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DERLEME MAKALESİ **REVIEW PAPER**

The Economic Analysis of The Nigerian Fisheries Sector: A Review

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Abstract: This review aimed to determine the economic implications on the dependence of fish and fishery products' importation of fish. The study was conducted based on information obtained from secondary sources. The fisheries sector is an essential aspect of the world economy sector in terms of employment, food security, enterprise development, foreign exchange earnings, livelihoods of many rural people and nutrition. Over 10% of the world population are economically dependent on fisheries as a source of employment, of which the majority are females. In Nigeria, over 1.477.651 people are reportedly engaged in the fisheries sector. The fisheries subsector contributed 1.09% to the national GDP in 2020 and 0.97% in the Q3 of 2021. The Nigerian fisheries sector is dependent on the artisanal fishers that produce over 74% of the nation's total domestic production. It is an indication that this sector is not well utilized and developed. Nigeria is the world's fourth-largest importer of fish products in terms of quantity. Nigeria imported and exported about $876 million and $106 thousand worth of frozen fish (excluding fish fillets and other fish meat) respectively in 2020, which makes Nigeria a net importer of fishery products. In 2019, a shortfall in fish supply of about 1.3 million metric tons was met through imports. Relevant figures indicated that the value of fish imports keeps increasing which has been attributed to the increasing growth rate of the Nigerian population. NBS reports showed that fish was one of the major food commodities with the highest imports bills. The implication of importation to meet the national fish demand ranges from health to socioeconomic impacts. The lack of attention in the fisheries sector is costing Nigeria the economic benefits this sector provides.

Keywords: Aquaculture, economic, exportation, fisheries, importation, production.

Nijerya Balıkçılık Sektörünün Ekonomik Analizi: Bir İncelemesi

***Sorumlu yazar:**
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Öz: Bu derleme, balık bağımlılığı ve su ürünleri ürünlerinin balık ithalatı üzerindeki ekonomik etkilerini belirlemeyi amaçlamıştır. Çalışma ikincil kaynaklardan elde edilen bilgilere dayanılarak yapılmıştır. Balıkçılık sektörü, istihdam, gıda güvenliği, işletme geliştirme, döviz kazancı açısından dünya ekonomisi sektörünün önemli bir yönüdür ve birçok kırsal insanın geçim kaynakları ve beslenme açısından önemlidir. Dünya nüfusunun %10'undan fazlası ve çoğunluğu kadınların oluşturduğu bir istihdam kaynağı olarak balıkçılığa ekonomik olarak bağımlıdır. Nijerya'da 1477651'den fazla kişinin balıkçılık sektöründe çalıştığı bildirilmektedir. Balıkçılık alt sektörü, 2020'de ulusal GSYİH'ya %1,09 ve 2021'in üçüncü çeyreğinde %0,97 katkıda bulunmuştur. Nijerya balıkçılık sektörü, ülkenin toplam yerli üretiminin %74' ünden fazlasını üreten zanaatkar balıkçılara bağımlıdır. Bu sektörün yeterince kullanılmadığının ve gelişmediğinin bir göstergesidir. Nijerya, hacim bakımından dünyanın dördüncü en büyük balık ürünleri ithalatçısıdır. Nijerya, 2020'de sırasıyla yaklaşık 876 milyon dolar ve 106 bin dolar değerinde donmuş balık (balık filetosu ve diğer balık etleri hariç) ithal ve ihraç etmiştir ve bu da Nijerya'yı net su ürünleri ithalatçısı yapmaktadır. 2019 yılında yaklaşık 1,3 milyon mt balık arz açığı ithalat yoluyla karşılandı. İlgili rakamlar, Nijerya nüfusunun artan büyüme hızına atfedilen balık ithalatının değerinin artmaya devam ettiğini göstermiştir. NBS raporları, balığın en yüksek ithalat faturalarına sahip başlıca gıda ürünlerinden biri olduğunu gösterdi. Ulusal balık talebini karşılamak için ithalatın anlamı, sağlıktan sosyoekonomik etkilere kadar uzanmaktadır.. Ulusal balık ihtiyacını karşılamak için ithalatın etkisi sağlıktan sosyoekonomik etkilere kadar uzanmaktadır. Balıkçılık sektöründeki ilgi eksikliği, Nijerya'ya bu sektörün sağladığı ekonomik faydalara mal olmaktadır.

Anahtar kelimeler: Balıkçılık, ekonomi, ithalat, ihracat, su ürünleri yetiştiriciliği, üretim.

INTRODUCTION

Fisheries involve all the activities involved in producing fish and other aquatic resources for the basic purpose of providing human food, although other aims are possible (such as sport or recreational fishing) or obtaining ornamental fish or fish products such as fish oil (Fletcher et al., 2002). Commercial fisheries include wild fisheries and fish farms, both in freshwater (about 10% of all catch) and the oceans (about 90%). Over 10% of the world population are economically dependent on fisheries as a source of employment, of which most are women (OECD, 2020).

