AFRICAN UNION
INTERAFRICAN BUREAU
FOR ANIMAL RESOURCES

EUROPEAN UNION



Linkages and Inter-connectedness between Cross-border Fish Trade Corridors in Africa

July, 2019.

Prepared by: Professor Emmanuel Kaunda, PhD

Edited by: Mohamed Seisay

Disclaimer: The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of the African Union Interafrican Bureau for Animal Resources.

Citation: AU-IBAR, 2019. LINKAGES AND INTER-CONNECTEDNESS BETWEEN CROSS-BORDER FISH TRADE CORRIDORS IN AFRICA.

All rights reserved. Reproduction and dissemination of material in this information product for educational or other non-commercial purposes are authorized without any prior written permission from the copyright holders provided the source is fully acknowledged. Reproduction of material in this information product for resale or other commercial purposes is prohibited without written permission of the copyright holders.

Published by AU-IBAR, Nairobi, Kenya
Copyright: © 2019 African Union – Interafrican Bureau for Animal Resources (AUIBAR)

ISBN 978-9966-1659-5-4

Requests for such permission should be addressed to:
The Director
African Union – Interafrican Bureau for Animal Resources (AU-IBAR)
Kenindia Business Park
Museum Hill, Westlands Road
P.O. Box 30786
00100, Nairobi, KENYA
Or by e-mail to: *ibar.office@au-ibar.org*

Acknowledgements: The Director of AU-IBAR wishes to acknowledge the contribution of Regional consultants Dr. Meke Soung (Central Africa), Mr. Isaac Nyameke and Dr. Ruby Asmah (West Africa), Mr. Isaac Nyameke and Dr. Friday Njaya (Southern Africa), Dr. Mohamed Megahed (North Africa) and Mrs Nancy Gitonga (East Africa). The regional consultants conducted the regional fish trade corridor mapping assessments that have largely constituted this publication. The Director also extends thanks to the Regional fisheries bodies, regional economic communities, AU member states, Non-Government Organizations and experts that made significant contribution to the formulation of this report. Special thanks go to the Consultant (Prof Emmanuel Kaunda) who prepared the document and the team at IBAR for the editorial work. This work was done under the project '***2018 African Union Support programme III by the European Union***'.

TABLE OF CONTENTS

	ABBREVIATIONS AND ACRONYMS	**iv**
1	**EXECUTIVE SUMMARY**	**1**
2	**BACKGROUND**	**1**
3	**RATIONALE AND OBJECTIVES**	**3**
4	**METHODOLOGY AND APPROACH**	**4**
4.1	Engagement of regional experts for five regions	4
4.2	Expert/Consultation (3rd to 5th October 2018)	4
4.3	Preparation of five reports by the regional experts	4
4.4	GIS Mapping	6
4.5	Validation workshop	7
4.6	Consolidation of five regional reports by independent consultant	7
4.7	GIS mapping to produce Africa map	7
5	**RESULTS AND DISCUSSION**	**8**
5.1	The Northern Africa fish trade corridor	8
	5.1.1 Characteristics of the Northern corridor	8
	5.1.2 Formal Trade	9
	5.1.3 Informal Trade	11
	5.1.4 Drivers of Informal fish trade in the Northern corridor	12
	5.1.5 General observations on cross border informal fish trade	12
	5.1.6 Policy recommendations	15
5.2	The West Africa fish trade corridor	15
	5.2.1 Characteristics of the Corridor	15
	5.2.2 Formal trade	16
	5.2.3 Informal trade	18
	5.2.4 Drivers of informal cross-border fish trade in West Africa	20
	5.2.5 Challenges Facing Cross border Fish Trade on West Africa corridor.	21
	5.2.6 Policy Recommendation	21
5.3	The Central Africa Corridor	22
	5.3.1 Characteristics of the corridor	22
	5.3.2 Formal trade	22
	5.3.3 Fish product Trade flows	23
	5.3.4 Drivers of Informal Trade	26
	5.3.5 Policy recommendations	26

5.4 *The East Africa fish trade corridor* 26
5.4.1 *Characteristics of East Africa trade corridor* 26
5.4.2 *Major players in the Domestic, Regional and international Trade* 27
5.4.3 *Formal trade* 28
5.4.4 *Informal trade in East Africa* 28
5.4.5 *Programs and policies that promote East Africa trade* 29
5.4.6 *Fish trade flow in the region and inter-linkages with other corridors* 31
5.4.7 *Mapping Fish Trade Flows* 32
5.4.8 *Drivers of Informal Trade* 34
5.4.9 *Policy Recommendations* 35
5.4.10 *Policy Recommendations* 36
5.5 *The Southern Africa fish trade Corridor* 37
5.5.1 *Characteristics of Southern Corridor* 37
5.5.2 *Formal Fish Trade in Southern Africa* 38
5.5.3 *Informal Fish Trade in Southern Africa* 40
5.5.4 *Fish and Fish Product Forms Trade Route in Southern Africa corridors* 40
5.5.5 *Extent of informal trade* 42
5.5.6 *Drivers of Informal Trade* 43
5.5.7 *Challenges of Informal Trade* 44
5.5.8 *Policy Recommendations* 44

6 *SYNTHESIS* **45**
6.1 *Characteristic of the five corridors* 45
6.2 *Formal trade* 45
6.3 *Informal trade* 47
6.4 *Possible reasons why West and Central Africa regions the net importers of fish in Africa?* 48
6.4.1 *Central Africa* 48
6.4.2 *West Africa* 49
6.5 *Products form* 49

7 *KEY FINDINGS* **50**

8 *IMPLICATION OVER FOOD AND NUTRITION SECURITY* **50**

9 *CONSTRAINTS TO FORMAL AND INFORMAL FISH TRADE IN AFRICA* **51**

10 *POLICY RECOMMENDATIONS* **54**

11 *REFERENCE* **55**

ABBREVIATIONS AND ACRONYMS

ASYCUDA	Automated System for Customs Data and Management
AU	African Union
AUC	African Union Commission
AU-IBAR	African Union – Interafrican Bureau for Animal Resources
CAR	Central Africa Republic
CET	Common external tariff
CfaF	Central French African Francs
CIA	Central Intelligence Agency
COMESA	Common Market for Eastern and Southern Africa
ComStat	Compare Statistics
DRC	Democratic Republic Of Congo
EAC	Eastern Africa Community
EEZ	Exclusive Economic Zone
EU	European Union
FAO	Food and Agriculture Organization
Fishstat	FAO database of Fisheries and Aquaculture Statistics
FTA	Free Trade Area
GDP	Gross Domestic Product
GIS	Geographical Information Systems
ICBT	Informal Cross-Border Trade
ICT	Information and communications technology
IGAD	Intergovernmental Authority on Development
INFOPECHE	Intergovernmental Organization of Trade in Fishery and Aquaculture Products in West Africa - African Union Member States
INFOSAMAK	Intergovernmental Organization of Trade in Fishery and Aquaculture Products in North Africa – African Union Member States
IOTC	Indian Ocean Tuna Commission
IUCN	International Union for Conservation of Nature
Mil MT	Million Metric Tones
MT	Metric Tonnes
MUTEPA	Mukene Traders Exporters and Processors Association
NGOs	Non-Governmental Organizations
OSBP	One Stop Border Post

RECs	Regional Economic Communities
RFBs	Regional Fishery Bodies
RFMOs	Regional Fisheries Management Organizations
STR	Simplified Trade Regime
SWIOFC	South West Indian Ocean Fisheries Commission
US	United States
USD	United States Dollars
WRI	World Resource Institute
WTO	World Trade Organization

1 EXECUTIVE SUMMARY

This study follows the EU funded Fisheries governance project (2014-2018) and the Fish trade project (2013 to 2018), that have contributed significantly to identification of the major policy issues, barriers, opportunities and priority actions for harmonization of four trade policies in four regions of the continent (West, Central, East and Southern). This study included the fifth corridor "North Africa" to obtain a complete story of Africa fish trade. The study which was conducted between July and December, 2018 included a consolidation of five reports which were prepared by five regional experts from the five corridors.

Results of the study have shown that relatively low value species of sardines and Horse mackerel are traded throughout the continent. It was also interesting to note that the Central Africa corridor acts as a "sink" for most species including tilapia and Nile perch from Eastern corridor.

The species that are traded in high volumes point to a possible huge contribution of inter and intra-regional trade to food and nutrition security. Challenges such as poor infrastructure, access to finance, un-gendered policies and poor tracking of fish trade, keep haunting the improvement of fish trade in Africa. It is thus recommended that a comprehensive Africa wide study on the role of fish trade on food and nutrition security be undertaken to enhance policy direction. Other recommendations include: upgrade of fish trade infrastructure, improved access to finance, review of policies to make them gender sensitive and establishment of centralized Africa Union fish trade tracking system.

2 BACKGROUND

Africa produced an estimated total of 10.6 million metric tonnes of fish in 2015, of which 2.9 million came from inland fisheries, 1.8 million tonnes from aquaculture and 5.9 Million MT from marine capture fisheries (FAO 2017). Africa plays a crucial role in international fish trade in terms of export and import. The continent contributed about 4 % (5.2 billion United States Dollars (USD)) to the total value of global fish imports (133.3 billion USD). Nigeria and Egypt are the largest importers of fish i.e. 1.2 Billion USD and 0.6 Billion USD respectively (FAO, 2013). In terms of fish export, Africa is a major player in export market contributing about 4.2 % (5.8 billion USD) to the global fish export trade (14.0 Billion USD. Morocco and Namibia are the major fish exporting countries, with a total of 1.8 Billion USD and 0.78 million USD respectively.

Trade plays a major role in the fishery industry as a creator of employment, food supplier, income generator and contributor to economic growth and development in several African countries. Domestic and intra-regional trade of fish (both marine and inland waters) is important with well developed, but often informal, national and regional trade networks. Many Member States still face several constraints in improving their fish trade and marketing sector. The policy objective relating to fish trade of the policy framework and reform strategy for fisheries and aquaculture is to harness significantly the benefits of Africa's' fisheries and aquaculture endowments through accelerated trade and marketing. This objective is to be realized, among others, through the promotion of domestic and regional trade, increasing harness and competitiveness of products as well as ensuring wider participation and empowerment of women in the fish trade sector across Africa. The 2014 Malabo Declaration by the Summit of African Heads of States and Governments underlined on halving post-harvest loss and tripling intra-Africa trade in agriculture products by 2025 for accelerated African development. The Policy Framework and Reform Strategy for fisheries and aquaculture in Africa identified fish trade and marketing as major policy arenas in enhancing the contribution of the sector to food security, livelihoods and wealth creation on the continent.

The small scale fisheries in Africa are the most important subsector in terms of contribution to food security and household's income, especially in the rural coastal settings and riparian communities. This subsector generally contributes to over 60-70 % to total fish production in most African Union (AU) member states and significant portions of the fish produced are sold and consumed within the continent. The products from these fisheries are often informally traded across borders amidst massive constraints as established by the EU concluded Fish Trade Project implemented by World Fish, AU-IBAR and AUDA-NEPAD; huge post-harvest loss, lack of basic records on the trade, harassment of fish traders at various check-points, non-inclusion of fish in the one stop border posts, absence of or non-compliance with product standards etc. Much of the trade is informal and unregulated, passing through unofficial non-custom border points. Prior to the Fish Trade Project, regional fish trade has not been adequately documented, even though it makes very important contributions to the regional economy and food security. Consequently, the role of fish in national economic development has been undervalued.

With respect to Africa's equitable participation in international fish trade, the major obstacle to exports is related to more stringent food safety and quality requirements in importing countries. Although the Fish Trade Project has evidence of positive impact of standards on international

trade, there is a gap in the skills of fishermen, processors and traders in the implementation of regionally/internationally acceptable standards in the production, traceability, handling and preservation of fish and fish products are a major constraint to competitiveness in the markets. Furthermore, national regulatory capacity is lacking in many countries.

The major issue faced by the fisheries sector is lack of infrastructure for post-harvest facilities, resulting in inefficiencies of the fish distribution circuit, high cost of transportation and preservation of the fish, high post-harvest losses and poor quality of fish sold which at the end affects the level of nutrients which are available to the consumers.

3 RATIONALE AND OBJECTIVES

The key to achieving profitability, wealth generation and welfare is ensuring access to markets by fish-dependent communities. However, many fishers and fish farmers in Africa face numerous challenges to accessing markets. Furthermore, the sustainability of fisheries and the benefits accruing to communities may be undermined if trade is not properly guided by information, policy and regulatory frameworks, leading to less fish and more poverty for these communities. It is for this reason that the Policy Framework & Reform Strategy has prioritized fish trade, with the aim to: "Promote responsible and equitable fish trade and marketing by significantly harnessing the benefits of Africa's fisheries and aquaculture endowments through accelerated trade and marketing". Information on the contribution of fish trade to national development objectives (including employment, food security and poverty reduction) is weak or incomplete in national and regional policy contexts across Africa.

A large proportion of fish trade is undertaken on an informal basis by small-scale fishers and traders, further compounding the lack of data. Without a more detailed understanding of informal trade, the challenge of quantifying the contribution of fish trade in terms of national development is made even more complicated. With increasing global interest in promoting spatial or corridor level planning as a means to promoting regional integration, this process represents a methodological innovation that will be of interest and utility in understanding trade flows in fish or other products in other parts of the world

The EU funded Fish governance and Fish trade projects have contributed significantly to identification of the major policy issues, barriers, opportunities and priority actions for harmonization of four trade policies in four regions of the continent (West, Central, East and

Southern). The major identification areas of the Fish trade projects were along four identified trade corridors in West, Central, East and Southern Africa without Northern Trade Corridor. In addition, the trade corridors in the four regions were not linked.

In view of the limitation of the Fish Trade project, African Union – Interafrican Bureau for Animal Resources (AU-IBAR) with support from the EU conducted comprehensive study to map cross-border fish trade corridors in West, Central, East, Southern and North Africa. The aim of the study was to identify common characteristics of the five trade corridors, key aspects of fish trade, policy options and key recommendations. For both formal and informal cross boarder fish trade, the specific objectives were to:

i. Identify major fish species (marine and inland capture fisheries and aquaculture) and fish products traded in the continent, including product forms
ii. Identify the main trading corridors of the major exploited and cultured fish species or assemblage, trade patterns and characteristics,
iii. represented graphically with arrow lines of different thickness the fish trade corridors
iv. Identify the key drivers of informal fish trade.

4 METHODOLOGY AND APPROACH

This report was generated with adequate in input from AU Members stated through engagement with experts and consultations from the regions. Figure 1 below shows the sequence of activities undertaken:

4.1 Engagement of regional experts for five regions

Regional experts were solicited through open bidding process according to AU guidelines.

4.2 Expert/Consultation (3rd to 5th October 2018)

A consultative workshop to harmonise the methodology to the comprehensively map fish trade corridors for the five regions was held in Naivasha (Kenya) from 3rd - 5th October 2018. The guidelines for data collection and target group were identified during the workshop.

4.3 Preparation of five reports by the regional experts

Relevant fish trade related documents were identified for review. The documents included reports from national, regional, and global agencies; national fisheries statistical bulletin, technical reports from FAO (Fishstat), Regional Economic Communities (RECs), Regional



Figure 1: *Study Approach*

Fishery Bodies (RFBS) , Regional Fisheries Management Organization (RFMOs), NGOs (e.g. International Union for Conservation of Nature (IUCN), TRAFFIC, Intergovernmental Organization of Trade in Fishery and Aquaculture Products in West Africa - African Union Member States (INFOPECHE), Intergovernmental Organization of Trade in Fishery and Aquaculture Products in North Africa – African Union Member States (INFOSAMAK), ComStat, Intergovernmental Authority on Development (IGAD) , African Union Commission (AUC),

Common Market for Eastern and Southern Africa (COMESA), World Trade Organization (WTO), South West Indian Ocean Fisheries Commission (SWIOFC), Indian Ocean Tuna Commission (IOTC), reports from Central Bureau of Statistics from the respective countries, journals, publications, internet/websites, Fish Trade Programme (World Fish Centre)

The following research questions were used to guide data collection;

- What are the key/main species traded in the region, including capture fisheries and aquaculture?
- What are the main sources of the species of fish being traded within the region (water body or market as the source)?
- What types and volumes of fish and fish products go through formal and informal channels at different times?
- What is the value of products at different points in the chain?
- Who are the main actors (both formal and informal) in the regional fish trade (categories: - wholesalers, retailers etc), numbers, gender, age, level of education)?
- How seasonal and what are the long terms trends of value, supply, demand?
- Where are the main markets (wholesale) and locations of high consumption?
- What are the reasons for involvement in the informal trade?
- How do policies and regulations influence formal and informal fish value chains in the corridor

Where possible, primary data was collected in the five fish trade regions. Primary data was obtained using semi-structured questionnaire (developed by the fish trade program). The questionnaire was designed to capture information on the demographics of informal cross border fish traders; the fish and fish products traded informally; volumes and values of informal trade flows of fish and fish products; source and destination points of fish being transferred; reasons for using informal trade channels and the policy regulations regarding intra-regional trade.

4.4 GIS Mapping

Geographical Information Systems (GIS) was used to collate, map, analyze and present different types of information relevant to fish trade, such as information relating to movement of fish, fish markets, sources and various borders/ crossing points. The mapping data of the localities of each Central African country and the water bodies were uploaded from the WRI website (World Resource Institute *www.wri.org*) to generate geographical positions of the different localities. The data were introduced into the ArcMAP 10.1 or ArcMAP 10.2 software

where the positions of production sites, markets and destination of fishery products were projected in the software. Spatial coordinates of the origin and destination were obtained online via the mapcarta website (*https://mapcarta.com*).Spatial mapping and analyses were conducted using QGIS (version 2.18.14) with additional flow mapping capabilities provided via the Oursins plugin (version 1.1.0). The resultant arrows showing the origin, destination and direction of flow were coloured according to the type of fish traded and where possible scaled by the volumes traded. For formal trade, only volumes of above 2000 tonnes were indicated on the map.

4.5 Validation workshop

A workshop to discuss the five reports was held in Naivasha, Kenya between 12th and 14th December, 2018. At this point, gaps in the data were noted and experts provided additional missing data.

4.6 Consolidation of five regional reports by independent consultant

An independent consultant hired competitively was requested to consolidate the five reports by the five regional consultants (Gitonga, N and Azali, K. M (2018) for Eastern Africa: Megahed, M. EL. Sayed (2018) for North Africa: Nyameke, I and Asmah, R (2018) for West Africa; Nyameke, I and Njaya F. (2018) for Southern Africa and Nolasque M. Soung Pierre (2018) for Central Africa)

4.7 GIS mapping to produce Africa map

Mapping of the formal and informal fish trade routes in Africa corridors was done using Arc GIS 10.4. The spatial method for mapping the routes included digitizing the trade routes from sources to destination in Arc GIS version 10.4 using the editor tool. Data on fish volumes imported and exported per species was obtained from Fish trade compiled regional corridor reports under the fish trade project. List of fish species traded in the region was compiled in a spatial database that was uploaded in Arc GIS as shape files for mapping. The spatial shape files were then edited in respective attribute table in order to add volume specific data traded per species from identified sources to targeted destination. Lines connecting the sources and destination were digitized in Arc GIS on Africa spatial data to show routes of fish from sources to destination. The lines were represented with different colors for each and every fish species being traded within Africa crossing all the corridors.

Following the display of species and product forms traded, quantification of the volumes traded was done by linking the volumes per fish species with the specific line for each species

in order to show the quantity flowing from various sources to targeted destination. Lastly, data on demographic characteristics like GDP of the interacting African countries was uploaded in Arc GIS as point data that was merged with fish routes data for assessment of the response of fish routes against demographic characteristics of the interacting trading points across Africa.

