

FINAL REPORT

COMPREHENSIVE MAPPING OF FISH TRADE CORRIDORS IN THE FIVE REGIONS OF AFRICA: FOCUSING EASTERN AFRICAN CORRIDOR: MOMBASA TO GOMA, PASSING THROUGH KENYA, UGANDA, BURUNDI, RWANDA AND DEMOCRATIC REPUBLIC OF CONGO; AND THE HORN OF AFRICA

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Executive Summary

This report is a review of the fish trade in the identified Eastern Africa trade corridor Mombasa to Goma, passing through Kenya, Uganda, Burundi, Rwanda and Democratic Republic of Congo. However due to the trade overflows in other countries of the region, it was agreed through an expert consultative meeting organized by the AU-IBAR to expand the study to cover Tanzania, Somalia, Djibouti, Sudan, South Sudan and Ethiopia. This region has a population of over 421 million (FAO, 2016a) peoples with fish production of about 1.3 million tons in 2016 from capture fisheries, which was a drop from 2014 production of 1.4 million tons. Aquaculture production grew rapidly over a period of 7 years from 117645 MT in 2010 to about 193764 MT in 2016, up by over 60% during the period. Even though aquaculture is practised in the region, it is mainly small-scale enterprises. Uganda has the highest aquaculture production, contributing about 61% of the total aquaculture production in Eastern Trade corridor of Africa. Kenya's production has steadily increased since 2010 following the Economic Stimulus Package (ESP) initiative that targeted aquaculture production. In 2016, Aquaculture in Kenya contributed 14, 952 Metric tonnes (Ministry of Agriculture, Livestock and Fisheries, 2016). Freshwater fish like tilapia, Nile perch, carps (Cyprinid) and catfish are the main species harvested, contributing more than 72% of total harvests. (FAO, 2013) The bulk of the fish produced in these countries is traded on domestic and regional markets, mainly informally. There is however, a vibrant international export trade comprising mainly of the Nile perch from Lake Victoria by Kenya, Uganda and Tanzania.

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. Domestic markets in Somalia and Djibouti are however dominated by marine fish species. Regional trade is mainly conducted informally by small scale and traditional traders across the borders and bulk of this trade is unrecorded, thus many consider it is as illegal trade; the products traded in this market mainly are dried, salted and smoked products with limited amount of fresh fish and second grade frozen fish. Uganda is the main fish supplier to the regional markets.

Informal trade including cross-border trade represents a significant proportion of regional intra trade in Africa, sometimes with informal flows exceeding the formal trade flows. There is need therefore the need for the countries to pay more attention to this sector with a view of enhancing data and information collection and endeavouring to remove the impediments that encourage informal trade. The intra-regional fish trade though very important is thus not very well understood with respect to its comprehensive economic value of fish market chains; supply and demand trends for specific species, products and markets; main operators and their relationship along the market chains; policy and regulatory constraints and incentives; capacity development needs among SMEs; factors affecting the

participation by women and the poor; and how to improve market participants' access to technologies and information to better enable them to respond to dynamic demand and market conditions.

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. The sustainability of fisheries and the benefits accruing to communities may be undermined unless information, policy and regulatory frameworks are properly developed and positioned to properly guide trade. The AU has made concerted effort to promote trade as a means of addressing food security and economic growth in the continent by various policy guideline initiatives, such as the development of Policy Framework & Reform Strategy for Fisheries & Aquaculture in Africa (PFRS) to optimize trade benefits among others. The current study will thus help in the understanding the intra- regional trade flows, the trade products, the key players and the challenges, with a view to facilitating trade create sustainable entrepreneurship that will contribute to food security and economic development of the countries along these countries.