The world population is presently over 7.8 billion with a projection of about a 25% increase in the next 30 years which will make the world population 9.9 billion by 2050 (Population Reference Bureau, 2021). Nigeria, the 7th most populated country globally with a population of 211 million people makes up 2.64% of the global population (Population Reference Bureau, 2021). While the global population is projected to increase by 25% by 2050, Nigeria's population is projected to be 401.3 million (99.82% increase) by 2050 (Population Reference Bureau, 2021). This rapid increase in Nigeria and the world population in general, has led to high competition for natural resources, especially food resources. To attain global food security, the fisheries and aquaculture sector has been identified as an important sector (FAO, 2020). The Fisheries and aquaculture sector provides food for hundreds of millions of people around the world daily. While over half a billion is employed by the fisheries sector globally, over 1.477.651 people were reported to have been engaged in the fisheries sector of Nigeria in 2014 (FAO, 2021, WorldFish, 2022). Fishery production is significant to the Nigerian economy given its importance in providing a cheap source of food/nutrition security, income, employment and serves as a source of foreign exchange particularly those of the riverine communities (NBS, 2017)

Nigeria has a continental shelf area of 43,514 km2 (Sea Around Us, 2016) and a continental coastline length of 853 km (Nwilo & Badejo, 2007), be it as it may, Nigeria is not utilizing its full fisheries resources potential. The fisheries sector contributed 1.09% GDP of the country's total GDP in the year 2020 and 0.9% in the Q3 of 2021 (NBS, 2022). Nigeria is considered a net importer of fishery products. In 2020, the county spent over $876,081,485.00 million on the importation of frozen fish (excluding fish fillets and other fish meat) and only generated $106,964.00 thousand in export (TrendEconomy, 2021). It is not a hidden fact that fish is a major source of animal proteins in the diet of most Nigerians, especially those living in rural areas. According to the Nigerian Minister of Agriculture and Rural Development, Nigeria's total fish production is estimated at 1.123 million metric tonnes (Vanguard, 2021), to which marine catches contributed 36 per cent, inland waters catch contributed 33 per cent and aquaculture 31 per cent (FAO, 2021). Akinsorotan et al., (2019) reported that the yearly fish demand of Nigeria is about 2.1 million metric tons with Nigeria only able to meet up just about 38.1% of its fish needs and depends on imports to cover the shortfall of about 61.9% of its population need yearly. In 2021, the Nigerian Ministry of Agriculture and Rural Development put the fish demand of the country at 3.6 million metric tonnes of which the country only meet up about 31.19% and depends on importation to meet up the huge gap of about 68.80% (Vanguard, 2021). The foregoing necessitated this work, the economic analysis of the fisheries sector of Nigeria to determine the economic implications on the dependence of fishery products importation to meet the national fish need.

This study was conducted based on information obtained from secondary sources. All the data were obtained from the Food and Agriculture Organization (FAO), the Nigerian Bureau of Statistics, Nigeria Federal Ministry of Agriculture, scientific research articles and grey literature published in various forms (examples. peer-reviewed journals, periodicals and government gazettes). The information was obtained through the available online database by using the following keywords 'Nigerian fisheries resources', 'Fish exportation and importation', Fisheries and GDP, 'Commercial Fisheries', 'Aquaculture', 'Inland and Marine fisheries', 'Population growth', Per capita fish demand', were analysed and presented in tables and chats.

***Fish Production in Nigeria*:** The estimated annual average per capita fish consumption for Nigeria is 13 Kg (Saweda, et al, 2020; FAO, 2021), although the Directorate of Agriculture and Rural Development – ECOWAS Commission, (2020) reported a lower estimate of 8.33 Kg. Fish remains an important dietary element for Nigeria, especially in the southern part of the country where fish is highly valued and one of the cheapest sources of animal protein available to many Nigerians (FAO, 2021). The fishery sector is 1.09% of the national GDP in 2020 and 0.97% in the Q3 of 2021 (NBS, 2021). DARD-ECOWAS Commission report 2020 on the Nigeria fishery sectors shows that between 2015 and 2020, 6,861,700 tonnes of fish had been produced. In the same report, the fishery sector tends to have done better in 2017 with the highest tonnes of fish produced of about 1,212,480 tonnes which comprise 17.67% of the total tonnes of fish produced within the years in considerations; the second-highest tonnes of fish produced were recorded in 2020 while the least was recorded in 2015 (DARD-ECOWAS Commission, 2020). The total amount of fish produced for each of the years in consideration is presented in Figure 1.

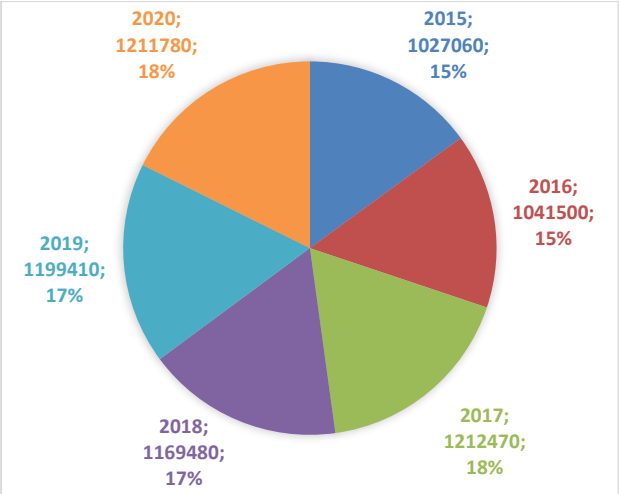

Figure 1. Tonnes of fish were produced in Nigeria from 2010 to 2015. (Source: DARD-ECOWAS Commission, 2020).