5 RESULTS AND DISCUSSION

5.1 The Northern Africa fish trade corridor

5.1.1 Characteristics of the Northern corridor

Geopolitically, the United Nations definition of Northern Africa includes seven countries or territories, namely: Algeria, Egypt, Libya, Mauritania, Morocco, Sudan, and Tunisia. North Africa lies between latitudes 23.4° N and longitude 25.7° E with a total land area of 7,769,438 Km2 (world meters, 2018)

- It has a human population of about 237,784,677 (world population review, 2018)
- 50.1 % of the population is urban (119,228,631 people in 2018)
- The Gross Domestic Product (GDP) per capita of North African countries ranges from USD 33,157 to USD 332,349. The real GDP growth was estimated at 4.9%, up from 3.3 percent in 2016, higher than the African average of 3.6% and second only to East Africa. Growth in North Africa was also boosted by Egypt's steady positive performance (GDP growth of around 4%), which was fueled by the positive effects of its macroeconomic and structural reforms.
- Regional disparities in poverty and unemployment remain pervasive. In 2013 (the latest year with data) close to 10% of the region's population (about 18 million people) lived below the USD 2.90 a day per person poverty line.
- In 2016, close to 20% of the labor force was unemployed, and unemployment was particularly high among youth
- In Mauritania, The marine fisheries sector is one of the main pillars of the national economy. Estimates of fisheries contribution to the GDP vary between 4 and 10%, representing about one fourth of the Government budgetary resources. The sector employed approximately over 55 000 persons in 2013/2014.
- Catches in Mauritania's exclusive economic zone (EEZ) amounted to around 800 000 tonnes in both 2014 and 2015. Total catch by the approximately 4 000 national vessels of the industrial and artisanal fishery, was about 363 000 tonnes in 2014 and 389 000 tonnes in 2015

- There are currently no regulations on trade in the region requiring the origin of fish products whether farmed or captured fish. Trade is marked by diversity of the products being traded; the countries involved; the people participating in the production; Processing and trade; the end consumption patterns; and the consumers.
- The fish markets in the Northern Africa region are divided into three types of markets; landing site markets for capture fisheries products, Wholesaler market is considered the main market that receives fish from both capture fisheries and aquaculture, and finally the retailers markets which involve retailers who collected fish wholesaler and landing sites to sell into small markets scattered around the country.

5.1.2 Formal Trade

5.1.2.1 Fish species traded formally in the region

The following species of fish are traded informally in North Africa:
Tuna; Octopus; Salmon; Fish Nes; Flatfish; Molluscs; Cuttlefish; Sardine; Halibut; Crustaceans (Shrimp, Lobster and crab); Sea bass; Mackerel; Sole; Hake; Tuna; Eels; and squid.

5.1.2.2 Fish and Fishery products, country of origin and country of destination and value of the fish trade traded formally in the region

The formal study focused on countries in Northern Africa. The results of formal trade showed that the following were the most fish traded by fish traders and their value, per country, in the region;

- Algeria - Tunisia (Snails, edible 379000 USD),
- Egypt - Sudan (Fish Fillets 1537800 USD),
- Libya - Tunisia (Fish nes, fresh, frozen or chilled, whole 521000 USD),
- Mauritania – Egypt (Fish nes, fresh, frozen or chilled, whole 786000 USD),
- Morocco - Egypt (Sardine, brisling, fresh, chilled, frozen, sprat prepared/preserved, not mince 7674000 USD), and
- Tunisia – Algeria (Fish prepared or preserved, except whole, in pieces 2714100 USD).

An increasing share of fishery products traded between countries in the northern Africa region as well as fish trade between the region and other African countries in other regions. There is a significant trade level of fish trade flow from Northern African countries into European countries, as 75% of exports by the northern Africa region flows into European countries in 2017. Trade between Northern Africa countries accounts for a mere 25% of the value of fishery exports in these countries. In this regard, it appears that obstacles to the growth in

fishery products exports from Northern Africa countries have more to do with the capacity to abide by import requirements regarding quality and food safety, than with customs duties. Furthermore, measures on sustainable development adopted by some major importing countries to promote the health of animal stocks, environmental norms, and socially fair trade, have somewhat held back such growth.

5.1.2.3 Boarder points/ channels

Different channels are used for the fish trade in the region. The large percentage of processed and frozen fish and to a lesser extent live fish passes through the formal border control channels and checked by customs officials. The formal channels were land based roads and through commercial ships. The challenges were due to security issues of political instability. The study also revealed that shortage and sometimes unqualified staff at border control points is also another challenge which is taken advantage of by fish traders. Observations had shown that customs officials sometimes do not conduct a thorough searching and or /inspection of imported consignments, or at times did not even search consignments in trucks. However, some traders had sited that sometimes they would be tired and exhausted to conduct some thorough searches. Therefore, shortage of staff acts as barriers to intra -regional fish trade. Also, security issues of some countries in the region force some challenges in facilitation of the trade. There are many known illegal crossing points where goods of all types could be found. The illegal crossing points are land based in the desert roads through the boarders and also the sea route through fishing boats. Thus border control officials including the army find it difficult to control these movements because these people are bonded culturally since they are tribal communities as there are intermarriages that played a major role in strengthening the bondage.

5.1.2.4 Barriers/ Challenges to cross-border to trade among the countries

Taxes along the fish trade corridor: Many traders in Northern Africa region were unhappy about various fees and taxes, imposed by the cross-border administration and the assembly market cities, where traders pay daily and monthly municipality fees. On top of the municipality taxes, the owners of the storeroom charge the trader a monthly rental fee. Along the way, there are customs officers, armed police, regular police officers, anti-drug squads, water and forest inspectors and fisheries officers. These government agents check for identity cards, traders' permits/cards, driving licenses and vehicle papers, and sanitary certificates.

Transport costs: Production centers are often far from major markets. Therefore, transport constitutes the major cost of doing business for cross border traders. The high cost of transport. The trade among the Northern African countries could be tripled if explored well as the entire national road infrastructure linking these countries is in better condition.

Export/import formalities: All countries in Northern Africa have national rules and regulations governing trade in fish and other food commodities, and these are applied for both exports and imports of fish products. Traders complain that obtaining permits involves administrative procedures that are complex and slow. Of particular concern is the national certification of fish products for exports that every trader must get, to show they comply with the required sanitary and phytosanitary procedures, which fish exporters complain is a process full of delays and exorbitant fees and charges. Requirements to have fish products inspected before exporting results in delays at the border with possible deterioration of the quality of the fish. Inspections also attract fees that result in exorbitant export costs.

Fish processing: Better post-harvest handling, including processing, is critical for good quality products and longer shelf life necessary for the long transit distances the fish products make from sources to markets. Many countries in Northern Africa have adopted the WTO Agreement on the Application of Sanitary and Phytosanitary Measures, which sets out the basic rules for food safety and animal and plant health standards. Fish processors are able to produce good quality and longer-lasting products. Some challenges exists concerning fish processing include lack of access to credit, high cost of processing facilities.

Lack of knowledge of regional trade rules and regulations: This study has revealed a lot of confusion on the requirements by traders to move food commodities, including fish. The high rate of illiteracy among fish traders makes it difficult for traders to understand and comply with hygiene and quality standards, especially for processed products that are destined for export markets. There is a general lack of information on the rules of trade with which traders need to comply when they are taking their products across the border.

5.1.3 Informal Trade

5.1.3.1 Fish species traded informally in the region

The following species of fish are traded informally in North Africa: Sardines; Cephalopods (Octopus, cuttlefish); Eels; Carps; Catfish; Grey mullet; Molluscs; Tilapia; Grouper; Red mullets; Shellfish; Shrimps and prawns; Sole; Seabass; and Crabs.

5.1.3.2 Fish and Fishery products, country of origin and country of destination and value of the fish trade traded informally in the region

The informal study focused on countries in Northern Africa as well. The results showed that most fish traded by fish traders in the region were from capture fisheries and aquaculture. Tilapia were the highly value traded product in the region at an estimated value of 14250000 USD, smoked fish 13950000 USD, Shrimps and prawns 14000000,Shellfish and crustaceans 3360000, Red Mullets 28800000 USD, Processed Fish 1000000 USD and Molluscs 1360000 USD.

5.1.3.3 Market dynamics, informal fish trade and the importance of regional institutions in Northern Africa

The link between economic development and trade is clear. For fish-dependent communities, fish is important natural capital and in Africa as a whole, there is great potential for fisheries and aquaculture to contribute to poverty reduction and food and nutrition security. However, realizing this potential is limited by three critical issues:

i. Policymakers' lack of understanding about the operations and dynamics of fish markets;
ii. The lack of recognition of informal markets and trade by national trade authorities
iii. The inadequate role of RECs in facilitating intra-regional fish trade.

5.1.4 Drivers of Informal fish trade in the Northern corridor

Analysis of factors influencing fish traders' participation in cross-border trade indicates that traders with primary or basic education were more likely to participate in cross-border fish trade compared to their uneducated counterparts. Attaining primary or basic education significantly and positively increases the probability of participating in cross-border fish trade because fish traders with some form of education can conduct simple arithmetic, which is essential for any type of trading. The distance travelled between purchase points and the destination of fish positively and significantly influences cross-border trading; that is, long distances will reduce the probability of fish traders engaging in informal cross-border trade. Availability of good road infrastructure had a positive and significant influence on informal cross-border fish trade participation choices. Residing close to a border town affects fish traders' decisions to participate in cross-border trade because it is easier to access the neighboring country's markets.

5.1.5 General observations on cross border informal fish trade

- There are more species traded than what is recorded.

- Confirmed that fish traders in the region trading in fresh and frozen fish and fish products (marine fishes, shrimp, crabs and other crustaceans).
- Increase in prices of fish in cross border markets makes traders to transfer fish informally in large volumes at an expense of domestic demand.

Unawareness for policies and tariff barriers with regards to intra-regional fish trade makes traders to use informal trade channels.

Fish species traded informally were mainly from wild stock (Capture fisheries) and less to fish from aquaculture such as sea bream, sea bass and tilapia.

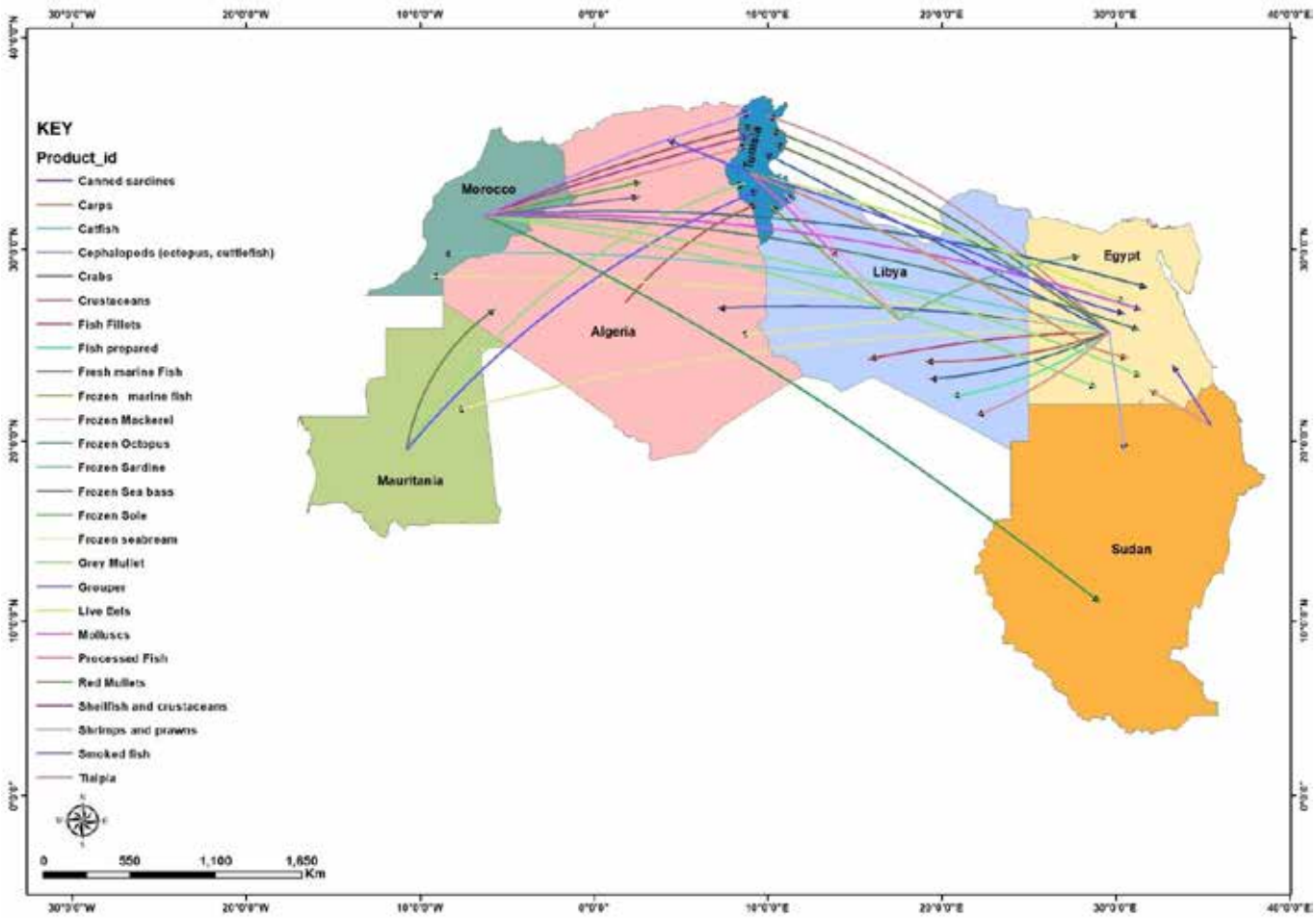
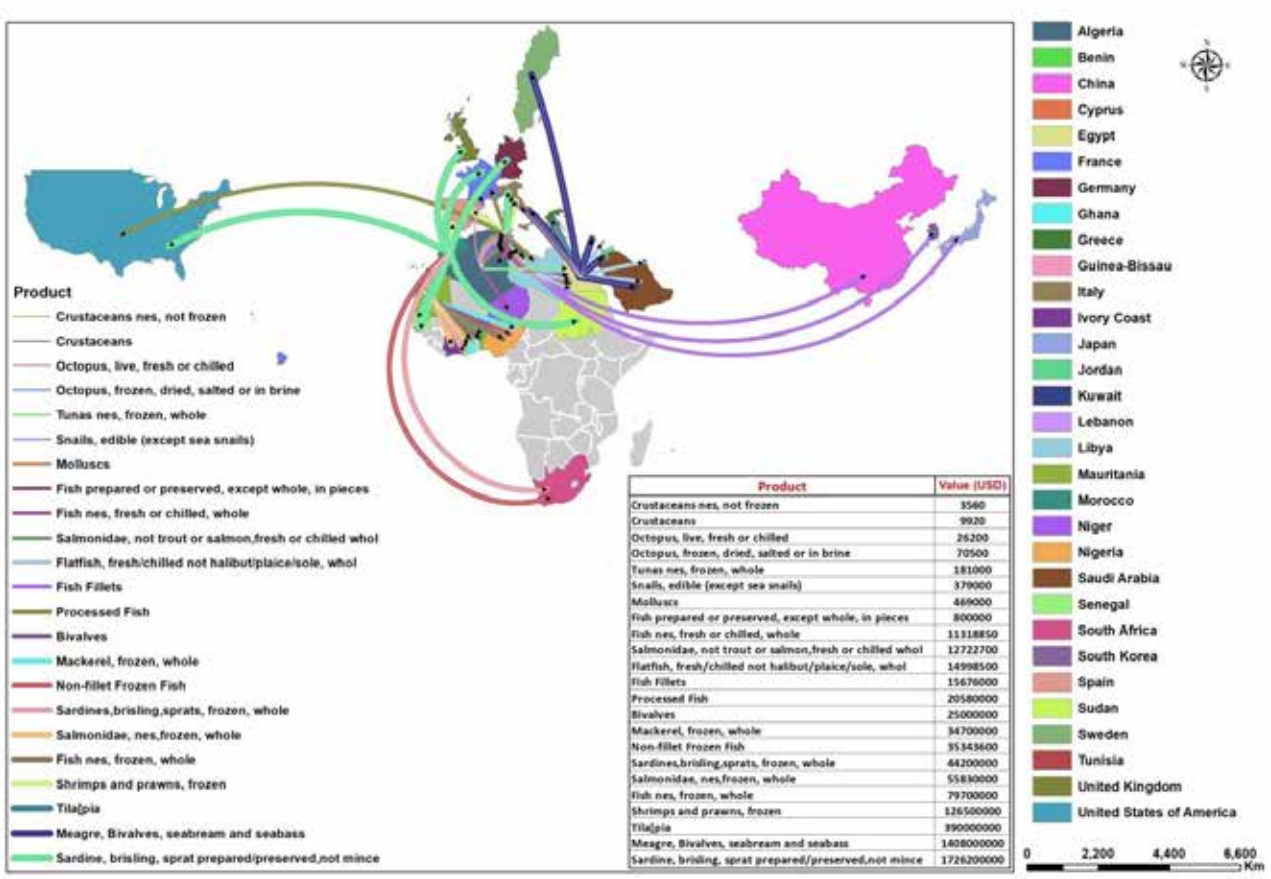
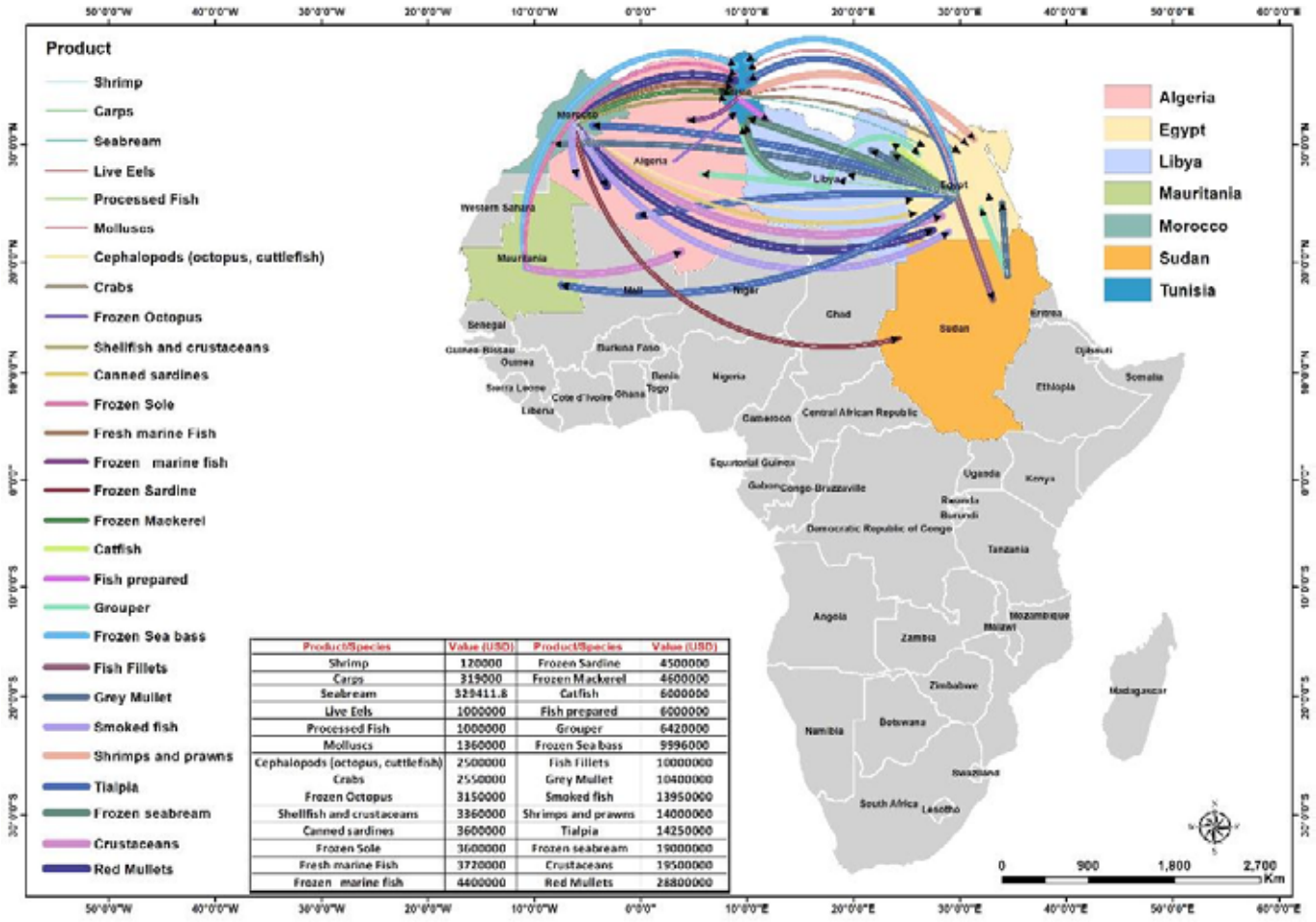