Acronyms

AMIS	Agricultural Market Information System
ASYCUDA	Automated System for Customs Data
AU	African Union
AU-IBAR	African Union-InterAfrican Bureau for Animal Resources
BMU	Beach Management Unit
CAADP	Comprehensive Africa Agriculture Development Programme
CAR	Central African Republic
CFTA	Continental Free Trade Area
COMESA	Common Market for Eastern and Southern Africa
<i>Dagaa</i>	Local name for fresh water sardine (Tanzania)
DFR	Department of Fisheries Resources
DRC	Democratic Republic of Congo
EAC	East African Community
EFMIS	Electronics Fish Marketing Information System
EU	European Union
FAO	Food and Agricultural Organization
FPME	Fish Processing and Marketing Enterprises
FTA	Free Trade Agreement
GDP	Gross Domestic Product
ICBT	Informal Cross Border Trade
ICT	Information and Communication Technology
KRA	Kenya Revenue Authority
LVFO	Lake Victoria Fisheries Organizers
MFPED	Ministry of Finance Planning and Economic Development
<i>Mukene</i>	Local name for fresh water sardine (Uganda)
MUTEPA	Mukene Traders Exporters and Processors Association
NTB	Non-Tariff Barrier
<i>Omena</i>	Local name for fresh water sardine (Kenya)
OSBP	One Stop Border Post
RECs	Regional Economic Communities
SADC	South African Development Community
SDF	State Department of Fisheries
SME	Small and Medium Enterprise
STR	Simplified Trade Regime
SWIOFC	South West Indian Ocean Fisheries Commission
TFTA	Tripartite Free Trade Agreement
UBS	Uganda Bureau of Statistics
UFPEA	Uganda Fish Processors and Exporters Association
UBS	Uganda Bureau of Statistics
UNECA	United Nations Economic Commission for Africa
URA	Uganda Revenue Authority
USA	United States of America

1 Introduction

1.1 Background of the Study

1.1.1 Importance of Fisheries in Africa

Many African countries are endowed with fish resources from oceans, seas, lakes, rivers, floodplains and fish farms, which generate a range of socio-economic benefits that include food and nutrition security; livelihoods; foreign exchange earnings from exports and biodiversity. In 2015, Africa produced an estimated total of 10.6 million metric tons of fish of which 2.9 million came from inland fisheries, 1.8 million tons from aquaculture and 5.9 million tons from marine capture fisheries (FAO, 2016). The value provided by the fisheries sector as a whole in 2011 was estimated at more than US\$24 billion, representing 1.26% of the Gross Domestic Product (GDP) of all African countries, with aquaculture producing an estimated value of almost US\$3 billion per year (de Graaf & Garibaldi, 2014). The continent contributed about 4 % (5.2 billion US Dollars) to the total value of global fish imports (133.3 billion US Dollars) in 2012. Nigeria and Egypt are the largest importers of fish worth 1.2 Billion US Dollars and 0.6 Billion US dollars respectively (FAO, 2013). The fisheries sector as a whole employs 12.3 million fishers and part-time processors, accounting for 2.1% of Africa's population of between 15 and 64 years old. Almost half those employed by the sector are fishers, processors constitute 42.4% and about 7.5% engage in aquaculture. Women are heavily involved in the fisheries sector, mainly in processing constituting about 27.3% of the total workforce in fisheries and aquaculture. Fish is a very important source of animal protein, accounting to around 5% of total protein (FAO, 2014). *Per capita* consumption of fish in Africa in 2013 was reported to be 9.7 kg per year, which was lower than the world average of 18.9 kg/year (FAO, 2014). Africa also plays a significant role in the export market contributing about 4.2 % (5.8 billion US Dollars) to the global fish export trade of 14.0 Billion US Dollars.

The small-scale are the most important fisheries subsector in Africa in terms of their contribution to food security and households' income, especially in the coastal and riparian communities. This subsector contributes 60-70 % of the total fish production in many AU Member States. Significant portions of the fish produced are sold and consumed within the continent, often traded informally across the borders, unregulated, through unofficial non-custom border points

1.1.2 Developing Countries and Fish trade; The Global Perspective

The share of developing countries in total fishery exports was about 53 % by value and 59 % by quantity (live weight equivalent) in 2016. The fishery net exports of developing countries (i.e. the total value of their exports less the total value of their imports) have shown a continuing rising trend in recent decades, growing from USD 17 billion in 1996 to USD 25 billion in 2006 and USD 37 billion in 2016. These figures were significantly higher than those for other agricultural commodities such as rice, coffee and tea. (FAO, 2016)