The artisanal small-scale fishers produced over 74.09% of Nigeria's total domestic fish production from mainly coastal, inshore, creeks of the Niger Delta, lagoons, inland rivers, and lakes while aquaculture and industrial fisheries contributed only 24.91% and 1% respectively of the total fish produced in 2018 (Subasinghe et al, 2021) as shown in Figure 2. This is an indication that the Nigerian fish industry is not well utilized and developed. The small migratory Bonga *(Ethmalosa fimbriata*) is the principal catch (FAO, 2021). Some initial progress has been made in developing an industrial fisheries sector, but the fleet and infrastructure are ageing. According to the 2017 report on Nigeria's fish production by the National Bureau of Statistics, out of 5.79 million tonnes of fish produced between 2010 and 2015 in Nigeria, industrial production of fish and shrimp was just 204,403 metric tons. As seen in Table 1 and Figure 3, when compared with fish production from the other sectors – artisanal and aquaculture, industrial fishing contributed only 4%.

The aquaculture sector is driven by the private sector, with feed and seed provided by private businesses. Owing to recent significant investments of private capital and a renewed political will to empower the private sector in aquaculture development, Nigeria is the largest aquaculture producer in Sub-Saharan Africa and this importance is steadily increasing (Machena & Moehl, 2001). From 6028 tonnes in 1980, aquaculture production has grown steadily to 325,550 tonnes in 2020 according to the government as shown in Figure 4 (DARD-ECOWAS Commission; FAO, 2021). This growth is expected as the population of Nigeria within the same time frame increased from 73.42 million in 1980 to 206.14 million in 2020 (The World Bank, 2022).

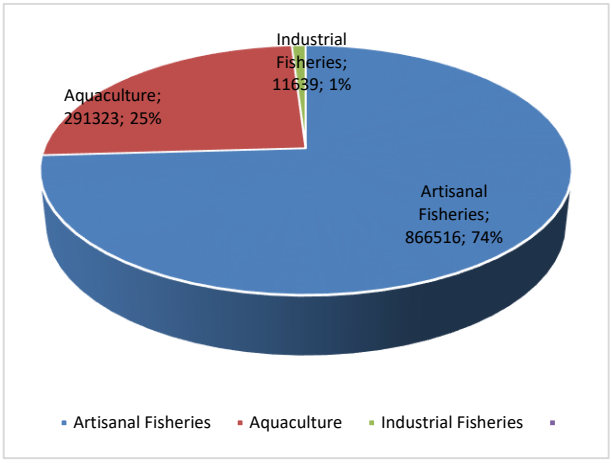

Figure 2. Contributions to Fish Production in Metric tons and percentage for the year 2018 (Subasinghe, 2021)

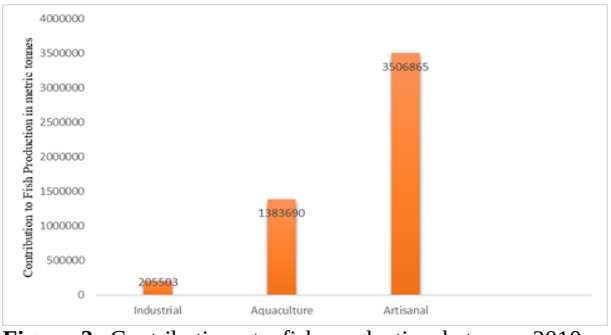

Figure 3. Contributions to fish production between 2010 and 2015 (Source, NBS, 2017)

The total production of fish from the aquaculture subsector started declining after 2015. In 2015, the production from aquaculture was 316,727 metric tons in the year 2019, it decreased to 289,543 metric tons (FAO, 2021) but increased again to 325550 tons in the year 2020 (DARD-ECOWAS Commission; FAO) while production from capture fisheries started to decline after 2017 as seen in Figure 5. When these figures are compared to the population growth from 2015 to 2019, a great disparity exists between growth in fish production and population. The decline in fish production from the aquaculture subsector is very alarming as the country need more fish production from the aquaculture subsector to augment the capture fishes from the wild in other to be able to meet the national fish need of its population.

The decline in the fish production in Nigeria, has a direct impact on the per capita fish supply in Nigeria. While the per capita fish consumption in the world have been on the increase since 1984 in the world, that of Nigeria have been on fluctuating and started to decrease in the year 2011. In 2011, the per capita fish consumption in the world was 18.9 Kg, that of Nigeria was 15.2 Kg while the per capita consumption of fish and fishery products for the world increased to 20.5 Kg in 2018 that of Nigeria reduced to 13 Kg (FAO, 2020, WorldFish, 2018).