Figure 2: *The map above illustrates the informal fish trade routes used in the Northern Africa region*



Product	Value (USD)
Crustaceans nes, not frozen	3560
Crustaceans	9920
Octopus, live, fresh or chilled	26200
Octopus, frozen, dried, salted or in brine	70500
Tunas nes, frozen, whole	181000
Snails, edible (except sea snails)	379000
Molluscs	469000
Fish prepared or preserved, except whole, in pieces	800000
Fish nes, fresh or chilled, whole	11318850
Salmonidae, not trout or salmon,fresh or chilled whol	12722700
Flatfish, fresh/chilled not halibut/plaice/sole, whol	14998500
Fish Fillets	15676000
Processed Fish	20580000
Bivalves	25000000
Mackerel, frozen, whole	34700000
Non-fillet Frozen Fish	35343600
Sardines,brisling,sprats, frozen, whole	44200000
Salmonidae, nes,frozen, whole	55830000
Fish nes, frozen, whole	79700000
Shrimps and prawns, frozen	126500000
Tilapia	390000000
Meagre, Bivalves, seabream and seabass	1408000000
Sardine, brisling, sprat prepared/preserved,not mince	1726200000

Figure 3a: *The map above illustrates formal inter regional fish trade routes used in the Northern Africa region*



Product/Species	Value (USD)	Product/Species	Value (USD)
Shrimp	120000	Frozen Sardine	4500000
Carps	319000	Frozen Mackerel	4600000
Seabream	529411.8	Catfish	6000000
Live Eels	1000000	Fish prepared	6000000
Processed Fish	1000000	Grouper	6420000
Molluscs	1360000	Frozen Sea bass	9596000
Cephalopods (octopus, cuttlefish)	2500000	Fish Fillets	10000000
Crabs	2550000	Grey Mullet	10400000
Frozen Octopus	3150000	Smoked fish	13950000
Shellfish and crustaceans	3360000	Shrimps and prawns	14000000
Canned sardines	3600000	Tilapia	14250000
Frozen Sole	3600000	Frozen seabream	19000000
Fresh marine Fish	3720000	Crustaceans	19500000
Frozen marine fish	4400000	Red Mullets	28800000

Figure 3b: *The map above illustrates the formal intra-regional fish trade routes used in the Northern Africa region*

5.1.6 *Policy recommendations*

The following are the recommendations to improve trade within the corridor;

- Revise the national protocol for data collection, analysis and dissemination to reflect the informal trade volumes
- Formalize export and import harmonization
- Common external tariff (CET)
- Make it easier for fish products to cross the borders
- Create awareness among traders on cross border trade procedures
- Address informal costs to trade
- Establish fish trader organizations
- Improve transport and market infrastructure
- Promote evidence-based decision-making and cross-sectoral relationship
- Invest in regional collaborative mechanisms

5.2 *The West Africa fish trade corridor*

5.2.1 *Characteristics of the Corridor*

West Africa is defined by United Nations Geopolitical regions as made up of eighteen (18) countries, namely: Benin, Burkina Faso, Cape Verde, Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Liberia, Mali, Mauritania, Niger, Nigeria, The Island of Saint Helena, Senegal, Sierra Leone, Sao Tome, Principe and Togo. According to FAO (1983), West Africa lies between latitudes 4°N and 28°N and longitudes 15°E and 16°W with a total land area of 6,140,000 km2.

- It has a human population of about 370 million (CIA World Fact Sheet, 2018).
- The service sector's share in the economy is the largest in most countries, and manufacturing's share is the smallest in all of them.
- The GDP of West African countries ranges from 1 billion to 377 billion USD (Mundi Index, 2018). Average GDP growth in was projected to rise to 3.8 percent in 2018 and 3.9 percent in 2019. Countries' performance varied, but because Nigeria contributes about 70 percent of regional GDP, its patterns largely shapes regional ones.
- Poverty is high, with 43 percent of the population below the international $1.90 per day poverty line in 2013 (the most recent estimate).
- West Africa's labor force participation rate is high and its unemployment rate is low.
- For decades, fishing has been an avenue for socio-economic development for many West African countries as it have a large coastline and Exclusive Economic Zone of about 20,000 km2 (FAO, 2018).

- In West Africa fishing activities, mostly in the marine artisanal subsector, contribute about 4.1% to the regional GDP with post-harvest sector, including fish processing and marketing making almost 43 percent of the total contribution to GDP by the whole fisheries sector (Kébé and Tallec, 2006).
- The fisheries sector in West Africa is estimated to employ over 7 million people, especially women, young and old in the rural and urban communities either on part-time or on fulltime basis (FAO, 2018).
- The annual fish production has steadily increased over the decade and in 2016, the West Africa coastline and aquaculture produced about 3.2 million tons of fish representing 29% of the total African fish production. The production increased by 22% from 2010 to 2016.
- Trading of fish has increased in many countries in West Africa due to improvements in fishing technologies, improved exchange of information among traders, commoditization of fish and improved transport infrastructure, as well as increased demand for fish in expanding urban areas.

5.2.2 *Formal trade*

There are two main components to the fish trade in West Africa, First, a local trade within each country, with fishers and local merchants supplying both fresh and some processed fish to local markets within villages and towns. This trade occurs in close proximity to fishing grounds, and does not involve long-distance or cross-border transportation of fish. Second, a long-distance trade, far from the fishing grounds, and often crossing borders. The local trade in fish which occurs in each of the western Africa countries is a long established part of the rural economy. The long-distance and cross-border trade is a more recent development, which has emerged in the past 50 years with the growth of urban markets, better infrastructure and through the entrepreneurial activity of merchants. Further, there are two distinct sources of fish – marine and inland fisheries – and two distinct assembly centres – port cities for the marine frozen products and inland assembly cities for marine and inland dried/smoked fish. The assembly cities or wholesale fish markets are the starting points or nodes of fish distribution.

The bulk of the fish products traded among neighboring countries are salted, fermented, and smoked fishes. These are sold at the border markets or by roads, sea or by air (Binet et al, 2012). The frozen, fresh and canned fishes are trade among distant countries and are transported by sea or by air (Tall, 2016). Fish in West Africa is exported to countries within Africa, Europe, Asia and America, majority of fish is exported to Other African countries (54%) and Europe (35%) – Figure 4.

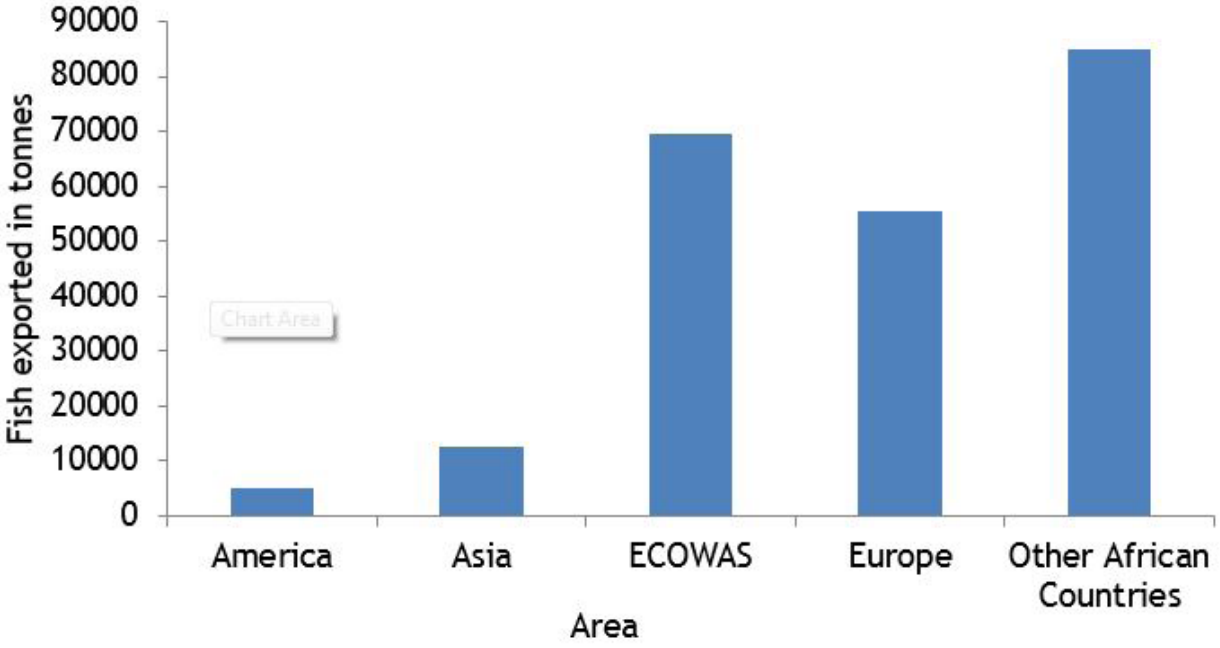


Figure 4: *Fish is exported to Other African countries*

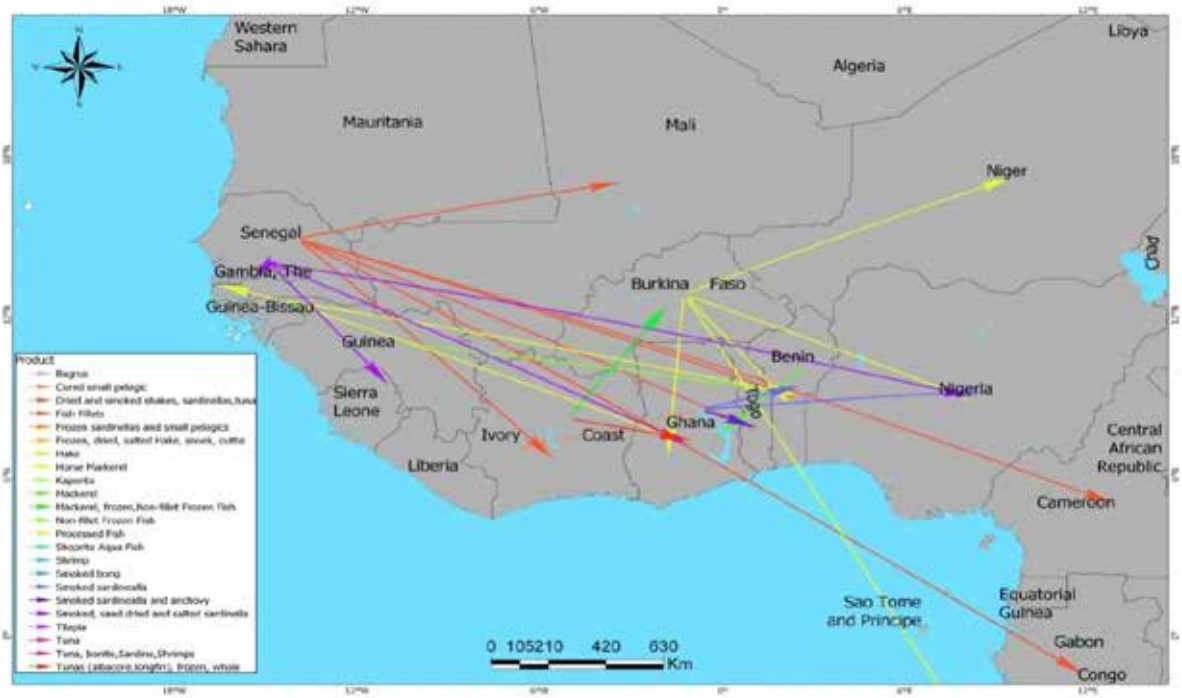


Figure 5: *Fish Exports in various continent (Source: International Trade Centre (UNCTAD/WTO) (www.trademap.org).*

In 2015, West Africa exported over 160 thousand tonnes of fish to various foreign markets outside West Africa and valued at over 800 million USD of which 91% was from Mauritania (56%) and Senegal (26%) and Nigeria (9%). The other 16 countries share 9% of the fish export value (Figure 6). Over 69 thousand tonnes of fish were also exported within West Africa.

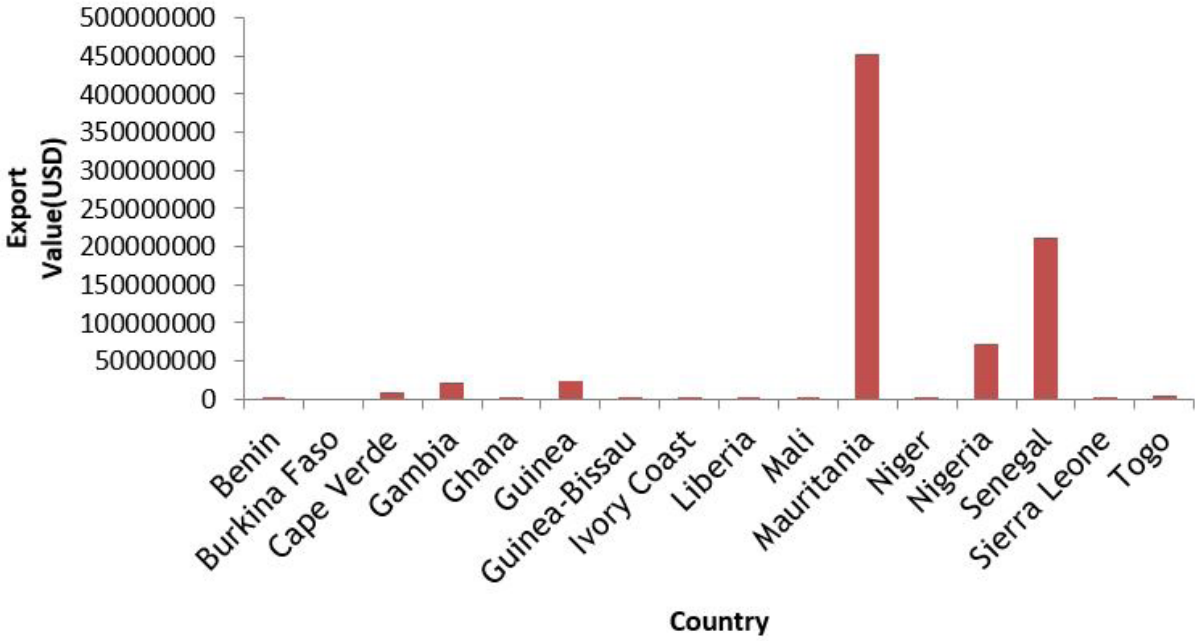


Figure 6: *Value (USD) of fish exported from West African countries (Source: International Trade Centre (UNCTAD/WTO) (www.trademap.org).*

5.2.3 *Informal trade*

5.2.3.1 Main Fish species traded informally in the region

A lot of different species are traded in West Africa, but there are 10 main ones (Table 1). In the informal trade between states, small coastal pelagic and river species dominate. The bulk (90%) of these fish species are traded as dried or smoked fish. Fish products in the West Africa informal fish trade corridor are packaged and traded in containers, basins and cans while Smoked fish are placed in wicker baskets and bundled into packs.

Table 1: *Fish species and fish products traded informally in West African countries*

FAO/English name	Scientific name	Product/form in trade
Shad, bonga	*Ethmalosa fimbriata*	Smoked
Round sardinella	*Sardinella aurita*	Smoked
Anchovy	*Engraulis encrasicolus*	Dried and smoked
Atlantic bumper	*Chloroscombrus chrysurus*	Smoked and dried
Chub mackerel	*Scomber japonicas*	Smoked
Pink shrimp	*Penaeus notialis*	Smoked
Deepwater rose shrimp	*Parapaeneus longirostris*	Ds Smoked
Black-chinned tilapia	*Sarotherodon molanotheron*	Salt dried and smoked
Catfish	*Clarias gariepinus*	Smoked
African moonfish/African lookdown	*Selene dorsalis Dried*	Dried and smoked

Source: Ayilu RK, et al. 2016

Fish purchased by the wholesalers is sold to smaller intermediaries in urban or inland markets, who process it into the various forms and sell within the country or export.

5.2.3.2 Informal fish trade routes in West Africa

The following trade routes were found in each country as shown in the detailed route map (Figure 7 below):

- **Benin** exports a small quantity of smoked fish to Nigeria. It imports dried, salted and frozen fish products from Ghana, Mauritania, Senegal and Ivory Coast.
- **Burkina Faso** does not export much of its fishery products but few moves to neighboring countries markets such as Ghana, Togo and Niger. Burkina Faso imports much of its fish products in the form of salted, dried, frozen and smoked from West Africa countries such as Mauritania, Senegal, Ivory Coast and Mali.
- **Cape Verde**, nearly 70% of its fishery products are export to African countries such as Senegal from the Praia market centre either by sea or air.
- **Gambia** exports more than 90% of industrial fishing to African countries. Ghana and Nigeria are the major importers of Gambian fishery products.
- **Ghana** exports some of its fish products to Togo, Benin and Nigeria. Ghana imports frozen fish products from Mauritania, Morocco and Namibia by sea through Tema and Takoradi harbors while the salted dry fish is brought by road from Gambia and Senegal. Smoked catfish is imported from Nigeria for the Nigerian community in Ghana.
- **Guinea** exports its fish product such as salted and dried sharks to Senegal, Gambia, Sierra Leone and Ghana.
- **Guinea-Bissau** its fresh and salted dry fish are exported to Guinea-Conakry, Senegal, Ghana, Sierra-Leone and Mali by road and sea.
- **Ivory Coast** supplies smoked sardinella to Burkina Faso, Guinea, Ghana and Liberia. It imports frozen fish and fish dried products from Mauritania, Morocco, Ghana and Senegal.
- **Liberia** imports some of its fish products from Morocco and neighboring countries such as Sierra Leone and Ivory Coast.
- **Mali** gets some of its fish supply from Senegal, Niger, Côte d'Ivoire and Mauritania.
- **Mauritania** is one of the key African countries that export majority of its fish products to Senegal, Ghana, Cameroon, Cape Verde, Egypt, Gambia, Togo etc.
- **Niger** only exports smoked fish to Nigeria and imports freshwater fish, frozen seafood and canned fish products from Mali, Nigeria, Senegal, Benin and Côte d'Ivoire.
- **Nigeria** imports smoked fish from Niger and Cameroon and frozen fish products from Mauritania, Algeria and Mauritius. It exports smoked fish from Senegal and Cameroon.
- **Senegal** exports dried and salted sharks to Nigeria, Niger, Ivory Coast, Mali, Ghana and Burkina Faso by road (See detailed country's fish trade route map).

