportir produk perikanan terbesar dunia, Indonesia ranking berapa? Retrieved from <https://www.isw.co.id/single-post/2017/03/14/daftar-negara-eksportir-produk-perikanan-terbesar-dunia>
- ISW Group. (2017b). akalang dan udang vaname produk perikanan Indonesia terbanyak diekspor Maret 2017. Retrieved from <https://www.isw.co.id/single-post/2017/04/06/produk-perikanan-indonesia-terbanyak-diekspor-maret-2017>
- KKP. (2018a). Laporan kinerja 2017. Kementerian Kelautan dan Perikanan RI. Jakarta. Retrieved from <https://www.kkp.go.id>
- KKP. (2018b). Produktivitas perikanan Indonesia. Forum merdeka barat 9. Kementerian Komunikasi dan Informatika. Jakarta Januari 2018.
- Nurhayati, P. (2004). Nilai tambah produk olahan perikanan pada industry perikanan tradisional di DKI Jakarta. Buletin ekonomi perikanan Vol V No.2. 2004

- OJK. (2016). Usaha pengolahan produk perikanan. Retrieved from <https://www.ojk.go.id/sijaring/id/sektor-kelautan-dan-perikanan/usaha-pengolahan-produk-kelautan-dan-perikanan/Default.aspx>
- Pramono, Y., Fathoni, M., & Marpaung, H. (2015). Pedoman eksporperikananke Negara mitra. Direktorat akses pasar dan promosi. Direktorat Jenderal Penguatan daya saing produk kelautan dan perikanan. Kementerian Kelautan dan Perikanan. Jakarta.
- PIPP. (2018). Pusat Informasi Pelabuhan Perikanan. Retrieved from <http://pipp.djpt.kkp.go.id/>
- Sultan, M. (2002) Tepung ikan masih harus impor. Trobos no. 33/Tahun III/Juni 2002
- Valdimarsson, G. (2004). International fish trade. Fishery industries division, FAO Rome, Italy.