Table 1. Fish Catch Per Sector (Source: NBS, 2017)

S/ No	Sectors		Year				
			2011	2012	2013	2014	2015
1	Artisanal	Coastal & Brackish Water	346,381	370,918	418,537	435,384	382,964
		Inland: Rivers & Lakes	292,105	297,836	326,393	324,444	311,903
		Sub-Total	638,486	668,754	744,930	759,828	694,867
2	Aquaculture	Sub-Total	221,128	253,898	278,706	313,231	316,727
3	Industrial (Commercial	Fish (Inshore)	19,736	27,977	37,652	29,237	10,727
	Trawlers)	Shrimp (Inshore)	13,749	17,654	22,219	20,715	4,737
		EEZ	-	-	-	-	-
		Sub-Total	33,485	45,631	59,871	49,952	15,464
	Grand Total		893,099	968,283	1,083,507	1,123,011	1,027,058

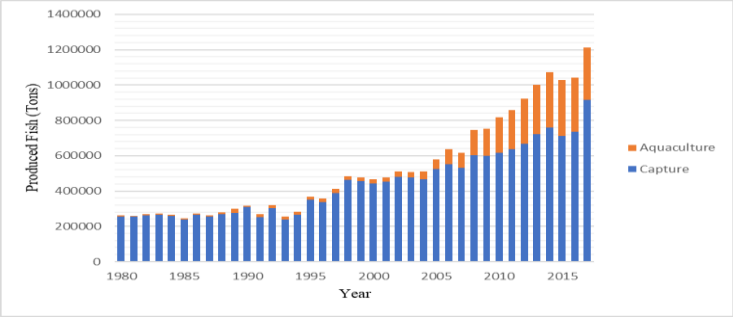

Figure 4. Total Capture and Aquaculture Production for the Federal Republic of Nigeria (Tonnes) from 1980 to 2015 (Source: FAO FishStat)

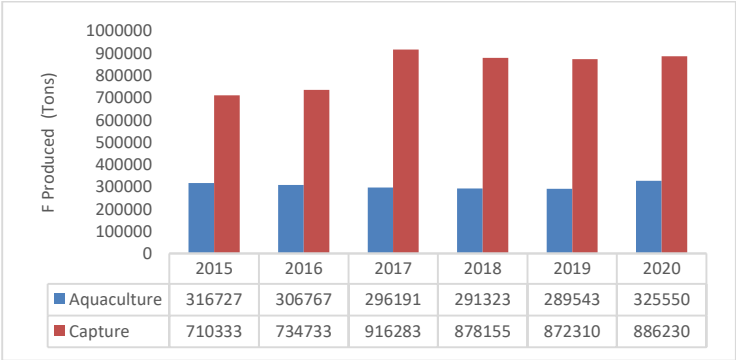

Figure 5. Total Capture and Aquaculture Production for the Federal Republic of Nigeria from 2015 to 2020 (Tonnes) (Source: DARD-ECOWAS Commission, 2020; FAO, 2021)

The fish production from Inland waters, Marine and aquaculture were almost equal in 2015 and 2016 while the highest production from the aquaculture sector was recorded in 2015. The highest production for Inland waters and Marine were recorded in 2017 (Figure 6)

Increased Fish Demand/Impacts of Fish Importation on the Nigeria Economy: Nigeria is the world's fourth-largest importer of fish and fishery products in terms of volume (5.4% of global imports) after China, Japan, and the US, but only 23rd in value terms or 0.8% (Trademap, 2018). Angola, Democratic Republic of Congo, Cameroon, Ghana, Côte d'Ivoire, Egypt and Nigeria are fish and fishery products trade deficit countries with Nigeria alone importing an average of US$ 1,245,394 worth of imports with a trade deficit >US$750 million (AU-IBAR, 2018). Unlike imports, export volumes grew by some 5% annually between 1976 and 2008 while import values increased at a faster rate of close to 7% on average per year. With total fish imports amounting to about USD 1.2 billion and exports valued at USD 284 390 million in 2013, Nigeria is a net importer of fishery products (FAO, 2021).

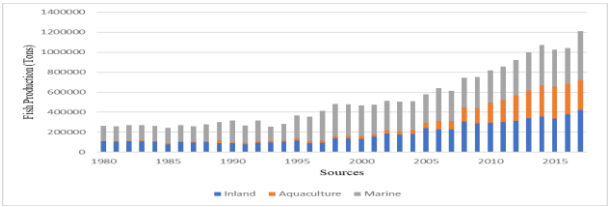

Figure 6. Comparison of production from Aquaculture, Inland, and Marine waters (Source, FAO, 2021).

According to Towers, (2014), Nigeria produces about 600,000 tons of fish annually from aquaculture and capture fisheries, but the country's fish supply shortfall is about 900,000 million tons. Akinsorotan et al., (2019) reported a shortfall of about 1.3 million tons in the fish supply of Nigeria. Although WorldFish, (2018) put the domestic production of fish in Nigeria at 1 million metric

tons and a shortfall of about 800,000 metric tons. The gap in fish supply is met through imports of mainly mackerel, herring, horse mackerel, croaker, and blue whiting (sourced via capture fisheries) from Europe, Latin America, and Asian countries. The imports increased $480.2million from S789.74million to $1.27billion between 2019 and 2020 giving a 38 per cent increase in fish and fishery products importation into the Country (Dauada, 2021).

Nigeria's top 5 suppliers of fish and fish products in the year 2020 were Russia ($253.6 million), Netherlands ($212.02 million), Chile ($138.7million), Iceland ($100.2 million), Norway ($92.3 million). Nigeria's top supply of fish and fish products in Africa in the year 2020 was Mauritania with a supply worth of $53.3million (Dauada, 2021).

The relevant figures indicated that the value of fish imports keeps increasing and this has been attributed to the increasing growth rate of the Nigerian population and the need to meet up with the country's present per capita fish demand of 13.3 Kg according to WorldFish, (2022) (Table 2).