- **Sierra Leone** export majority of its artisanal fish catch in the form of smoked, salted and sun-dried Ghana, Liberia and Mali.
- **Togo** exports its fish products to Benin, Nigeria and Burkina Faso in the form of dried and smoked. It import from Ghana, Benin, Burkina Faso, Mali and Niger.

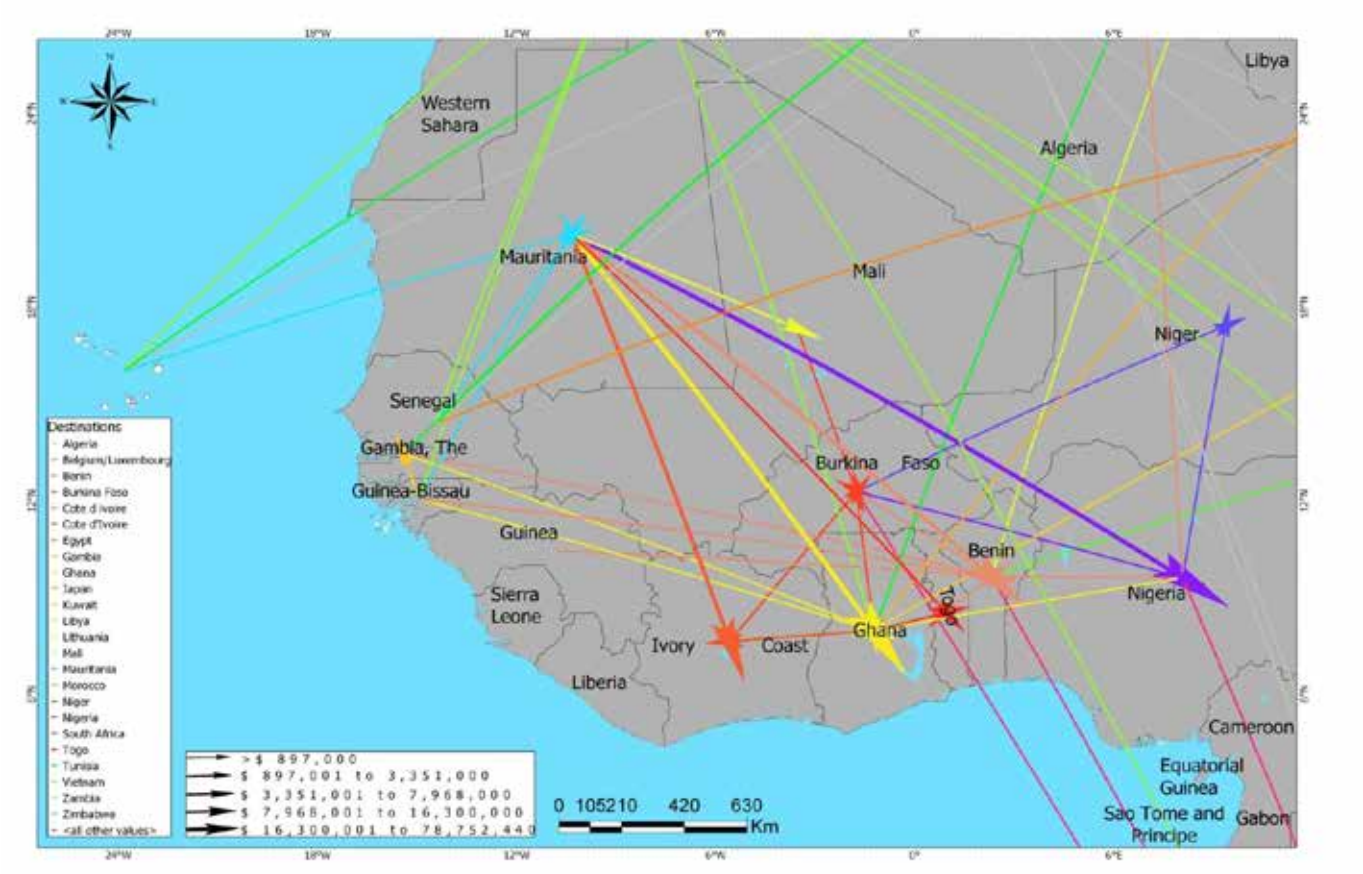


Figure 7: *West Africa Corridor Fish Trade Route Map*

5.2.4 Drivers of informal cross-border fish trade in West Africa

- **Taxes and bribes along the fish trade corridor:** Many traders in West Africa are unhappy about various fees and taxes, including bribes, imposed by the cross-border administration and the assembly market cities, where traders pay daily and monthly municipality fees.
- **Export/import formalities:** Traders complain that obtaining permits involves administrative procedures that are complex and slow. Of particular concern is the national certification of fish products for exports that every trader must get, to show they comply with the required sanitary and phytosanitary procedures, which fish exporters complain is a process full of delays and exorbitant fees and charges.
- **Lack of knowledge of regional trade rules and regulations:** The high rate of illiteracy among fish traders makes it difficult for traders to understand and comply with regional trade rules and regulations.

5.2.5 *Challenges Facing Cross border Fish Trade on West Africa corridor.*

The following were found as the challenges faced by West Africa corridor cross border fish traders.

- **Infrastructure constraints:** Nearly 65% of the fish landing sites and market centres in West Africa fish trade corridors do not have inadequate infrastructure with appropriate fish handling and storage facilities to reduce the high level post-harvest losses in the West African fisheries sector. Close to 70% of the landing sites and the market centres do not have good road networks resulting in delays and shorten the life span of the fish and fish products.
- **Technical Constraints:** Majority of the countries in West Africa corridors have reported inadequate knowledge of their fish population dynamics especially species of high economic importance.
- **Financial Constraints:** The fish traders in West Africa corridors have revealed that it is very difficult for them to access micro-finance and loan facilities to expand their businesses. They trade as stated that trade tariff among the countries hampers their successful inter-regional fish trade in Africa.
- **Institutional Constraints:** Out-dated, inapplicable and inefficient fisheries policies in most of the West African countries. The Ministries in-charge of fisheries in West Africa was found to have inadequate resources to invest in fisheries development in their countries. The Ministries in-charge of fisheries in West Africa do not have enough qualified human capacity to develop the landing sites and market centres to meet the international required standards.

5.2.6 *Policy Recommendation*

The following recommendations are proposed:

- Member states should decentralize issuance of trade documents
- Remove intra-regional fish trade restrictions
- Enhance fish processing infrastructure development and value addition and
- Improve access to cross border fish trade market information
- Established simple but effective informal fish trade monitoring mechanize
- Strengthen the capacity of the Ministries and institutions in fisheries.

5.3 *The Central Africa Corridor*

5.3.1 Characteristics of the corridor

The Central African corridor includes seven (7) countries: Cameroon, Congo, Gabon, Central African Republic, Chad, Equatorial Guinea, Democratic republic of Congo (DRC), Sao Tome and Principe (ADB, 2018). Its population is estimated at 133 711 000, covering an area of 5 366 176 sq.km. The economies of this region are characterized by their low level of diversification, a high dependence on the outside world and generally a high level of indebtedness, with consequences for jobs, and poverty which worsens food insecurity. The economy of its fish trade corridor is also unstable and is characterized by the following:

- The Central African region, excluding Angola has a population estimated at 133 711 000.
- Low level of diversification which has consequences for jobs, poverty and food insecurity.
- Most countries are oriented towards oil extraction (50% of GDP) and agriculture constitutes a significant source of foreign exchange.
- The has been a small growth rate such that the average growth rate of the region was estimated at 0.9 % in 2017, against almost 0.1 % in 2016.
- Fish production depends on maritime industrial and small scale fisheries sector, inland fisheries and aquaculture.
- Fisheries contribution to Africa GDP does not exceed 2.7%.
- In 2016, total fish production was estimated at 285 000 tonnes of fish including both maritime and inland fisheries.
- The country imports huge amounts of fish products creating a deficit in the trade balance estimated at 100 billion CfaF per annum since the 1990's.

5.3.2 Formal trade

5.3.2.1 Map of the corridor

The map of fish trade in the central African corridor is fairly simple, fish movement is from landing sites to big market consumption places, out or inside the different countries using mainly sea water channel for importations and exports, roads, rivers and train for fresh and frozen products (Figure 8).

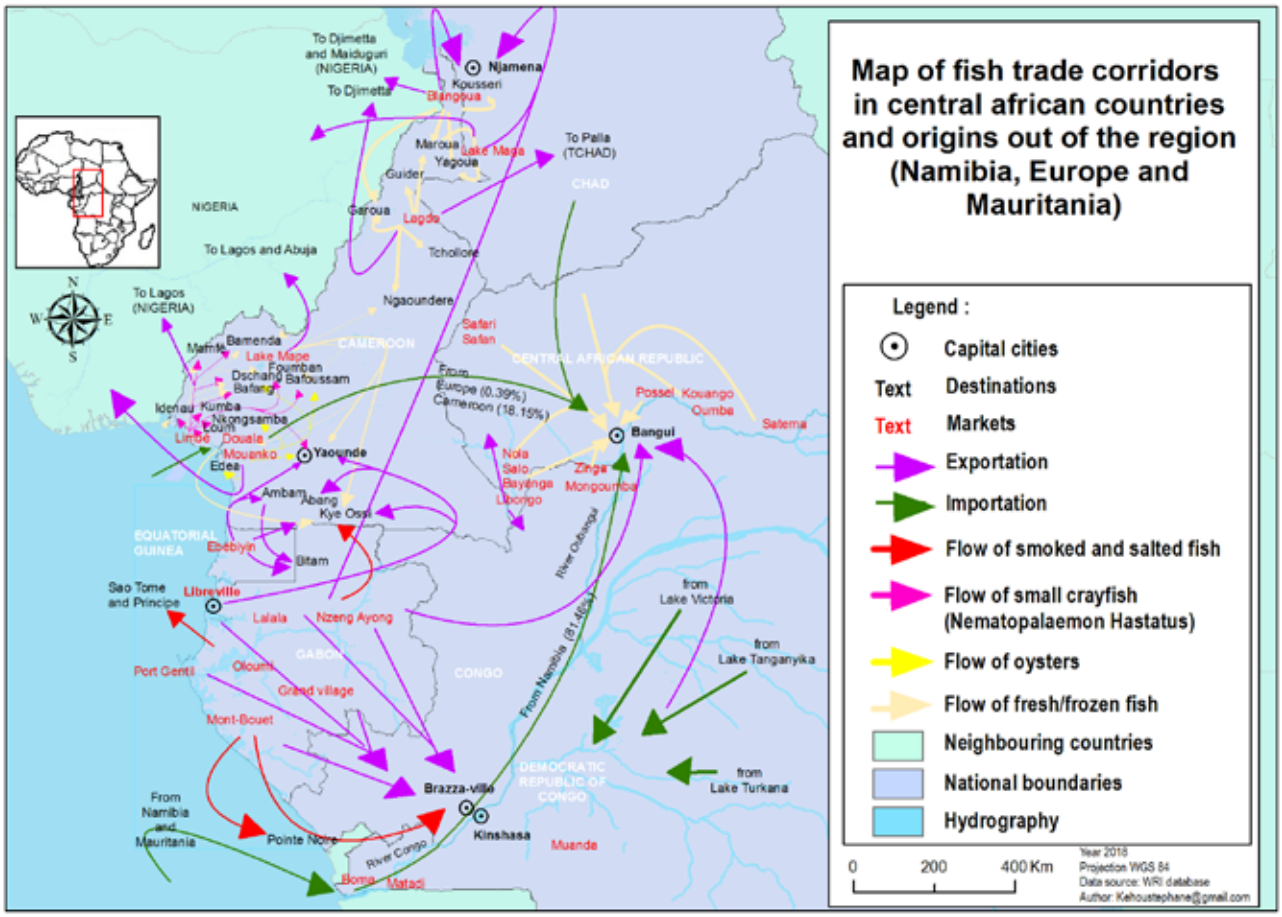


Figure 8: *Map of fish trade in the central African corridor and surrounding countries (Nigeria, Namibia, Mauritania and Europe)*

5.3.3 Fish product Trade flows

5.3.3.1 Exports of local fish products

- Huge amounts of fish produced in Cameroon are exported in Nigeria and in all the six ECCAS countries.
- The main species include: tilapia, Nile perch, synodontis, Ethmalosa, Sardinella, catfish and the small shrimp, Nematopalaemonhastatus (Crayfish).
- These products are mainly dried or smoked and exported to Nigeria (20 tonnes during the second period, sold at Maiduguri, Lagos or Abuja markets, coming from Lagdo), Chad, Gabon and Equatorial Guinea.
- The Nile perch (19 tonnes of fresh fish) is also exported to Nigeria. Other products such as the smoked ethmalosa (75 tonnes), Sardinella (28 tonnes) and catfish (10 tonnes) are destined to Lagos and Abuja markets for almost 1 billion cfaF.
- All the fish traded in the region is either from imports or the local production.
- Imports are estimated at 100 billion cfaF per annum.
- Fish come mainly from Chile, Mauritania, Irish, Senegal and Namibia.
- The frozen Horse mackerel constitute the main import product, combined with tuna, red sea bream and canned oil sardine.

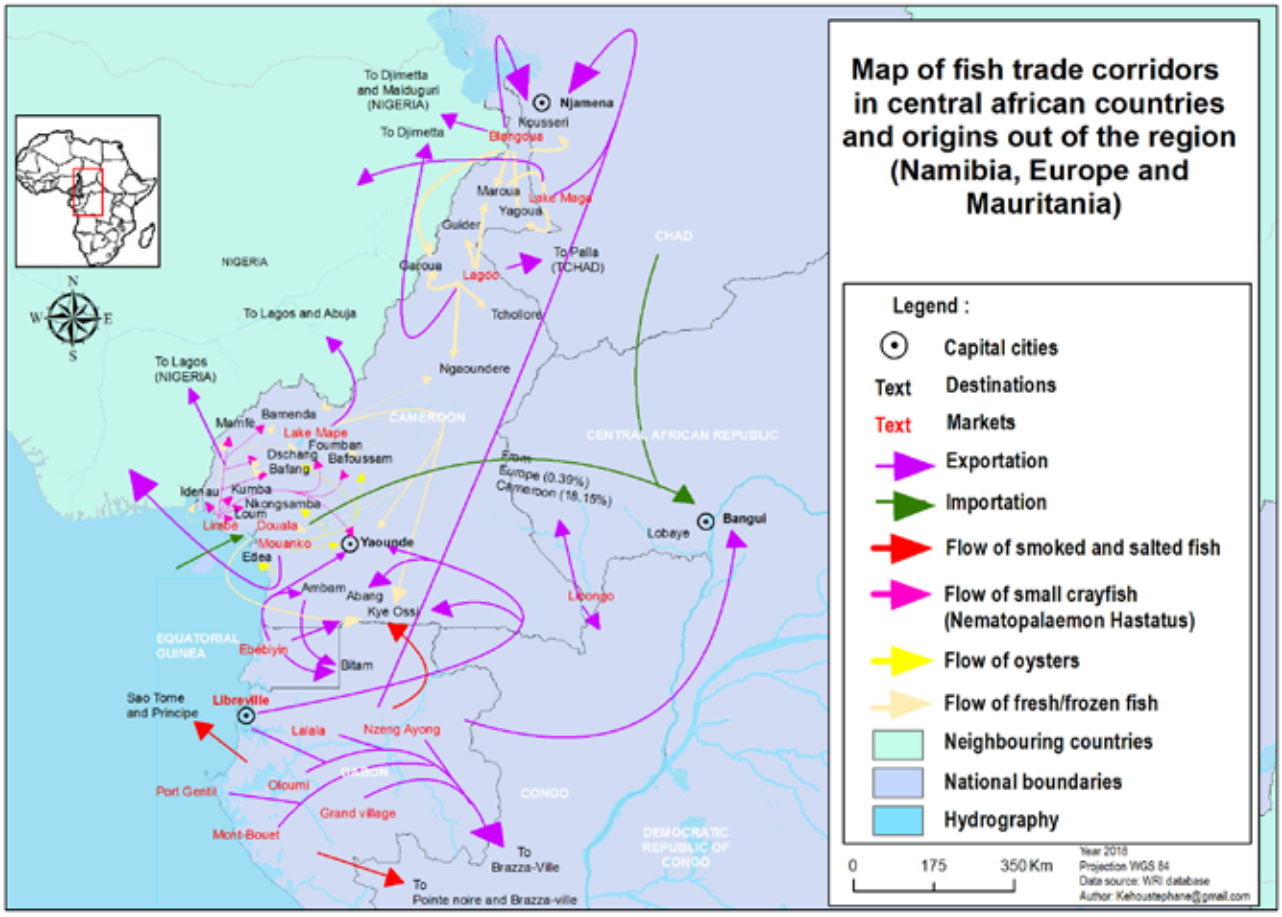


Figure 9: *Flow of fish products between Cameroon, Equatorial Guinea-Gabon-Chad and CAR.*

5.3.3.2 Exports of imported fish products (Re-exports)

- Most of imported frozen fish products are reexported to Gabon or Equatorial Guinea and CAR.
- Species re-exported include:
  - horse Mackerel (81 tonnes),
  - croakers (21 tonnes) and
  - Sea breams (10 tonnes).

5.3.3.3 Flow of fish trade from Cameroon - RCA (Bangui) – DRC

- Fish is imported into RCA
- These imports of sea fish are from:
  - Europe (4,080 tonnes or 0.39 per cent),
  - Cameroon (187,890 tonnes or 18.15 per cent),
  - and Namibia (843,540T or 81.46 per cent)
- The following channels are used: - along the Ubangi River in Bangui, Mongoumba, Zinga, Bimbo-Kolongo, Safari, Ngaragba, Ouango-Saô, Oumba, Nzoukou, Possel, KouangoMobaye, SatemaBangassou; - along the Sangha river (Cameroon border): Nola, Salo, Bayanga;- along the Kadéi river (Batouri, Cameroon border).

5.3.3.4 Flow of fish from Gabon to Congo, Cameroon (Yaoundé), Chad (Ndjamena) and Central Africa (Bangui):

Different markets are in place for each city including:

- In Libreville: Nkembo markets, Mont-Bouet, Lalala, Akébé, Oloumi, IAI crossroads, Nzeng Ayong junction.
- In Port Gentil: Markets of the Town Center, Grand Village, CCPAP Fisheries Center.
- The processed salt and smoked fish goes to the following countries: (Cameroon (Kyé-ossi), Congo (Pointe Noire and Brazzaville), Sao Tome and Principe.
- For fresh fish to Chad (Ndjamena) and Central African Republic (Bangui) by road.