1.1.3 Importance of Fish Trade in the Africa's Economies

Fish trade has been a mainstay of economies in many African countries and communities. In 2013, fish was reported to be the highest traded food commodity in the world with a total value of US\$130 billion, followed by soybean US\$58 billion. Africa accounted for approximately US\$5 billion only (FAO, 2014). According to FAO, in 2012, fish represented about 10 percent of total agricultural exports and 1 percent of world merchandise trade in value terms. Fish trade therefore plays an important role in the fishery industry as it creates employment, supplies food, generates incomes, and generally contributes to economic growth and development in many African countries. The 2014 Africa's Policy Framework for Reform Strategy for fisheries and aquaculture (PFRS) objective relating to fish trade, is to harness the benefits of Africa's fisheries and aquaculture endowments through accelerated trade and marketing. Promotion of domestic and regional trade through, enhanced competitiveness and inclusion of wider participation that also empowers women in the fish trade sector across Africa, would therefore go a long way in achieving the objective. The promotion of trade and management of postharvest losses is thus supported at the highest AU policy level as evidenced by the 2014 Malabo Declaration at the Summit of African Heads of States and Governments. The Declaration underscored the desire of halving post-harvest losses and tripling intra-Africa trade in agriculture products by 2025 for accelerated African development.

1.1.4 Africa Union Initiatives to Promote Fish Trade

Sub-Saharan Africa is one of the regions in the world that suffer from high rates of hunger and poverty. Available information indicates that 239 million of the 925 million hungry people in the world in 2010 were located in sub-Saharan Africa. (FAO and WFP, 2010). In this region, chronic hunger is on the increase and access to adequate food is a challenge to large populations. There is therefore need to improve availability and access to fish and fish products to the more than 400 million people on the continent that depend on fish as a vital source of nutrition.

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 information, policy and regulatory frameworks are not properly developed and positioned to guide trade. In order to optimize these benefits, the second Conference of African Ministers of Fisheries & Aquaculture (CAMFA) in April/May 2014, endorsed the African Union Policy Framework & Reform Strategy for Fisheries & Aquaculture in Africa (PFRS). This Policy Framework and Reform Strategy lays down the guiding principles for Africa to increase fisheries and aquaculture productivity, improve profitability of fish enterprises, enhance the sector sustainability, generate wealth, contribute to social welfare, nutrition and food security, and strengthen regional collaborative management. With respect to trade, the PFRS has prioritised 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.

The main challenge for the AU is to quantify the contribution of fish trade to the countries' economic growth so that the sector can receive the support it deserves to thrive. Unfortunately, the informal fish trade volumes and value, though hugely significant are not captured in the countries or regional statistics due to their nature of operation. The importance of the informal trade cannot therefore be underrated despite the paucity of data on volumes and value of fish traded both domestically and regionally. The informal fish trade must therefore be recognized, understood and supported at all policy levels. Without the understanding of informal trade, there is the challenge of quantifying the contribution of fish trade in the national development.

The EU funded Fish governance and Fish trade projects contributed significantly to identification of the major policy issues, barriers, opportunities and priority actions for harmonization of trade policies in four regions of the continent (West, Central, East and Southern). The major identification areas of the Fish trade projects were the four identified trade corridors in West, Central, East and Southern Africa and excluded the Northern Trade Corridor. The implementation of Fish Trade project showed that there is a prevalence of informal fish trade in Africa along the four identified trade corridors and there exists a significant level of official (formal) cross-border trade, which is far less than volumes of the informal fish trade products. The project also established that not all the products that are exported officially are recorded in official import statistics at the border posts, due to the tendency to transit goods through informal routes to avoid delays and harassments. Some of the products imported officially are re-exported informally thus distorting the official import-export statistics. It was also apparent from the project implementation that many countries have continued to increase their market share of the intra-regional. In order to achieve a good understanding of the extent of intra-regional fish trade on the continent, it is important to develop a comprehensive fish trade corridors maps of the entire continent, taking into account the lessons learned from the implementation of the two EU funded projects.