Table 2. Fish supply-demand and population projection for Nigeria (2010-2025)

Year	Projected Population (million)	Projected Fish Demand (Mt)	Projected Domestic Fish Production (Mt)	Projected Fish Importation (Mt)	Projected Total Fish Consumption	% Fish Supply Gap Deficit
2010	158,503,200	3,020,000	817,520	1,330,690	2,147,910	28.88
2011	162,805,080	3,110,000	856,610	1,589,400	2,423,600	22.07
2012	167,228,790	3,211,000	922,650	1,083,210	1,996,590	37.80
2013	171,765,820	3,320,000	1,000,060	868,040	1,804,530	45.65
2014	176,404,930	3,420,000	1,073,060	991.02	2,064,040	39.65
2015	181,137,450	3,280,000	1,027,060	866,980	1,890,980	42.35
2016	185,960,240	3,380,000	1,041,500	593,710	1,635,210	51.62
2017	190,873,240	3,490,000	1,212,470	466,930	1,679,400	51.88
2018	195,874,680	3,610,000	1,169,480	582,390	1,751,870	51.47
2019	201,042,520	3,730,000	1,199,410	484,280	1,683,680	54.86
2020	206,310,940	3,850,000	1,211,780	506,140	1,717,840	55.38
2021	211,705,770	3,970,000	1,264,390	478,720	1,742,840	56.10
2022	217,235,370	4,100,000	1,287,470	484,320	1,771,210	56.80
2023	222,902,500	4,230,000	1,323,190	472,190	1,794,750	57.57
2024	228,713,570	4,370,000	1,355,980	475,560	1,831,100	58.10
2025	234,671,680	4,510,000	1,399,840	472,530	1,872,110	58.49

Sources: (FDF, 2018; DARD-ECOWAS Commission, 2020)

As shown in Figure 7, Nigeria accounted for 63% of the total value of fish and fishery products imported into the West Africa Region. The leading importers of fish and fishery products in West Africa in 2020 were Nigeria (leading with 63%), Ivory Coast (14%), Ghana (12%), Burkina Faso and Benin with 3% each. In terms of export from the West Africa Region to other parts of the world, Senegal was the leading exporter with 74%, followed by Cape Verde (7%), Ghana (6%), Sierra Leone with 4%. Nigeria which happened to be the leading importer of fish and fishery products in the region only contributed 3% to the total export of fish and fishery products from the region (Figure 8).

Global inland production was estimated at 12.02 million tons in 2018, of which Africa contributed about 3.0 million tonnes (Figure 9) this makes Africa a major importer and not an exporter. In 2018, Uganda displaced Nigeria as the leading inland capture producer country in Africa by producing 440,000 tonnes of inland fish compared to the 390,000 tonnes produced by Nigeria as presented in Figure 10 (FAO, 2020).

In the year 2010, Nigeria spent ₦97 billion ($642,384,105) on fish and fish products importation at the exchange rate of $1 to ₦151 (FMARD, 2011), this value rose to ₦125 billion ($625,000,000) per annum on the importation of 1.90 million metric tons of fish in 2015 (Agbo, 2015). In 2020 the import value of fish and fishery products was $1.27 billion, and the importation value stood at ₦500 from

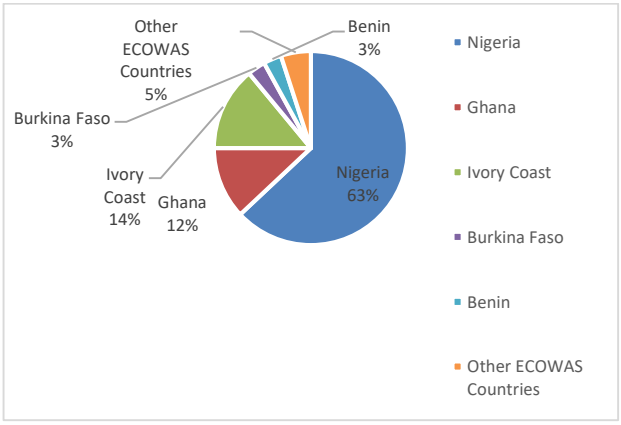

Figure 7. ECOWAS Region Share of total fish imports from the world in the year 2020 (DARD-ECOWAS Commission, 2020)

January to November 2021 (Dauada, 2021) despite all the endowed marine resources, rivers lakes, and creeks of the nation. The most affordable source of animal protein in Nigeria is frozen food and its consumption is increasing as the population of the country increase (International Trade Administration, U.S. Department of

Commerce, 2021). The country is a potential market for approximately 2.5 million metric tons of fish valued at $3 billion (International Trade Administration, U.S. Department of Commerce, 2021). With these figures, Nigeria has been considered the largest consumer in Africa and among the largest fish consumer in the world with the largest fish and fish products importation in the developing world (FAO, 2021).

This means that money that is supposed to use to develop the fishery sector and other sectors of the Nigerian economy is being channelled to fish importation thereby slowing the economic growth of the nation.