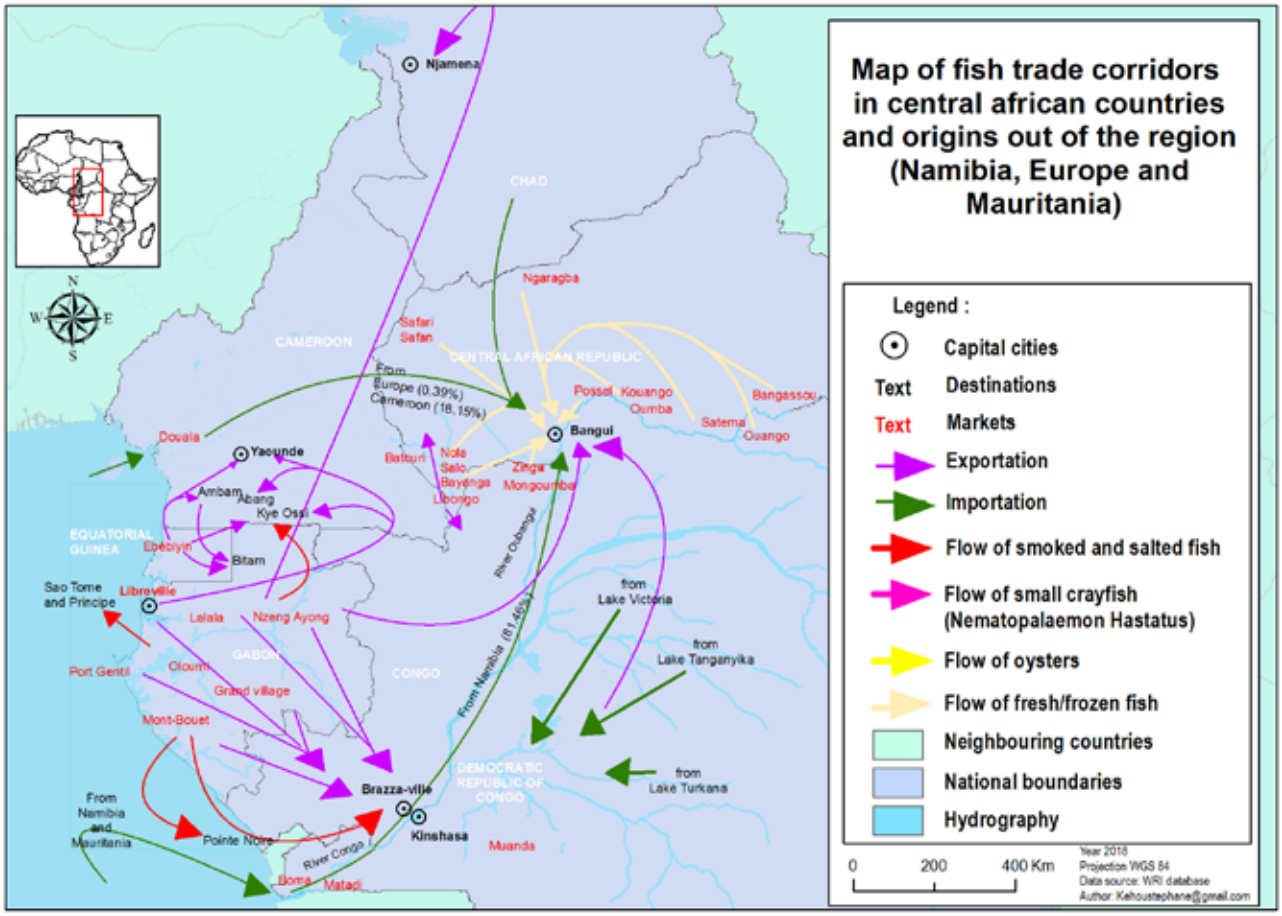


Figure 10: *Map of fish trade from Gabon to Cameroon, Chad, CAR and Congo*

5.3.3.5 Flow of fish trade from Cameroon - RCA (Bangui) – DRC

The main purpose of the fish marketing channels is to supply the capital, Bangui, with a population of 839,124 (projection), which absorbs the bulk (95 percent) of domestic production. These imports of sea fish are from Europe (4,080 tonnes or 0.39 per cent), Cameroon (187,890 tonnes or 18.15 per cent) and Namibia (843,540T or 81.46 per cent) are for human consumption. The following channels are used : along the Ubangi River: in Bangui, Mongoumba, Zinga, Bimbo-Kolongo, Safari, Ngaragba, Ouango -Saô, Oumba, Nzoukou, Possel, Kouango Mobaye, Satema Bangassou; along the Sangha river (Cameroon border): Nola, Salo, Bayanga; along the

Kadéi river (Batouri, Cameroon border).

5.3.3.6 Namibia-Mauritania-DRC fish trade flow

DRC imports frozen fish as horse mackerel from Namibia and Mauritania. Large quantities of fish, mainly dried tilapia and the bulk dagaa of Lake Victoria, the largest amount of dried fish around Lake Turkana, Lake Tanganyika and other important lakes are imported by DRC. Women fishmongers are the intermediary between landing sites and outlets which are most of the markets of the cities of MUANDA, BOMA, MATADI, and KINSHASA. Marine catches are sold fresh or frozen in local markets and in Kinshasa. Most exports of DRC fishery products pass through the lakes of the Rift Valley through informal border trade to CAR (Bangui).

5.3.4 Drivers of Informal Trade

The following are the drivers of informal trade in the Central African Corridor

- Poor road infrastructures from landing sites to first sale markets and from those markets to main cities.
- Political situation are at the core of the development of informal sector.
- Significant post-harvest physical and economic losses in particular during the rainy season due to remote fishing zones and weak transportation infrastructure.

5.3.5 Policy recommendations

- There is need to build roads and the Political situation for the development of informal sector.
- There is need for a quantitative assessment of fish trade in the central corridor with resource persons posted at boarders and involvement of customs and trade personnel.

5.4 The East Africa fish trade corridor

5.4.1 Characteristics of East Africa trade corridor

East Africa corridor consists of the five countries namely: Kenya, Uganda, Burundi, Rwanda and Democratic Republic of Congo. Some of the countries in the corridor overlap with Inter-Governmental Authorities for Development countries and these include Djibouti, Ethiopia, Kenya, Somalia, Sudan, United Republic of Tanzania and South Sudan. The corridor is characterised by the following:

- It has a population of over 438,945,448million, with about 115,265,762 residing in the urban areas representing 26.7%.

- Aquaculture production grew rapidly over a period of 7 years from 117645 MT in 2010 to about 193764 MT in 2016.
- The fisheries sector in all the countries in the region except for Uganda and Kenya contribute less than 1% to their country's economy.
- Regional trade is mainly conducted informally by small scale and traditional traders across the borders.
- The export value of fish for the region is 1263793 USD whilst the import value is766710 USD.
- Eastern Africa accounts for about 16 % of the combined GDP in 2009 and 22% of the continental landmass.
- Regional GDP growth was propelled by rising oil output in Sudan, mineral exports in Ethiopia and Tanzania and ongoing reforms across the region.
- The agriculture sector is generally the main driver of East Africa's growth, followed by industry.
- Fish trade flow is determined by the demand for fish by the importing countries.
- Fisheries stakeholders in the countries in the Eastern trade Corridor has strong linkage between producers and traders and between fish suppliers and processors
- The domestic markets in the region are dominated by freshwater species, which include tilapia, catfish, Nile perch and also small pelagic freshwater sardine locally known as omena In Kenya, mukene in Uganda and dagaa in Tanzania.
- Uganda is the main fish supplier to the regional markets and the largest fish exporter among the countries followed by Kenya and Somalia.

5.4.2 Major players in the Domestic, Regional and international Trade

Major players in the Domestic, Regional and international Trade include:

- **Fish Producers:** The male gender dominates the fishing operations and therefore the majority of fishermen are men, while fish farming is carried out by men, women as well as the youth.
- **Fish Processors:** Middlemen comprising of both men and women purchase the catch at the landing sites either through predetermined prices or through auction.
- **Retailers:** The fish traders at the domestic markets are mainly women. The small -scale cross border traders are mainly women and youth while the large-scale traders and agents are men.
- **Fish Inspectors:** To ensure that the fish processing establishments comply with the hygiene and quality standards, especially for the EU, the governments have established Competent Authorities and trained fish inspectors who oversee the processes compliance of these

factories in production quality and safe products for exports.

- **Local and National Governments:** The government's role in the fish trade is policy and legislation development and enforcement. It has the responsibility to promote fish trade through creating enabling environment such as infrastructure, simplified rules and procedures for cross-border trade, tariffs that are not punitive as to stifle trade, facilitation of dissemination, domestication and implementation of the regional agreements and protocols.
- **Other Players:** RECs, African Union, Development Partners and NGO, Universities and research institutions.

5.4.3 Formal trade

The formal trade in East Africa is friendly to the traders although not highly embraced. They have reforms for ICBT through STR and One Stop Border Post (OSBP) which have made official routes to be efficient and the transactions at the border cheaper and faster. The traders however lack enough information on the importance of formal trade hence keeps avoiding it.

5.4.4 Informal trade in East Africa

5.4.4.1 Drivers of Informal trade

The informal trade often consists of small consignments and is mainly conducted by individual traders of which a large proportion are women, and micro, small and medium-sized enterprises. Some of these traders operate entirely outside the formal economy; others are registered domestically yet escape fully or partially trade-related regulations and duties. Informal cross-border trade in Eastern Africa is relatively more discernible when compared to other parts of the continent. It represents a significant proportion of regional intra trade in Africa, sometimes with informal flows exceeding the formal trade flows. COMESA estimates that US$2.9 million of goods per month are traded informally. This estimate is far much greater than the formal trade, which is estimated at $1.6 million per month (Jean-Guy, 2012). The small amounts of fish usually on a bicycle or on foot are estimated to constitute about 43% of the traded fish contributing to the quantity for the unrecorded data from informal trade. The following are the drivers of the informal trade:

- High custom duties
- Price disparities between formally and informally traded goods in the importing country due to high levels of import and export duties.
- The officially traded goods are subject to complex, sometimes non-transparent regulatory requirements such as customs formalities, technical regulations and sanitary standards

that increase transaction costs.

- Lack of information on formal procedures requirements and duties such as in the East Africa Community, traders often face long and costly customs delays when trading formally (Lesser and Moisé-Leeman, 2009).
- Weak law enforcement at the borders facilitates the conduct of informal trade.
- Arbitrary applications of trade laws and regulations and requirements that encouraged facilitation payments (bribes) to reduce costs of delays.
- Informal cross-border trade also arise due to the obstructed entry or exit of certain commodities, caused by import quotas or export bans or foreign exchange controls.
- Weak law enforcement at the borders facilitates the conduct of informal trade.
- Delays caused by the customs officials.

Relevant Policy instruments and protocols to the informal trade sector exist at the regional level. The Eastern Africa Community (EAC) Fisheries and Aquaculture Policy recognizes challenges with the intra-regional trade and provides for improvement in Infrastructure across the value chain, promoting value addition, market access and facilitating the intra- regional fish trade in the EAC region (EAC, 2015). STR and OSBP are also available for informal trade facilitation. COMESA has introduced comprehensive trade facilitation programmes, which not only seek to remove tariff and non-tariff barriers but also take many steps to simplify trade and lower the cost of doing business. Most informal traders especially women, even in Uganda are not aware of the benefits of using legal routes and continue to use illegal routes despite the negotiated and agreed COMESA STR. The Regional fish trade is estimated at US$ 50 million, which is largely illegal and consists of immature fish and therefore not recorded. The main border posts for cross border import and export of fish are Isebania, Lunga Lunga (Kenya/ Tanzania), Busia and Malaba (Uganda and Kenya border).

5.4.5 Programs and policies that promote East Africa trade

COMESA has introduced comprehensive trade facilitation programmes, which seek to remove tariff and non-tariff barriers but also take many steps to simplify trade and lower the cost of doing business. COMESA aims to promote competitiveness in regional and global markets. It is doing so through the following:

- A customs-bond guarantee scheme/plan was developed to eliminate unnecessary administrative and financial costs associated with national customs bond guarantees for transit traffic.

- Putting in place of an Automated System for Customs Data and Management (ASYCUDA).
- A uniform system of classification of goods was developed, common statistical rules and regulations were adopted, to ensure systematic comprehensive collection, compilation, analysis and production of foreign trade statistics.
- Trade documents and procedures were simplified and harmonized.
- The COMESA customs declaration document is used for clearance of exports, imports, transit and warehousing replacing all declaration forms being used by Member States.
- Common competition rules were established and technical norms and certification procedures were harmonized.
- Trade information services are being established to facilitate trade through computerized databases, directories, inquiries and monthly bulletins.
- COMESA has established and is implementing its customs union and plans to have monetary union by 2018. COMESA also plans to harmonize its regional agenda with those of its sister RECs (UNECA, 2010).

Again, Policy instruments and protocols that are relevant to the informal trade sector exist at the regional level. Some of these policy instruments include:

- The Eastern Africa Community (EAC) Fisheries and Aquaculture Policy
- COMESA Simplified Trade Regime (STR) and OSBP

The main advantage of OSBP is that border authorities from two countries perform joint controls and therefore reducing, the duplication; improvement of communication and enforcement through better cooperation. Four core elements are involved in the implementation of OSBP:

- Legal framework. This is usually handled nationally, although the EAC has a regional Bill on the establishment of OSBPs
- Design of procedures and traffic flows for the entire Common Control Zone
- Put in place relevant ICTs
- Design of common integrated physical facilities by the two countries.

Simplified Trade Regime (STR) formalities are also implemented in the area. STR for small traders basically means that depending on what they are bringing into the country, they can enjoy duty free access with simplified documents (Trademark Southern Africa, 2013). The inspiration for the STRs was COMESA's recognition that small traders are responsible for the bulk of intra-COMESA food trade and needed help to be able to participate more effectively in the Free Trade Area (FTA). The STR has three elements:-

- A simplified Certificate of Origin from customs as the trader leaves the country to certify the origin of the goods.
- A common list of goods that may use the STR. This list is displayed in the border offices and elsewhere through cross-border trade associations.
- A simplified customs document, that is filled in as the trader enters the country he is exporting to.

5.4.6 Fish trade flow in the region and inter-linkages with other corridors

5.4.6.1 Major Species traded in the region

There are four main fish species harvested and traded in the region under the study; which are Nile perch, tilapia, catfish and freshwater sardines (Omena / mukene/dagaa.)

Nile Perch

Most of Nile perch is produced from Lake Victoria by Kenya, Uganda, Tanzania, Ethiopia and Sudan. The majority of Nile perch from Lake Victoria are destined for exports. The industrial processors produce chilled and frozen fillets, steak and portion of Nile perch products for export to the international markets.

The main market for Nile perch is Europe comprising over 70%. Other destinations include Japan, USA, Israel and Middle East. All the by-products from the Nile perch industry are sold locally and regionally, except the fish bladder (fish maws), which is exported to Far East markets. The Nile perch that is rejected for export and undersized Nile perch (below 50cm or above 85cm length fished illegally are sold to retailers for the domestic marketing. Some of this fish is also sold to artisanal processors for processing traditional products such as salted, smoked and sundried for the local and regional markets. Fish products sold as snacks to supplement fish soups and sauces are sold to countries such as South Sudan, Rwanda, Central African Republic (CAR) and the DRC.

Tilapia

Tilapia is harvested from the lakes and also produced through aquaculture. Uganda is the major producer of tilapia in the region and the fish is harvested from Lake Victoria; Lakes Albert, Edward and Kyoga; and fish farming especially cage farming in Lake Victoria. Tanzania and Kenya also harvest tilapia from Lake Victoria. Other sources of tilapia in the region are Lakes, dams and fish farming. Tilapia is the most consumed fish in the region and most of it is sold as fresh chilled fish but some quantities are processed into smoked/sundried/salted

products and are sold in the local or regional markets. Fresh chilled tilapia is also sold in the regional markets, mainly to Kenya, Rwanda and South Sudan. The chilled fish is either carried in refrigerated tracks or packaged in baskets and transported to the cities, towns or the region in public means such as buses.

Fresh Water Sardines (Omena)

Omena (Kenya), Mukene (Uganda) or Dagaa (Tanzania), is mainly harvested from the Lake Victoria and processed by drying. A large quantity of Mukene from Uganda is sold in the regional markets mainly Rwanda, South Sudan and DR Congo. Value added Omena are now found in shops and supermarkets in a form hygienically packaged sundried, salted, deep-fried or powdered.

Catfish

Catfish in the region is either harvested from capture fisheries or is produced from aquaculture. Catfish is mainly caught from Lake Albert, Lake Tina, lakes and rivers. Generally catfish is consumed in domestic markets. Catfish is usually filleted, packed in plastic bags and sold in major cities. Some are traditionally processed into dried and smoked products. These processed products are marketed to major towns.

Marine fish

The marine fish include finfish and crustaceans. Somalia, Kenya and Tanzania harvest marine from Indian Ocean. Most of marine fish in the region, except shrimps, octopus, tuna and lobsters, which are exported to international markets as high value commodity, are traded in domestic or regional markets. Other marine fish products include dried Shark fins, shark meats and sea cucumber.

5.4.7 Mapping Fish Trade Flows

5.4.7.1 Domestic Trade Flows

Domestic trade flows of fishery products in each country of the region vary. After fish is landed, the traders commonly referred to as the middle men usually purchase and transport it to the urban and rural fish markets. Some of the fish is sold to the processors who either smoke or dry depending on the market target and species.

In Ethiopia, most of the fish are sold in the main markets of Addis Ababa and Bahirdar. In Uganda most of it is sent to major cities like Kampala, Entebbe and Soroti. In Kenya the major

markets are Mombasa, Nairobi, Kisumu, Nakuru and Busia. In Somalia, Mogadishu, Bosaso and Berbera are the main consuming areas for fishery products, while the urban centres of greater regions of Upper Nile, Bahar Ghazal and Equatorial in South Sudan are the main markets for freshwater fish harvested from Sudd Wetlands. In Tanzania, the major markets are Mwanza, Dar-es-salaam and Arusha. Other major markets in the country include Kasala, Medani, Sennar, Dongla, Atbara, El Obeid and Gadarif. In Djibouti, the main fishing areas are the Gulf of Todjuara to Obock. The main market is the capital Djibouti and also coastal areas near the landing sites.

5.4.7.2 Regional Trade Flows

In the case of freshwater tilapia, Uganda is the main exporting country to the region, while Kenya, Sudan, South Sudan, Ethiopia, DR Congo, Burundi and Rwanda are the main importing countries. Somalia is the main player exporting its marine products to Kenya, Djibouti and Yemen. Regional trade is dominated by cured fish products such as dried, salted and smoked fishery products. Dried, salted and smoked tilapia products are exported from Uganda and Ethiopia (Northern Lake Tana) to South Sudan, Kenya and DR Congo. Kenya also exports dried tilapia to Sudan and DR Congo. Dried/salted and smoked by-products of Nile perch such as frame, skin and head are exported from Uganda to DRC Congo and the Western part of Kenya. Similar products from Kenya are also exported to DR Congo and Sudan. Fish maws from Kenya are also sent to Uganda, most probably for re-export to Far East markets. Dried, salted and deep fried Mukene from Uganda is exported to Kenya, DRC Congo, Rwanda and Burundi and dried Omena is sent to Sudan from Kenya. There is one commercial processor in Uganda who exports salted sun-dried Mukene to SADC market. In addition to this, Mukene Traders Exporters and Processors Association (MUTEPA) promote marketing and trade of Mukene products in both domestic and regional markets. Fresh tilapia is also exported from Uganda to South Sudan and Kenya, Rwanda and Burundi while fresh Nile perch is shipped from Ethiopia (Lake Turkana) and Uganda (Lake Victoria) to Kenya. In Kenya, the traders prefer to import fish as there is ready market available. The districts receiving most of the imported fish are Busia, Amagoro, Kisumu and Kuria, although regional fish imports are also destined for the major urban centres. Nakuru and Nairobi. Kenya is also actively exporting fresh, chilled and frozen fishery products to neighbouring Ethiopia, Somalia, Sudan and Uganda. There are also second grade frozen fish that is sold from Uganda to regional markets especially Rwanda, Burundi and South Sudan. Imported frozen fish from Djibouti is also re-exported to Ethiopia to cater to hotels, restaurants and modern retail outlets. Live lobster from Somalia's Bajuni Islands, sent by chartered flight to Kenya while fresh fish from Zeila is transported to Djibouti. Fresh, smoked and dried products from South Sudan are also exported to Sudan and Ethiopia.

Regional trade is carried out by both men and women and the main means of transportation are boats and trucks.

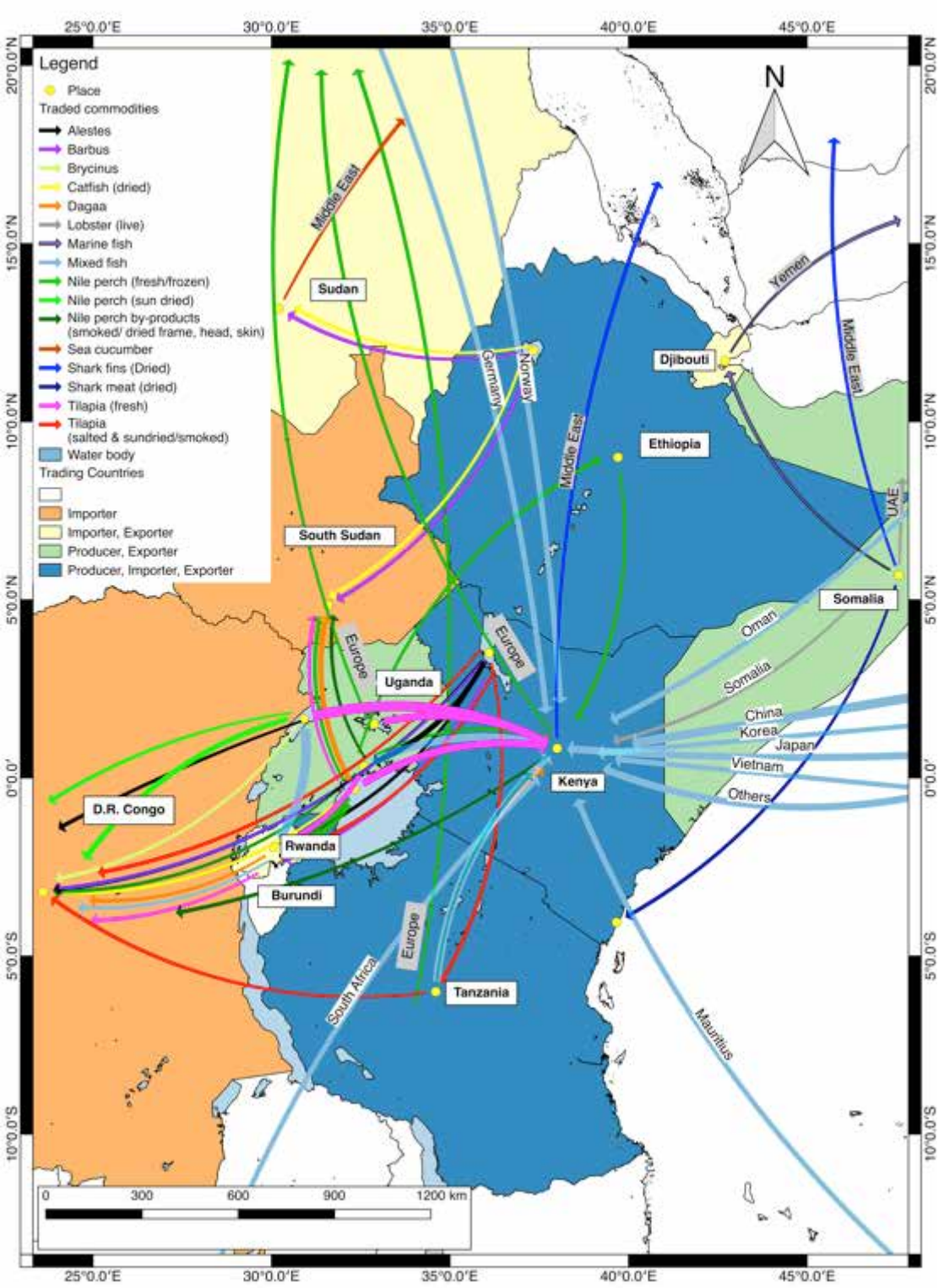


Figure 11: *Fish Trade Flow Map of Eastern Africa Corridor and the Horn of Africa*

5.4.8 Drivers of Informal Trade

- Lack of limited access to fish marketing information.
- Fish trade in the trade corridors remains largely informal and invisible in national accounting and economic development statistics.

- Lack of political will to empower the trading blocs established by African leaders.
- The small scale fisheries sector lacks organized institutions and service providers to disseminate information on cross border trade requirements, rights and responsibilities of small scale traders under the STR, food safety/quality inspections
- General lack of support services to formal traders and the need to offer technical assistance and quality to build greater trust between the private sector and border agencies
- Formal intra-regional trade is impeded in countries within trade blocs due to different and harmonized trade-related regulations such as customs procedures, technical regulations and standards among themselves and with countries of other African trade blocs.
- Inadequate established common and harmonized products' standards and procedures to promote intra trade in Africa.
- Lack of standards that would be used as the risk management tools to drive regional trade create high risks of fish diseases and bio security associated with free movement of fish fingerlings, fish feed and fish products.
- The lack of fish quarantine facilities and risk based import procedures exposes African fisheries and aquaculture to fish diseases and bio security risks associated with imports from other continents and regions.
- The agreed regional trade policy instruments such as STR adopted by EAC, COMESA and SADC partner states is not enforced to facilitate cross border trade.
- Limited information on the informal regional intra-trade and ICBT volumes and value.

5.4.9 Policy Recommendations

The governments must endeavour to support the informal trade by ensuring that the rules for official cross border trade are simplified to encourage transitioning of informal to formal trade

- Simplifying and harmonising documentation, rules and procedures and customs formalities.
- Establishing Free Trade Areas and Customs Unions;
- Removing trade facilitation bottlenecks
- Improving payment systems and promoting currency convertibility
- Integrating cross border fish trade into functional and efficient regional trading systems
- Promotion of One Stop Border Post (OSBP) is a practical way to reduce duplication of controls and reduce the time and costs involved in cross border trade transactions.
- Enforce the STR regime at the agreed thresholds (e.g. for goods worth USD 2000 or less in COMESA) and beyond the STR, determine the appropriate tax regime, which can be applied to small-scale fish trade.

- Put in place measures that would encourage transitioning of informal to formal trade through simplification and reduction of documentation requirements and formalities to expedite release and clearance of goods from customs.
- Greater attention should also be given to developing Regional Value Chains largely untapped within the continent.
- Consolidate all RECs Agreements, policies, positions and protocols with respect to fish trade and evaluate their uptake with the national governments, identify the challenges that impede the implementation of REC's trade policies and Agreements by Partner States
- Develop a vibrant communication strategy that will promote robust policy responses to fish trade issues and challenges at both RECs and Partner States levels; and also the dissemination of the policies, Agreements and protocols to the users.
- Streamline Informal Cross-Border Trade (ICBT) through enhanced statistics and appropriate policy responses could enhance investments and services in the small scale fisheries sector
- Strengthen research partnerships with universities, public and private institutions to apply the World Fish methodology, to monitor and quantify informal fish trade and to demonstrate with evidence the importance of formalizing informal fish trade.
- Improve information dissemination of RECs trade agreements and protocols to the countries for implementation.
- Enhance the transparency and reduce the levels of fees and charges for importation and exportation, using a uniform fee structure
- Develop national policies that recognize and support small-scale fisheries and aquaculture development.

5.4.10 Policy Recommendations

- The governments must endeavour to support the informal trade by ensuring that the rules for official cross border trade are simplified to encourage transitioning of informal to formal trade such as
  - Simplifying and harmonizing documentation, rules and procedures and customs formalities.
  - Establishing Free Trade Areas and Customs Unions;
  - Removing trade facilitation bottlenecks
  - Improving payment systems and promoting currency convertibility
  - Integrating cross border fish trade into functional and efficient regional trading systems
  - Promotion of One Stop Border Post (OSBP) is a practical way to reduce duplication of controls and reduce the time and costs involved in cross border trade transactions.

- Enforce the STR regime at the agreed thresholds (e.g. for goods worth USD 2000 or less in COMESA) and beyond the STR, determine the appropriate tax regime, which can be applied to small-scale fish trade.

- Greater attention should also be given to developing Regional Value Chains largely untapped within the continent.
- Consolidate all RECs Agreements, policies, positions and protocols with respect to fish trade and evaluate their uptake with the national governments, identify the challenges that impede the implementation of REC's trade policies and Agreements by Partner States
- Develop a vibrant communication strategy that will promote robust policy responses to fish trade issues and challenges at both RECs and Partner States levels; and also the dissemination of the policies, Agreements and protocols to the users.
- Streamline Informal Cross-Border Trade (ICBT) through enhanced statistics and appropriate policy responses could enhance investments and services in the small scale fisheries sector
- Strengthen research partnerships with universities, public and private institutions to apply the World Fish methodology, to monitor and quantify informal fish trade and to demonstrate with evidence the importance of formalizing informal fish trade.
- Improve information dissemination of RECs trade agreements and protocols to the countries for implementation.
- Enhance the transparency and reduce the levels of fees and charges for importation and exportation, using a uniform fee structure
- Develop national policies that recognize and support small-scale fisheries and aquaculture development.

5.5 The Southern Africa fish trade Corridor

5.5.1 Characteristics of Southern Corridor

The southern Africa corridor comprises of Angola, Botswana, the Democratic Republic of the Congo, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe Madagascar, Mauritius and Seychelles.

The economies in SADC are characterized by the following:

- The population of the countries is estimated at 277,000,000, distributed across an area of 554 919 km^2.
- The main contributor to GDP for countries in Southern Africa is the service sector, contributing about 51% of the total GDP with industry and agriculture contributing 32 percent and 17 percent respectively (SADC, 2015).

- The GDP of these countries ranges from 2.8 billion to 349 billion.
- The growth rate of the GDP in the region has been declining, estimated at 1.4% in 2016 versus 2.2 in 2015.
- The Southern Africa coastline and waters bodies produce nearly 2 million tons of fish each year
- The fisheries sector in the Region contributes an average of about 2% to the SADC GDP, with total average exports worth of USD152 million & average imports of USD100 million.
- Per capita fish consumption in the region is 11kg per person, which constitutes an average of 16% of the total animal protein intake & 5% of the total protein intake.
- Fisheries and aquaculture sector employs a total of about 3.3 million people, equivalent of about 1% of the Southern Africa population, especially women, young and old in the rural and urban communities in the Southern Africa countries.
- Fisheries and aquaculture sector accounts for an estimated 3.54% of the region's Gross Domestic Product (GDP) and 8.99% of the region's agriculture GDP.
- Women account for nearly 14 percent of all people directly engaged in the fisheries and aquaculture primary sector.

5.5.2 Formal Fish Trade in Southern Africa

Formal trade in Southern Africa is dominated by Marine fish, ornamental fish and other high value inland fishes such as Tilapias. There exists a high level of intra-southern Africa trade, which, to some extent, is facilitated by the SADC's Free Trade Area, the high demand for fish in the region and the negative trade balance as shown in Figure 12. Whilst most southern African countries trade with the rest of the world, the primary market of their fish products has been the domestic and regional markets. The majority of hake produced in Namibia is exported to Spain (47%) and South Africa (34%), primarily frozen headed and gutted, frozen in fillet blocks or frozen as fillets. Horse mackerel, on the other hand, is mainly exported to Zambia (33%), Mozambique (28%) and the Democratic Republic of Congo (17%), primarily in whole-round frozen block form. Seals from Namibia are processed into pelts and oils on shore and then exported to Turkey and China, respectively.

The international market for Mozambique's fish products includes Africa (Democratic Republic of the Congo, Malawi, South Africa, Zambia and Zimbabwe), Asia (Hong-Kong and Japan), Europe (Portugal and Spain) and South America (Brazil). Fish imports into Malawi are from countries such as Zimbabwe, South Africa, Tanzania, Mozambique, Namibia and Swaziland while Formal Fish exports are limited to aquarium fish with major markets in Europe, Asia and

within Africa. From Zambia/Zimbabwe, the commercial aquaculture company, Lake (Kariba) Harvest, exports tilapia to suppliers in South Africa, Zambia, Botswana and Malawi. Lake Harvest also exports to the EU. South Africa's abalone is primarily traded with Asian countries.

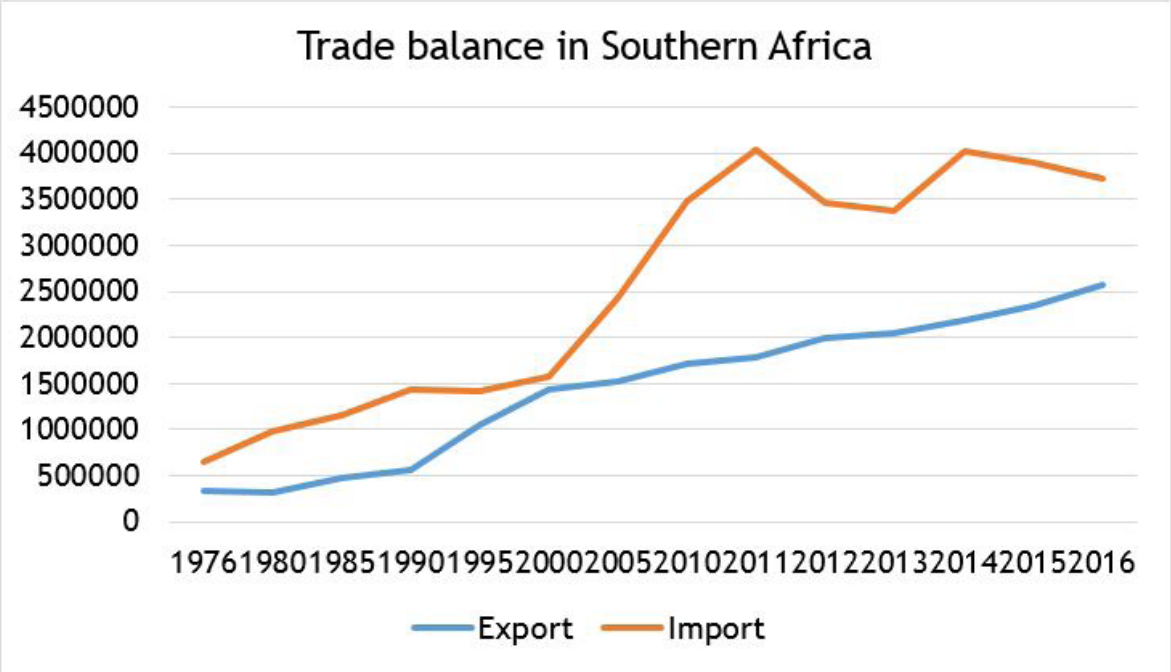


Figure 12: *Trade Balance in Southern Africa*

Figure 13 indicates that South Africa and Namibia are the largest fish trading nations in Southern Africa, followed by Angola, Mozambique and Zambia. Namibia is largely and exporting country, while South Africa imports nearly 50% of the volume of its exports. South Africa is the largest importer of fish in the region, followed by Angola, Zambia, Mozambique and Zimbabwe. Zambia. Zambia imports Frozen Tilapia from China which is further re-exported to other countries in the region such as Malawi and DRC.

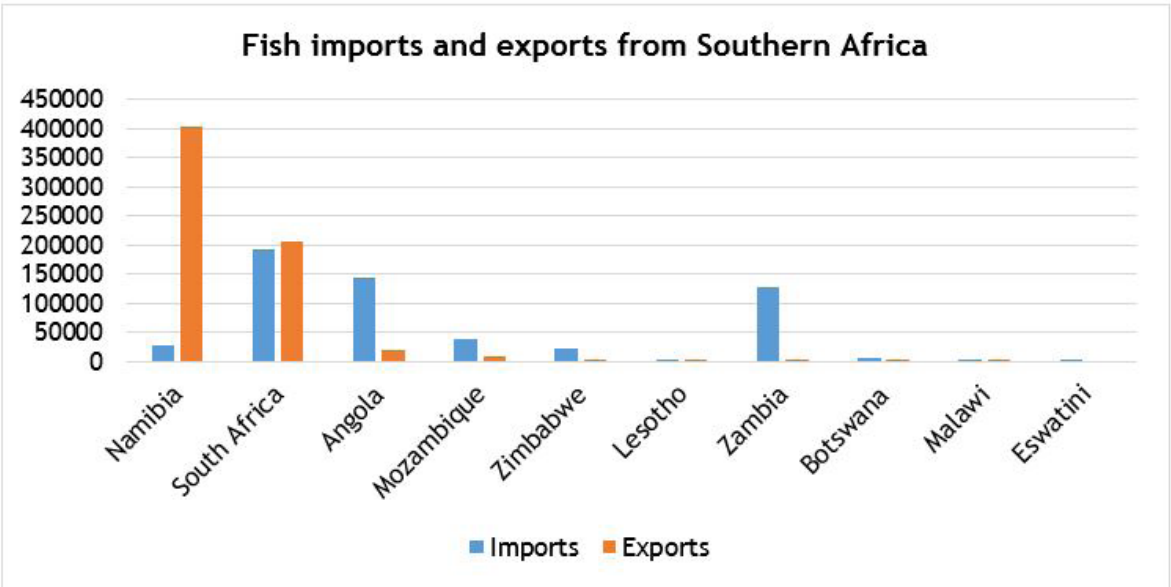


Figure 13: *Fish imports and exports in Southern Africa*

5.5.3 *Informal Fish Trade in Southern Africa*

The 1996 SADC Protocol on Free Trade (SADC, 1996) led to the establishment of a Free Trade Area in 2008 as part of the SADC's agenda for regional integration and eradication of poverty. The establishment of the Free Trade Area resulted in the signing of free trade agreements among member states that reduced tariffs on 85% of intra-regional imports, leading to increased trade among member states after 2008. Even so, intra-regional fish trade largely remains low due to technical and non-technical barriers. In addition, intra-regional fish trade is poorly documented. In order to evade the barriers that exist in the formal channels, traders prefer informal channels of trade

Informal international fish trade is a result of the structure of the economies in most Southern Africa countries, which largely depend on small-scale traders, rather than large-scale formal multi-chain supermarkets. For this reason, informal trade is likely to remain the main channel for the foreseeable future in Southern Africa. Informal trade, including cross-border, helps deliver food to most people's plates and, therefore, greatly contributes towards food and nutrition security. In the region, women form an important component of cross-border trade, especially informal trade.

Most of the fish products traded among close neighbor countries in the Southern Africa countries are salted, fermented, and smoked fishes at the border markets by roads. This is because the processes are easy and do not need high cost of investment and equipment. The frozen, fresh and canned fishes because of their long shelf life and are easy to store are trade among the far distance countries by sea and air.

Majority of the fish harvested by artisanal fishers is consumed in fishing communities or nearby. None of the artisanal catch goes for exports. Fish at landing sites is sold by the fishermen to wholesalers, usually women who buy small quantities and subsequently transport it to local fish markets and sell it fresh. Some also buy fish for processing (drying, salting, smoking). Processed fish is usually packed in bags and transported by pick-up trucks to fish markets in villages, or to larger towns and cities. In inland areas bicycles are also used for transportation.

5.5.4 *Fish and Fish Product Forms Trade Route in Southern Africa corridors*

The following trade routes were found in each country as shown in the detailed route map, Figure 14:

- **Angola** exports nearly 60% of industrial fish land such as snappers, seabreams, croakers,

spiny lobster, shrimps, lobsters, crabs, Horse, mackerel, sardinella, tuna, and shrimp in fresh, dried to DR. Congo, South Africa, and Namibia. However, the country imports Horse mackerel from South Africa, Morocco and Namibia.