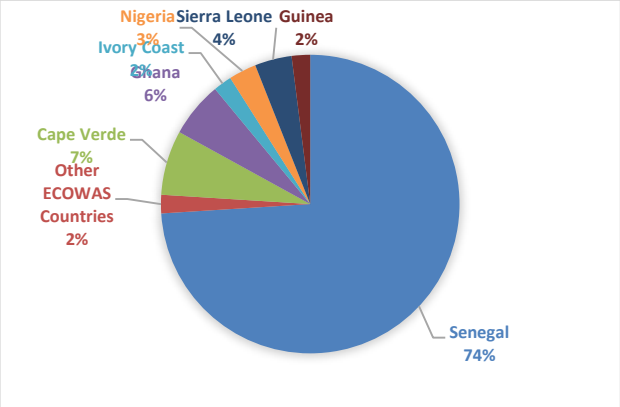

Figure 8. ECOWAS Region Share of total fish exports to the world in the year 2020 (DARD-ECOWAS Commission, 2020)

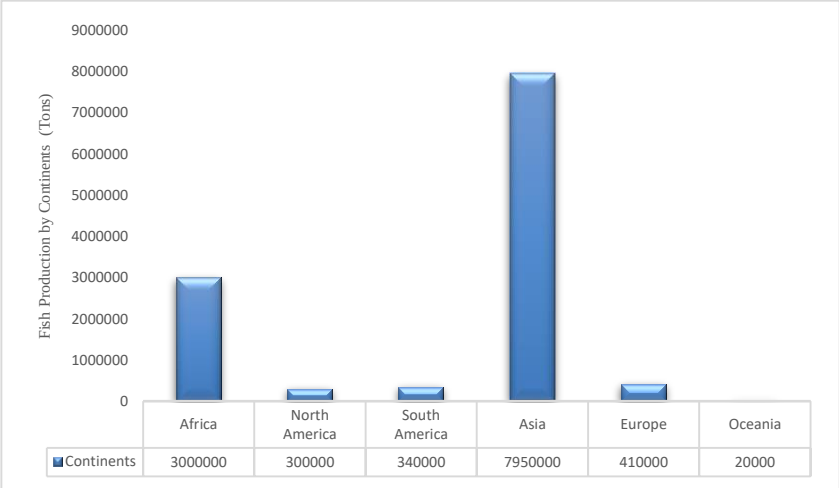

Figure 9. Inland capture fisheries production by continent in 2018 (FAO, 2020)

Figure 10. Africa Top 5 inland water capture producers (FAO, 2020)

The Impact of Fish Importation Nigeria: The impact of Fish importation can be viewed from two angles: Health Impact and Socioeconomic impacts:

Health Impact: Fish is the most susceptible to tissue decomposition and microbial spoilage because they begin to deteriorate as soon as they leave the water among all flesh foods. Therefore, a lot of imported fish are preserved by freezing and applying preservatives such as sodium tripolyphosphate (also known as Pentasodium Triphosphate or STPP) and sodium benzoate (Oluwarore, 2018). These make fish and other seafood appear firmer, glossier, and smoother. It is generally assumed to be a safe product if used according to Good Manufacturing Practice (GMP), research by Ritz et. al., (2012) has revealed that

STPP is a health risk as it may harm normal renal function in the body and worsen the incidence of kidney diseases in humans. Since the release of this report, various health and food safety agencies have made calls for careful consideration and public education of the health impacts of these preservatives. Furthermore, in Nigeria, it has been reported severally that smugglers without an import license flood the market with contraband and compromised frozen fish through Nigeria's porous land borders. It was being reported that smuggled fish products are very common in Nigeria due to oversight, importers avoiding import duty fees and corruption of some customs officers.

The president of Fishery Association of Nigeria Dr Ayinla as reported by Oluwarore, (2018) acknowledged these smuggling practices affirming that a lot of imported fish being sold in the market were smuggled. Most times, the smuggled fish may have been compromised such that they do not meet quality control standards in terms of production, storage, and quality. It may be that the fish were improperly stored, have passed storage time limits, or were stored with a counterfeit preservative like formalin. Selling such unhealthy fish for public consumption exposes Nigerian consumers to potential health problems.

Socioeconomic Impact: Nigeria imports about 45 per cent of its net domestic fish supply. Imported fish include pelagic fish such as mackerel, horse mackerel, hake, herring, blue-whiting, stockfish (dried cod) and stockfish heads from various exporting countries, such as Russia, Japan, Netherland, Denmark, Norway and China (Subsinghe et al., 2021). It is worth noting that while the money spent on the importation of frozen fish (excluding fish fillets and other fish meat) increased by 42.98% in 2020 when compared to 2019, the value of exportation of the same frozen fish decreased drastically by 78% as shown in Figure 11 (TrendEconomy, 2021).

Approximately 1.2 billion dollars was spent by the country on the importation of fish and fish products in the year 2020 (Dauada, 2021). While the export by the Nigerian fisheries sectors has been relatively stagnant, the import of fish and fish products is on the increase (Figure 12). By such a massive amount of money importing fish annually, Nigeria loses foreign exchange and continues to harm her economy. According to Dr Olaifa, "if this remarkable amount of money spent on importation could be channelled for internal trade within the local fish industry, it would bolster the industry's efforts and generally boost our economy" (Oluwarore, 2018).

Importance of the Fishery Sector to National Development: The importance of the fishery sector to a nation's development cannot be overemphasized. A nation with a robust fishery sector will have robust citizens which will, in turn, lead to a robust economy for the nation. The following are some of the roles played by the fishery sector in the development of a nation.

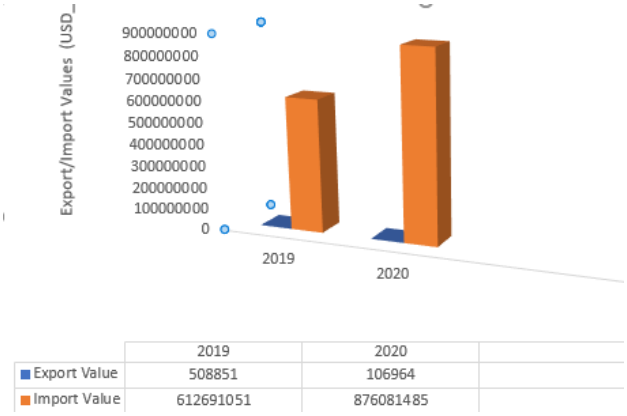

Figure 11. Nigeria frozen fish (excluding fish fillets and other fish meat) export/import values.

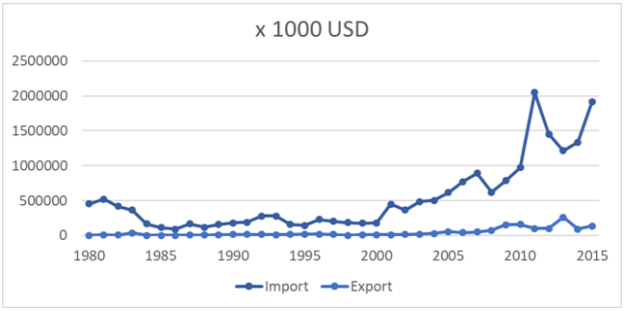

Figure 12. Total imports and exports of fish and fishery products for the Federal Republic of Nigeria (USD 1000) (Source: FAO FishStat, 2019).

***Provision of Employment*:** As the world population increases, food production also increases to meet up with food demand, especially protein. This has led to an increase in fish production, thereby leading to a continuous increase in employment in the fisheries and aquaculture sector in many countries including Nigeria (Rabo et al., 2014). Many people had engaged in fishing and fish farming as a full-time occupation (Jim 2001). Employment in the primary capture fisheries and aquaculture production sector has remained relatively stable since 1995 and an estimated was estimated at 59.5 million in 2018 as reported by FAO, (2020). More than 820 million people throughout the world are estimated to depend on fish for all or part of their income (FAO, 2022). According to the WorldFish report on Nigeria, in 2021, 1,477,651 were reported as engaged in the fisheries and aquaculture sector of the country. The industrial fisheries sector that involves the use of trawlers for fishing and shrimping currently employs about 9000 Nigerians. Although the actual number of people engaged in the fishery sector in Nigeria cannot be ascertained due to the lack of comprehensive data in this field.

***Fisheries Resources in International Trade and Foreign Exchange*:** Fish products are among the most widely traded foods, with more than 11% of total agricultural exports (excluding forestry), which equals 1% of total merchandise exports (Emam, 2021). As reported by the FAO, the global export value of fish and fishery products has increased remarkably in recent decades, from US$15 billion in 1980 to US$ 164 billion in 2018, about 50 per cent of that total comes from the developing world, where the net export revenue that these countries receive from fish trade is larger than their exports of tea, rice, cocoa and coffee combined (FAO, 2019; 2020). It is worthy to note that available estimates for 2019 revealed there was about a two per cent contraction in both value and quantity compared with 2018 values. And these values are expected to contract more due to the Covid19 outbreak (FAO, 2020). The increasing demand for seafood has led to a complex global system of trade in fisheries products. In the year 2020, the European Union was the largest importer of fish and fishery products worldwide with an import value of about 56.5 billion U.S. dollars (2021). Some fishery products exported by countries include dried fish, fresh or ice fish, canned fish products, Salmon roll (eggs) and sea urchin roll and shrimps. Others include useful leather and polishing materials and oil made from the skin of some cartilaginous fishes (example, chondrichthyes like dogfish, sharks). In 2018, exported 480,000 Tons of fish were valued at US$671.3 million, the majority of which was exported to the Ivory Coast (AU-IBAR, 2018).

***Citizens' Wellbeing and Food Security*:** Fish and Fishery products are a major source of food security and livelihood in a. growing world population. The United Nation's Food and Agriculture Organization (FAO) opined that global production from capture fisheries and aquaculture remains very significant for global food security, providing more than 17 % of the total animal protein supplies in the year 2017 and at least 20 per cent of animal protein and minerals to an estimated 3.3 billion people globally (FAO, 2020).

The united nation's food and agriculture organization estimated that half of the world's seafood demand will be met by aquaculture in 2020, as wild capture fisheries resources are overexploited and in decline. The share of the total world's harvest produced through aquaculture has steadily increased over the past two decades from contributing just about 14.64% between 1986 and 1995 to total world fish production to 45.99% (FAO, 2020). In Nigeria, fish farming is projected to exceed 127 million metric tons by the year 2030 (FAO, 2020; DARD-ECOWAS Commission, 2020).

Fish accounts for around 40 per cent of the country's protein intake of Nigerians (WorldFish, 2022). The availability and access to fish within a family can therefore be an important determinant of its members' well-being. At the household level, the consumption pattern may depend on the financial status of the family, belief, the primary activity of the household and social structures and customs of the people (Quagrainie & Engle, 2006; Gomna & Rana 2007).