- **Botswana** exports a small quality of its freshwater fish from Shakawe, Maun and Kasane in dried and salted form to Namibia and imports fish from Namibia and South Africa.
- **DR Congo** exports most of its fish products out of the country to Africa regional markets such as Burundi, Rwanda, Tanzania, Zambia and Uganda as dried but imports large amounts of fish such as mackerel from South Africa and Angola.
- **Lesotho** exports small quantity of its sun-dry fish to South Africa as well as smoked fillet rainbow trout. It imports marine fish and fish product from South Africa
- **Madagascar** exports much of its marine and freshwater fish to Mauritius and South Africa.
- **Malawi** exports some dried and smoked fish from its lake catch to South Africa. It imports from Zimbabwe, South Africa, Tanzania, Mozambique and Namibia.
- **Mozambique** exports most of its fish and fish products such as salt-dried and smoked to markets in South Africa, Zimbabwe, Tanzania, Malawi, DRC and Zambia. Fish exports to Tanzania come from Cambo Delgado province; Malawi is from Nampula, Zambezia and Beira and Zambia comes from Tete (Cahora Bassa Dam). It also imports fish from South Africa, Zimbabwe, Tanzania, Malawi, DRC and Zambia
- **Mauritius** exports its fish product to West Africa countries.
- **Namibia** exports most of its Horse mackerel, hake and anglerfish in a form of frozen fish to African markets such as Zambians, Botswana, the Democratic Republic of Congo, Malawi, Tanzania, Zambia, Angola, Mozambique Ghana, Cameroon, Nigeria while sardine in tomato and chili sauce canned products are exported to South Africa.
- **Seychelles** does not import much of its fishery products but imports prawn seeds from Madagascar and Mozambique.
- **South Africa** exports mainly fish fillet, lobster tuna, skipjack, bonito, mackerel and octopus, squid and abalone to Mozambique, Zimbabwe, DR Congo, Zambia and Angola. It imports from DR Congo, Zambia and Angola.
- **Tanzania** imports from Zambia and Namibia freshwater fish. It exports seaweed and fish products to some Africa countries like Malawi, Zambia, DR Congo, Angola and Mozambique. Some fish products are exported to West Africa
- **Zambia** is the largest of aquaculture product exporter in the SADC countries. It exports fish to Tanzania, DR Congo, Malawi, Botswana, South Africa and Zimbabwe
- **Zimbabwe** imports more fish than it exports. Dried pilchards and sardines from South Africa, Mozambique, Malawi and Tanzania. Horse mackerel, hake from Namibia.

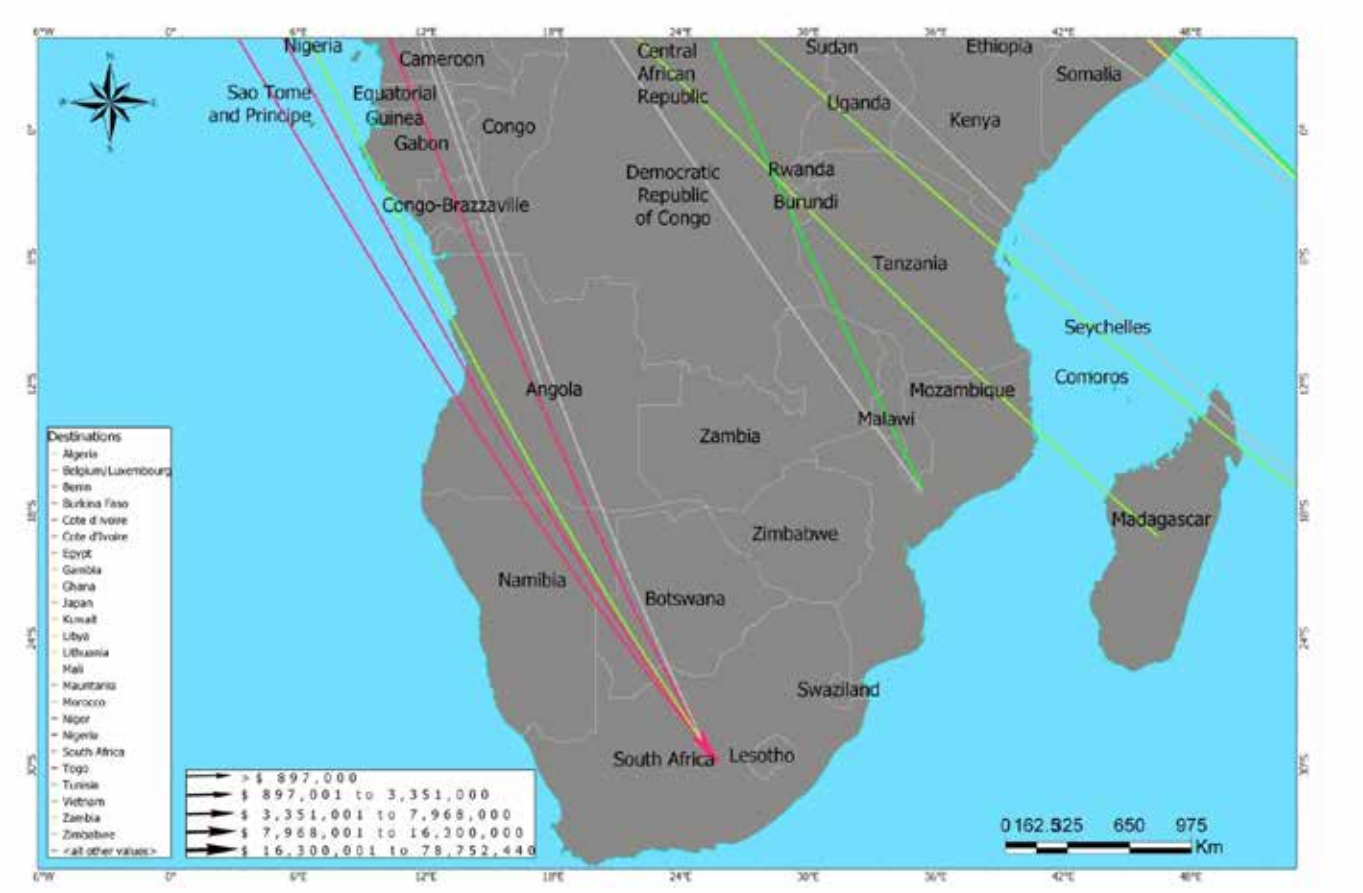


Figure 14: *Formal fish trade in Southern Africa*

5.5.5 Extent of informal trade

Despite the lack of recognition of the value of informal trade in the region, case studies done under the Fish Trade program reveal that the value from the informal sector is quite high. For instance, in Zambia, an estimated 102,000 tonnes of fish (valued at US$3.3 million), was informally exported to neighbouring countries between 2015 and 2016, with around 95% passing through the Kasumbalesa border to the Democratic Republic of Congo. In Malawi, informal cross-border exports of fish to neighbouring Mozambique, Zambia and Tanzania were estimated at over 24,000 tonnes (USD42 million) and imports estimated at almost 10,000 tonnes. These figures are far higher than official statistics for 2011, which report exports of 320 tonnes/year, and imports of 1,500 tonnes / year.

5.5.5.1 Types of products being traded informally

Informal fish trade in Southern Africa can be characterized by the type of products being traded, form of the products and means of transportation. It is observed that the main products being traded informally are mostly dried and smoked fish, due to lack storage facilities for fresh fish. These products are packaged in plastic bags, sacks, baskets or containers, and transported from the landing sites to the market centres by using trucks, vans, passenger vehicles, taxis

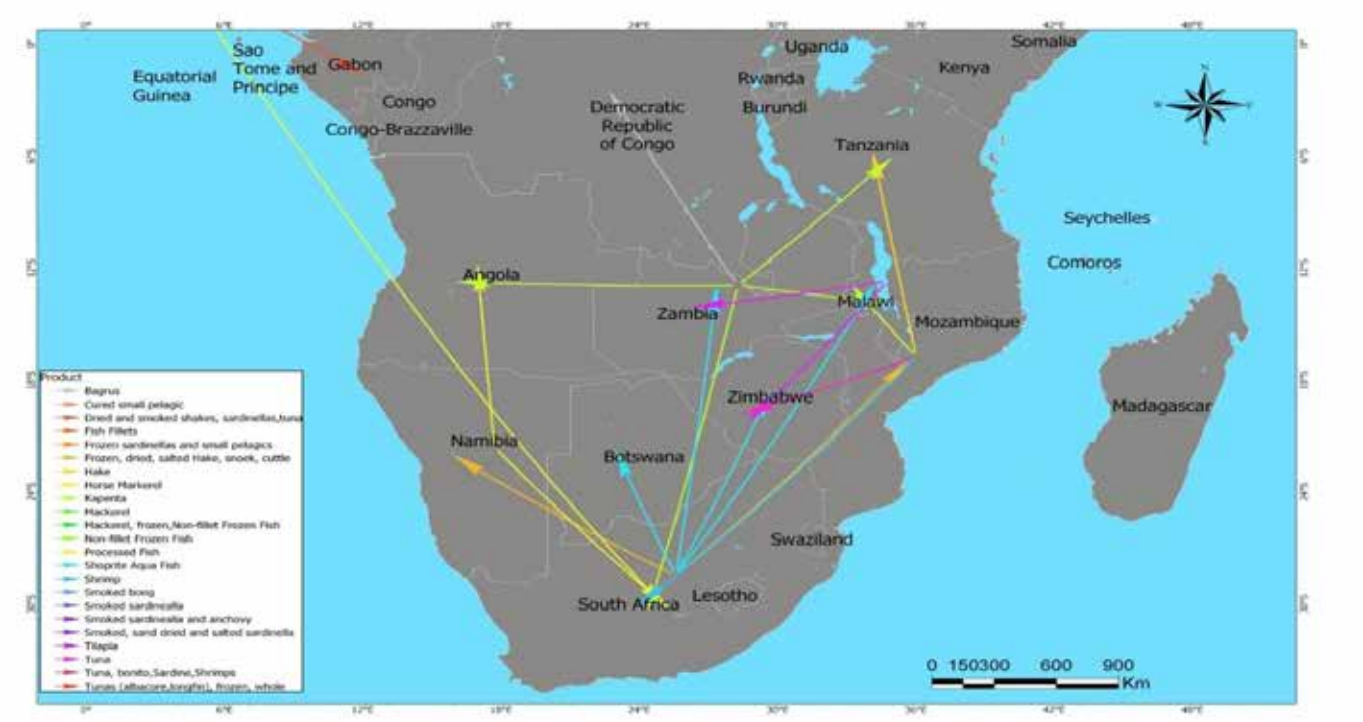


Figure 15: *Informal fish trade in the Southern Africa*

and motorcycles. Some people carry fish products on bicycles and even use their heads for nearby market centres to fish landings sites along lakes or coastal areas.

Table 2: *Cross border Fish Trade with Species*

No	Country of Origin	Country of Destination	Fish species
1.	South Africa	Mozambique, Zimbabwe, DR Congo, Zambia, Angola	Cod ,Salmon, Herrings, Mackerel Tunas, Tilapias, Sardines, Octopus Haddock, Mussels, Rock lobster
2.	Angola	DR. Congo, South Africa, and Namibia	Shrimp, gamba and crab
3.	Zambia	DR Congo, South Africa	Tilapia, Live Ornamental Fish
4.	Mozambique	Zambia	Crabs, Crustaceans
5.	Namibia	Zambia, Angola	Tilapias, Horse Mackerel, Oysters, Hake
6.	Mozambique	Zambia	Shrimps and Prawns

5.5.6 Drivers of Informal Trade

Participation in informal trade was found to be influenced by the following factors:

- Lack of awareness of the trade opportunities and markets available to increase their businesses.
- Lack of harmonized fish quality standards within the region.
- Lack of access to finance has constrained full participation in fish trade, hindering expansion of trader's businesses.
- Tariff barriers and non-tariff barriers in form of road blocks and corruptions along trade corridors reduce the life span of the fish resulting in reduction in quantity fish trade among countries.

5.5.7 Challenges of Informal Trade

The following challenges are encountered by traders in the informal fish trade sector in the Southern Corridor:

- Lack of adequate infrastructure, with an estimated 45% of the fish landing sites and market centers in Southern Africa fish trade corridors having inadequate infrastructure with appropriate fish handling and storage facilities to reduce the high level post-harvest losses prevalent in the region.
- Lack of good road networks at the landing sites and the market centers resulting in delays and shortening the life span of the fish and fish products.

5.5.8 Policy Recommendations

Results from the studies undertaken on the formal and informal trade in the region have resulted in identification of key policy issues that need to be addressed to maximize the benefits from fisheries.

- There is need for the government responsible for permits to establish one stop shop for sanitary certificate, export and import permit, processing fee and duty stamp fees. This will reduce cost of travelling to the capital for traders to access the permits and other support documents need on time.
- Member countries need to undertake more measures eliminate or reduce some of the fish trade cross-border regulations and restrictions, to enhance import and export of fish among member countries. Countries should therefore work towards regional integration of trade arrangement taking into consideration the important role fish is playing in diets of consumers through informal fish trade.
- Countries need to make investments in fish processing infrastructure development and value addition to address the high post-harvest losses that are faced especially among informal traders, by engaging the private sector in the downstream value chain activities. Countries need to reflect the value of informal trade in national statistics to raise awareness of the contribution that informal trade is making towards food and nutrition security, employment and incomes.

6 SYNTHESIS

6.1 Characteristic of the five corridors

A summary of the characteristics of the five corridors do indicate highest GDP of 732 billion USD of North Africa and lowest to be central Africa of 1.95. West, East and Southern region seem to have similar medium ranges of between 1 to 399 USD (Table 3).

Table 3: *Characteristics of fish trade corridors*

	North	West	Central	East	Southern
Population (Millions)	237	370.00	133	439	277.00
Urban population (%)	50.1	46.70		26.5	62.70
GDP (USD billion)	732	1-377	1.95	399	2.8-349
GDP per capita (000)	33-332	33-332	335.03	3059.3	2374.00
GDP annual growth	4.9	2.50	0.9	5.9	1.40
Main sector contributor to GDP	Service	Service	Oil	Mineral exports	Service
Contribution of Fisheries to GDP	1.5	4.10	2.7	1.26	3.40
Poverty (%) (people living below poverty line)	10	43.00	60	30	50.00
Annual Fish production (aquaculture and Fisheries) million	2.8	3.20	0.285	0.39	2.00
Per capita fish consumption	10.6	25	16.5	4.42	11.00
Number of people employed by Fisheries Sector (millions)	12	7.00			3.30
Value of imports (USD million)	599	13.40	.83	0.77	152.00
Value of exports (USD million)	598	489 (2011)	0.08	1.26	100.00
Percentage of people employed by fisheries sector		6,000,000			1.00
Percentage of women employed by Fisheries sector	14		4%	27.7	14.00

6.2 Formal trade

In general, high GDP is a proxy to high exports as high GDP increases fish production through availability of capital, technologies and investments (Nankwenya et al, 2018). Typically, results show that Central Africa has more imports than exports (Figure 16).

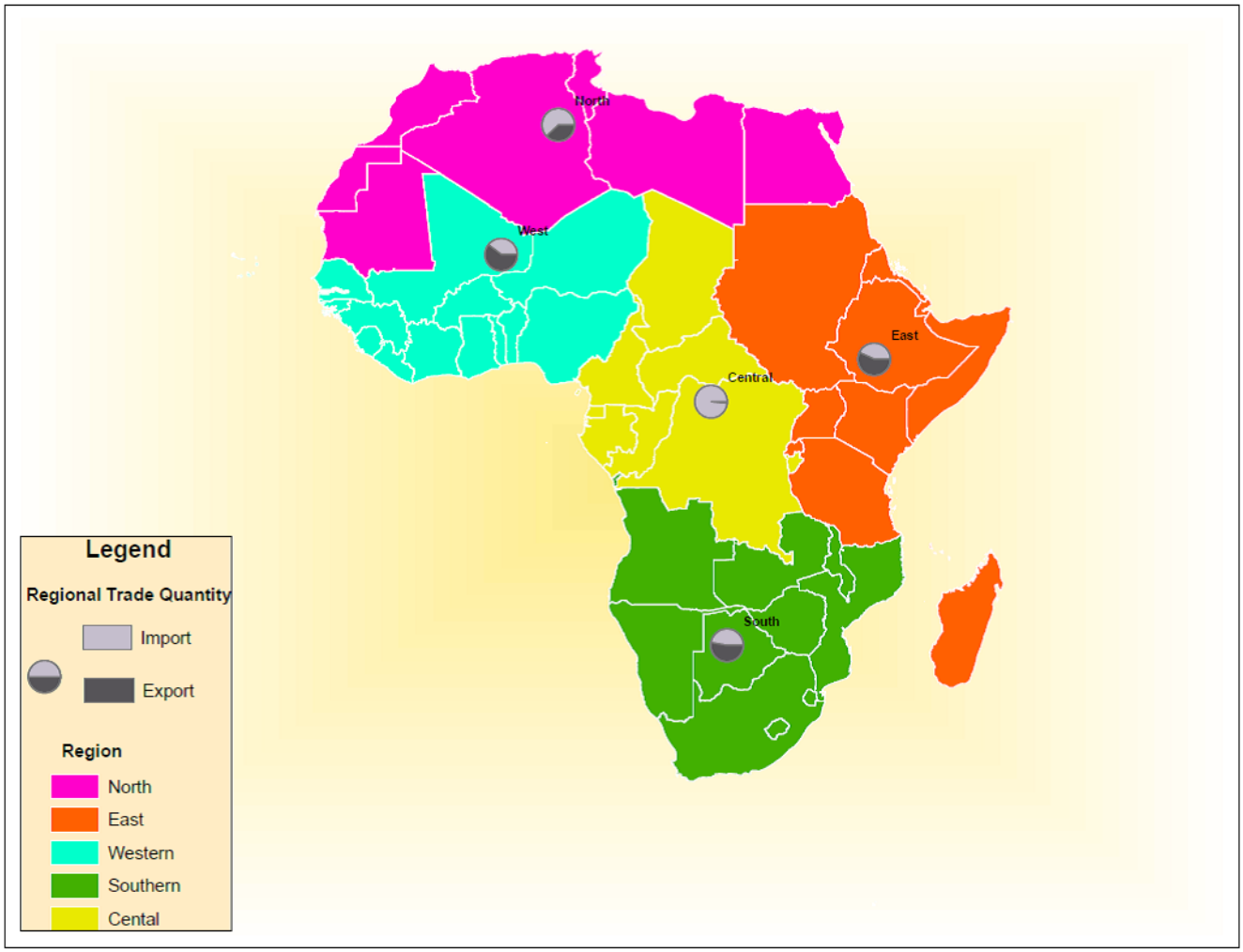


Figure 16: *Regional trade quantity of imports and exports*

From figure 17, it can be seen that a few species typically characterises inter and intra-regional fish trade for each corridor. The species that dominate are Sardines, molluscs and Horse Mackerel. Morocco seems to be a typical exporter of sardines and mollusc whilst Mauritania for Molluscs and Mackerel. The destinations for these species include West Africa and Central Africa. For West Africa, important species include Sardines, Catfish, Mackerel and Tilapia (Figure 17). Senegal is important country for intraregional exports.

East Africa mostly exports to the region Nile Perch and Tilapia. Sudan is an important destination for sardines (for North Africa), Tilapia and Nile perch. Southern Corridor exports intra and inter regionally mackerel, Sardines, tilapia, shrimp and prawns. Namibia, South Africa and Madagascar are the by countries.