***Fishery Products in Recreation*:** Ornamental fishes can be described as attractive colourful fishes which are kept as pets in home aquaria, offices, recreational parks, public aquaria or elsewhere for aesthetic and recreational purposes (Tregaskis, 2012). These fishes include numerous varieties of species varying in different sizes, colours and shapes. Angelfish, Barbs, Goldfish Loaches and Danios are examples of common and popular ornamental fishes. Fishes kept in aquaria also add beauty to offices and laboratories. They are used in schools and colleges for learning. Some ornamental exotic fishes include the Japanese koi fish and Goldfish, which are kept for their attractive colours. Also, for years, pond owners have been adding beautiful fishes to their ponds for the enjoyment and relaxation of observers (Rabo et al., 2014). Fish kept in aquaria can also be a source of tourist attraction, like the tunnel aquarium in Antalya, Turkey, the largest tunnel aquarium in the world which attracts thousands of tourists every year (https://www.goturkeytourism.com/things-to-do/antalya-aquarium-antalya-turkey.html)

Ornamental fish farming has contributed to the international fish trade. The ornamental fish trade was valued at $322 million in the year 2020 (TrendEconomy, 2022). The top exporter of ornamental fish in the year 2020 was Japan with 14.3% of the world exports valued at $46 million while the top importer was the United States of America with 23% of the world imports valued at $67 million (TrendEconomy, 2022). The ornamental fish industry is also developing in Nigeria and has reached an appreciable level in Lagos as it is involved in the export of locally bred species (Rabo et al., 2014).

***Improvement of the Nutritional and Health Status of a Nation's Population*:** Fish contains a large proportion of protein and is one of the best animal sources of protein. Fish is a very important source of complete protein, it is fresh and tender due to bundles of muscle fibres which are tight together by fibrous materials largely made up of a protein called collagen, therefore an excellent dish for the old and diabetic patients. Fish also contains considerable amounts of vitamin B, Vitamin E, nutrients like niacin and minerals such as Copper, Iodine, Iron, and Phosphorus. Canned Salmon and Sardines are good sources of Calcium. Fish make a vital contribution to the survival and health of a significant portion of the World's population. In some of Asia's poorest countries, people derive as much as 75% of their daily protein from fish (Gomna & Rana, 2007; Rabo et al., 2014).

Meat and fish are an integral part of the diet of Nigerian people and are essential protein food also serving as a focal point for the family meal (Gomna & Rana, 2007; International Trade Administration, U.S. Department of Commerce, 2021). Fish alone account for about 42.54 % of animal protein in Nigeria (Benneth et al, 2018). In rural and fishing communities in Nigeria, fish is known to play a significant role in the diet providing up to 75 % of the total animal protein intake. The nutritional value of fish and meat in terms of both protein and micro-nutrients in child development is well documented (Addis 2004). For instance, aiding in bone and teeth formation, also combating malnutrition. Cod liver oil is of high medicinal value in children.

Eating deep-sea fishes like Tuna and Salmon are highly valued for their cholesterol removing abilities, thereby preventing the condition of atherosclerosis. In fact, supplementation of omega 3 polyunsaturated fatty acids prevents an increase in arterial stiffness, especially in post-menopause women with coronary artery diseases. Also, vitamin E not only helps in the elimination of cholesterol and prevents inflammation, but it also increases the flexibility and fluidity of your blood vessels so that they respond well to any change of pressure (Erkkila et al, 2004; Cardiovase, 2013) thereby reducing the risk of cardiovascular diseases. Tregakis, (2012) states that the bass and bluefish in ponds are predators of mosquitoes, insect Larvae and Algae helping to keep the population in balance. Also, the bottom-dwelling darter thrives on small snails and insect Larvae, thereby keeping vectors borne diseases in check.

CONCLUSION

In the developing world, the fisheries sector remains the major source of nutrition and provides the basis for the livelihood of millions of people and a major source of foreign exchange for many developing economies like Nigeria. Notwithstanding its importance, the fisheries sector is not given the needed attention it deserves by governments and policymakers in developing countries. Nigeria is blessed with a large coastal area and freshwater resources, be it as it may, Nigeria spends billions of dollars every year in fish importation. Nigeria is considered a net importer of fishery products. The Nigerian fisheries sector is sustained by artisanal small-scale fishers. The artisanal fishers produced over 74.01% of Nigeria's total domestic fish production from mainly coastal, inshore, creeks of the Niger Delta, lagoons, inland rivers, and lakes while aquaculture and industrial fisheries contributed only 24.98% and 1% respectively of the total fish produced. The lack of attention in the fisheries sector is costing Nigeria the huge economic benefits this sector provides.

There is, therefore, an important role for developing countries governments to play, both in managing capture fisheries to prevent stock depletion and in regulating the development of aquaculture to ensure that it is both environmentally sustainable and pro-poor. Under such conditions, fisheries and aquaculture can realize their potential as an important and growing source of economic development in rural areas. In addition, to harness the great economy potential the fisheries sector provides, the government and policymakers have responsibilities to develop the fisheries sector by providing the needed conducive environment, fishing gear, processing and storage facilities and financial assistance to those engaged in the fisheries sector.

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