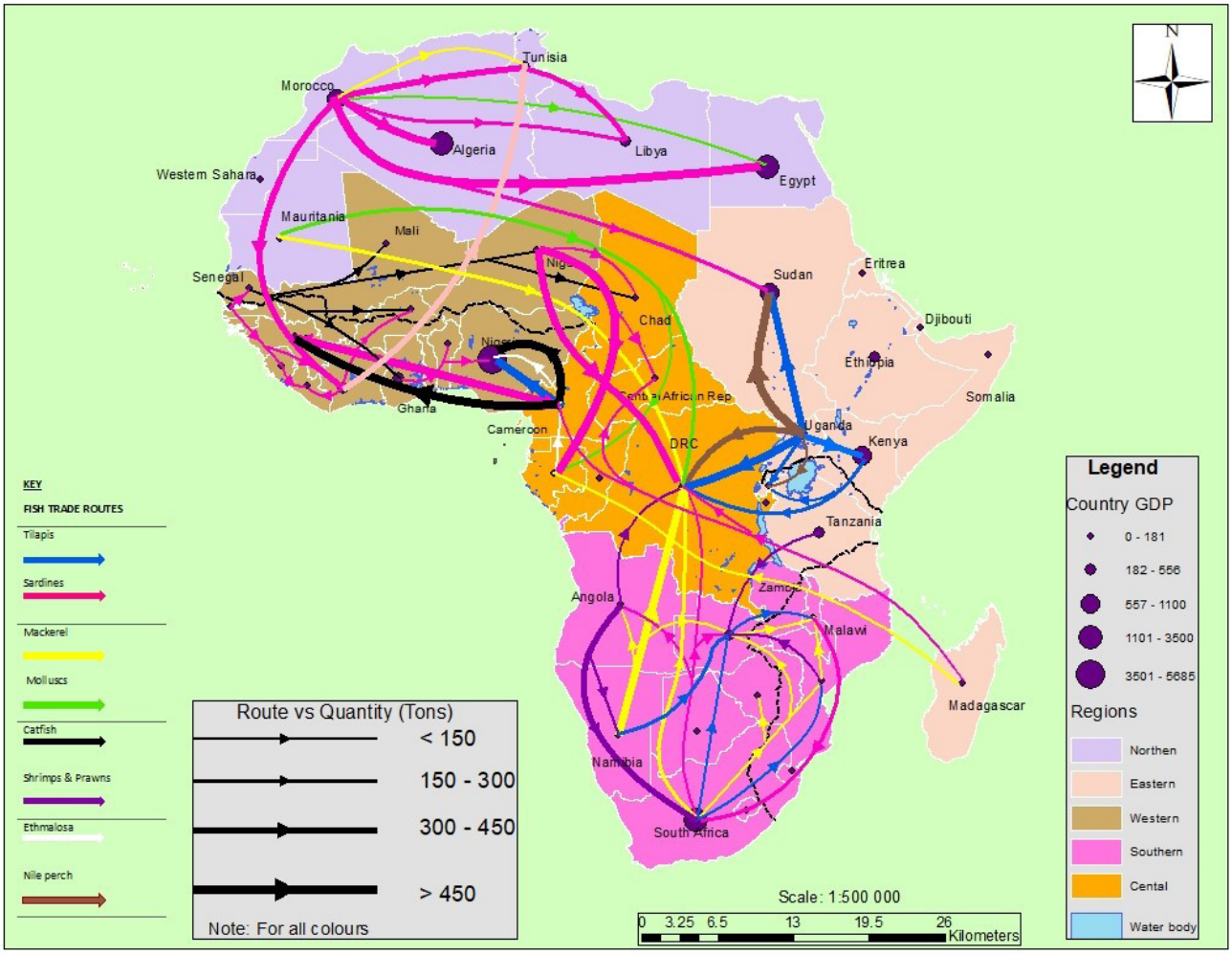


Figure 17: *Common Species traded formally in the corridors*

6.3 Informal trade

Similar species that appear under informal trade predominate the informal trade within the corridors or where countries share borders although in different corridors. Typical example is the prevalence of informal trade between Zambia (South corridor) and DRC Congo (Central corridor), Senegal (Western corridor) and Mauritania (Northern corridor) (Figure 18).

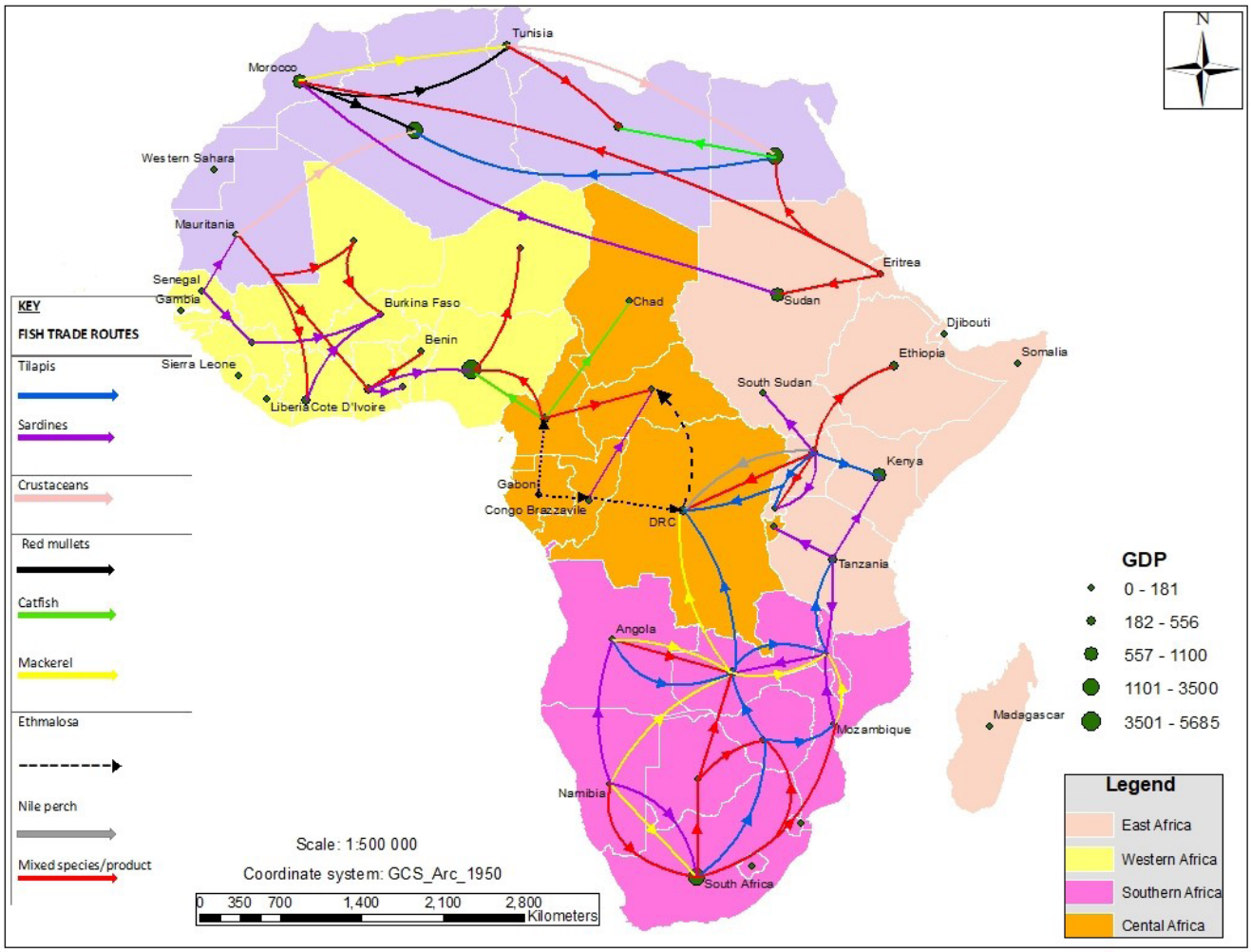


Figure 18: *Common Species traded formally in the corridors*

Just like in formal trade, Central Africa and to some extent West Africa corridor act as "sink" where fish is exported to. Central Africa was a destination for many species including Horse mackerel, sardines, Tilapia and Nile Perch from Southern, Eastern, Northern and Western corridors.

6.4 Possible reasons why West and Central Africa regions the net importers of fish in Africa?

6.4.1 Central Africa

The central African countries have a relatively favorable endowment in natural resources. However, the internal conflicts of most of the countries in the region over the past decade has destabilized their economies resulting into a high dependence on the outside world such that it is not surprising to see more fish imports into the region. The majority of the countries in Central Africa depend on oil extraction for their economies. Oil extraction alone makes up 50% of GDP in the region. With the exception of Sao Tome and Principe, Central African countries also have the forest and mines that complements the agricultural sector.

Two of the eight countries from the region are among the top ten importers of fish and fisheries products in Africa. These are Cameroon (imported 75,054 tons) and DRC (19,792 tons) as of 2016. The two countries also have the highest share in the Central African GDP, Cameroon 29 % of regional GDP and DRC (24 %), which with the Gravity model of international trade analysis which stipulates that a high GDP of an importing country` translates into a high level of income such that the population will demand more of the commodities hence an increase in imports. The 2018 African Development Bank Economic Outlook for Central Africa indicated that increased consumer confidence and an expanding middle class are some of the drivers of increased private consumption in the region. It further noted that in 2015, on average, the region had a trade deficit of -6.6% of the GDP.

6.4.2 West Africa

With 6,069 km of coastline and a maritime Exclusive Economic Zone of 2, 016. 900 km2, the region counts among the best-endowed fishing grounds in the world, largely due to an upwelling along the coast of Senegal and Mauritania and the Gulf of Guinea. However, having no capacity to undertake industrial fishing, most countries resort to agreements which allow foreign fleets to have access to African fish stocks without having their flows counted in their exports. The West African coast is the most affected by illegal fishing in the world, which represents 37 to 40% of the total catches in the region. As a result, Africa has moved from the position of fish net exporter to that of a net importer with economic zones of Economic Community of West African States being the most vulnerable regions.

The three major West African importers of fish products - Nigeria, Ghana and the Ivory Coast - can consume the total exports of other countries in the region without satisfying their own needs. In 2011, the three countries accounted for 90% of the fish imports into the region. The high imports in West Africa are also derived from the high population of the key importers in the region. Nigeria alone has a population of more than 176 million (about 14% of the African population) while Ghana and Ivory Coast have populations of 26 million and 22 million people respectively.

6.5 Products form

Fish Imports in almost all the regions are dominated by fresh, chilled and frozen fish – which account for close to 90% of imports on average, over the last decade. The most commonly imported fish has been fresh, chilled and frozen mackerel (almost 40%) and other unspecified frozen fish. Fresh, chilled and frozen fish also accounted for the largest share of import values,

although prepared and preserved fish tended to attract a high value. Imports of dried, salted and smoked fish remained low, even though they are widely consumed in Africa. The demand is likely met through domestic production which is processed and consumed locally, and/or fresh fish which is imported for processing into dried, salted or smoked products.

7 KEY FINDINGS

- From the study, it is noticeable that relatively low value species dominate inter and intra-regional trade in Africa.
- It may be erroneous to consider fish trade as per corridor as some species are traded throughout the region.
- Typically, data capturing fish trade is not a challenge, in most case not disaggregated except of few countries e.g. North Africa.

8 IMPLICATION OVER FOOD AND NUTRITION SECURITY

The Africa trade, both inter and intra-regional fish trade in relatively low value species, such as sardines and Horse mackerel has important positive benefits for food and nutrition security (Hannal et al, 2017) especially for low income earners. This is particularly important for corridors where poverty levels are relatively high.

60% of population live below poverty line in Central Africa, 43% in West Africa and 50% in Southern corridor compared to 10% in North Africa and 35% in East Africa (see table 3) and per capita fish consumption declining over the years due to high human population growth.

9 CONSTRAINTS TO FORMAL AND INFORMAL FISH TRADE IN AFRICA

Challenges facing formal and informal trade in Africa have been summarised in Table 4 below

Table 4: *summary of challenges facing fish trade in Africa*

	North	West	South	East	Central
Constraints to trade	Shortage of staff acts as barriers to intra -regional fish trade. Limited security of some countries in the region poses challenges in the facilitation of the trade. Taxes along the fish trade corridor The high cost of transport. Challenges in obtaining permits where procedures are complex and slow. Lack of knowledge of regional trade rules and regulations	Challenges in accessing micro-finance and loan facilities to expand their businesses. Trade tariff among the countries hampers their successful inter-regional fish trade in Africa. Out-dated, inapplicable and inefficient fisheries policies in most of the West African countries. The Ministries in-charge of fisheries has inadequate resources to invest in fisheries development in their countries. The Ministries in-charge of fisheries lack enough qualified human capacity to develop the landing sites and market centres to meet the international required standards.	The fisheries actors often do have collective view to influence government policies. Inadequate regional integration to improve fish trade among countries. Tariff barriers and non-tariff barriers in form of road blocks and corruptions along trade corridors reduce the life span of the fish resulting in reduction in quantity fish trade among countries.	Lack of limited access to fish marketing information. Fish trade in the trade corridors remains largely informal and invisible in national accounting and economic development statistics. Lack of political will to empower the trading blocs established by African leaders. The small scale fisheries sector lacks organized institutions and service providers to disseminate information on cross border trade requirements, rights and responsibilities of small scale traders under the STR, food safety/quality inspections The officially traded goods are usually subjected to complex, regulatory requirements such as customs formalities, technical regulations and sanitary standards thus increasing the transaction costs and therefore encouraging the informal trade to thrive.	Precise import figures are lacking due to informal border trade. No adequate attention is given to improving intra trade

	North	West	South	East	Central
				General lack of support services to formal traders and the need to offer technical assistance and quality to build greater trust between the private sector and border agencies Formal intra-regional trade is impeded in countries within trade blocs due to different and unharmonized trade-related regulations such as customs procedures, technical regulations and standards among themselves and with countries of other African trade blocs. Inadequate established common and harmonized products' standards and procedures to promote intra trade in Africa. Lack of standards that would be used as the risk management tools to drive regional trade create high risks of fish diseases and bio security associated with free movement of fish fingerlings, fish feed and fish products.	
				The lack of fish quarantine facilities and risk based import procedures exposes African fisheries and aquaculture to fish diseases and bio security risks associated with imports from other continents and regions.	

	North	West	South	East	Central
				The agreed regional trade policy instruments such as the Simplified Trade Regime (STR) adopted by EAC, COME-SA and SADC partner states is not enforced to facilitate cross border trade. Limited information on the informal regional intra-trade and ICBT volumes and value. This can be achieved through survey as exemplified by Uganda (UBOS, 2006 and 2007)	
Status of infrastructure	Poor road infrastructure	Trade corridors do not have adequate infrastructure with appropriate fish handling and storage facilities 70% of the landing sites and the market centres do not have good road networks	Lack of adequate ice to preserve the catches as well as inadequate smoking, packaging and storage facilities. Nearly 45% of the fish landing sites and market centres in Southern Africa fish trade corridors do not have adequate infrastructure with appropriate fish handling and storage facilities to reduce the high level post-harvest losses in the Southern Africa fisheries sector. Close to 70% of the landing sites and the market centres do not have good road networks resulting in delays and shorten the life span of the fish and fish products	The small scale fish traders face many challenges that include; poor infrastructure and logistics to enable smooth movement from fish processing locations to markets and across borders.	Poor landing/ market infrastructure to allow a better control at source to destination. Poor road infrastructures which promotes informal trade

The challenges can be summarised as follows:

- **Infrastructure constraints:** Poor road infrastructure limits success of fish trade.
- **Technical Constraints:** Majority of the countries in Africa have reported inadequate knowledge of their fish population dynamics especially species of high economic importance.
- **Financial Constraints:** The fish traders have revealed that it is very difficult for them to access micro-finance and loan facilities to expand their businesses.
- **Institutional Constraints:** Out-dated, inapplicable and inefficient fisheries policies in most of the West African countries. The Ministries in-charge of fisheries in Africa was found to have inadequate resources to invest in fisheries development in their countries.

10 POLICY RECOMMENDATIONS

- The role of formal and informal fish trade on food and nutrition
  - Results from the study show that the role of inter and intra-regional trade fish trade on food and nutrition security is likely to be underestimated due to unconsolidated fish trade data and poor analysis. There is need to undertake a comprehensive study that will inform policy makers to take a step towards formal and informal fish trade.
- Infrastructure upgrade
  - The challenges on infrastructure have been noted before and requires comprehensive upgrade programme by the African union
- Implementation and sensitisation of simplified cross border trade regimes.
  - The setup of simplified cross border trade regimes such as in COMESA is a step towards legalising informal fish trade. However, even in places where it has been implemented, lack of awareness of the benefits of the regime by the informal traders makes it difficult for these to pass through the normal channels.
- Financing
  - Lack of successful financing by most traders hampers progressive fish trade in terms of quality of fish being traded. There is need for an intervention at African Union level about formal and informal small medium scale traders to access finances.
- Centralised fish trade tracking system.
  - Data in fish trade is scanty and inaccessible for decision making both by policy makers and traders. There is need for a centralised data collection and analysis system to improve fish trade in Africa.

11 REFERENCE

1. ***Ayilu RK, Antwi-Asare TO, Anoh P, Tall A, Aboya N, Chimatiro S and Dedi S. 2016.***Informal artisanal fish trade in West Africa: Improving cross-border trade. Penang, Malaysia: WorldFish. Program
2. ***Binet T, Failler P. and Thorpe A. (2012):*** Migration of Senegalese fishers: a case for regional approach to management. Maritime Studies 2012, 11:1 www.maritimestudiesjournal.com/content/11/1/1
3. ***FAO 1983.*** Integrating crops and livestock in West Africa. United Nations Food and Agriculture Organization. Available from http://www.fao.org/docrep/004/X6543E/X6543E00.htm#TOC
4. ***FAO. 2018.*** The State of World Fisheries and Aquaculture 2018 - Meeting the sustainable development goals. Rome. Licence: CC BY-NC-SA 3.0 IGO.
5. ***Gitonga, N and Azali, K. M (2018):*** Comprehensive mapping of informal and formal cross boarder fish trade corridors of major fish and aquaculture products in Eastern Africa. AU-IBAR Report
6. ***Kane C. 2016.*** Rapport final de recherche sur le Corridor Afrique de l'Ouest. FishTrade Field Report, University of Cheikh Anta Diop, Dakar, Senegal.
7. ***Kébé, M. and Tallec, F. 2006.*** Contribution of fisheries sector to national economies (West and Central Africa). Sustainable Fisheries Livelihoods Programme (SFLP) in West Africa. Cotonou, Benin. Impression AGCom.
8. ***Megahed, M. EL. Sayed (2018):*** Comprehensive mapping of informal and formal cross boarder fish trade corridors of major fish and aquaculture products in North Africa. AU-IBAR Report
9. ***Nyameke, I and Asmah, R. (2018):*** Comprehensive mapping of informal and formal cross boarder fish trade corridors of major fish and aquaculture products in West Africa. AU-IBAR Report
10. ***Nyameke, I and Njaya F. (2018):*** Comprehensive mapping of informal and formal cross boarder fish trade corridors of major fish and aquaculture products in Southern Africa. AU-IBAR Report
11. ***Nolasque, M. Soung Pierre (2018).*** Comprehensive mapping of informal and formal cross boarder fish trade corridors of major fish and aquaculture products in Central Africa. AU-IBAR Report
12. ***AUC-NEPAD (2014).*** Policy Framework and Reform Strategy for fisheries and aquaculture in Africa.

13. ***Tall, A. 2016.*** Cross-border trade in fish and fishery products from Ghana. FishTrade Program Case Study.
14. ***The World Factbook 2017-18.*** Washington, DC: Central Intelligence Agency, 2016. https://www.cia.gov/library/publications/the-world-factbook/index.htm
15. ***World meters (2018).*** Northern Africa Population. Available at: http://www.worldometers.info/world-population/northern-africa-population/ (Accessed on 21.12.18)
16. ***World Population Prospects: The 2017 Revision".*** ESA.UN.org (custom data acquired via website). United Nations Department of Economic and Social Affairs, Population Division. Retrieved 10 Sept
17. ***World population review (2018).*** Northern Africa Population 2018. Available at: http://worldpopulationreview.com/continents/northern-africa-population/ (Accessed on 21.12.18)



African Union – Interafrican Bureau for Animal Resources
(AU-IBAR)
Kenindia Business Park
Museum Hill, Westlands Road
PO Box 30786
00100 Nairobi
Kenya
Tel: +254 (20) 3674 000
Fax: +254 (20) 3674 341 / 3674 342
Email: ibar.office@au-ibar.org
Website: www.au-ibar.org