The promotion of intra-regional trade is envisaged to be one of the ways of enhancing food availability and accessibility in Africa. The AU-IBAR, an Institution of AU that is mandated to support and coordinate the improvement of animal resources including fisheries for human well-being and contribution to the economic development of AU Member States, particularly in rural areas, commissioned a study in each of the five regions of Africa to identify and map fish trade routes and the trade patterns and characteristics. The study is expected to identify main characteristics of the identified trade corridors, key aspects of fish trade along the corridor, and make recommendations as to how to improve trade along the corridors as per the Terms of Reference (Annex 1). Through the information gathered conduct a comprehensive mapping of informal and formal cross border fish trade corridors of major fish and aquaculture products in Africa.

1.2 The Study Scope

The geographical scope of this study is Eastern Africa Trade Corridor, which covers Kenya, Uganda, Rwanda and Democratic Republic of Congo (DRC). After the expert consultation it was decided that the fish trade in the IGAD and all East Africa countries should be included in this corridor due the trade flow overlap. This would also ensure that a comprehensive fish trade flow mapping in all the 5 trade regions in Africa is able to capture trade inflows from other corridors. The study will identify and map fish trade routes and the trade patterns. It will also identify main characteristics of the Eastern Africa trade corridor, including the key aspects of fish trade along the corridor. This information will inform recommendations on how to improve trade along the corridors.

1.3 The Study Objectives

The Study aims to conduct identification and mapping of fish trade routes and the trade patterns and characteristics on the African continent with a view to making recommendations on to how to improve trade along the corridors.

1.3.1 Overall Objective

The overall objective of the study is to conduct a comprehensive mapping of informal and formal cross border fish trade corridors of major fish and aquaculture products in Africa.

1.3.2 Specific objectives

- 1 Identify major fish species (marine and inland capture fisheries and aquaculture) and fish products traded in the continent, including product forms
- 2 Identify the main trading corridors of the major exploited and cultured fish species or assemblage, trade patterns and characteristics,
- 3 Represented graphically with arrow lines of different thickness the fish trade corridors
- 4 Identify the key drivers of informal fish trade

1.4 Expected deliverables of the study

- 1 Comprehensive Final Technical Report with policy recommendations for the Eastern Trade Corridor.
- 2 The report should indicate the main identified fish species; product or assemblage of fish products; the product form; characteristics and trade patterns; and the drivers of the informal trade
- 3 Map of Eastern Trade Corridor with arrows superimposed showing trade routes/corridors for the identified fish species or species assemblage and product forms

2 Approach and Methodology

The study used a range of methods and approaches in order to achieve the desired deliverables as outlined in the TOR. The study was thus conducted mainly through literature review, desk- based research, reviews of documents including Fish Trade Project documents, correspondence with stakeholders and use of own knowledge.

2.1 Expert consultations

To kick off the study that was conducted simultaneously in the five trade corridors of Africa, an expert consultation workshop was held in Kenya to harmonise the approach to the comprehensive mapping of fish trade corridors in the five regions of Africa.

2.2 Document review

Review of relevant fish trade related documents including reports from national, regional and global agencies; national fisheries statistical bulletin, technical reports from FAO, IGAD, 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, research reports related to fish trade. The documents and corresponding sources are not limited to only the above. More efforts will be made to access relevant information from different sources as much as possible.

The national /country reports were consulted for detailed information on commercial fish species, volume and value. The IOTC, SWIOFC and other Regional Economic Commission (RECS) with some presence in the Eastern Corridor were consulted to provide information related to the fish species involved, volumes and prices as well as destination within and outside their areas of competency.

2.3 Interviews

Interviews were to be conducted to verify and corroborate the information from literature and reports with regard to the fisheries resources in the corridor, including trade data, challenges and innovative solutions to promote the entire fisheries value chain. The respondents among others included;

- a) Officials of the national fisheries management organization and research intuitions that are responsible for fisheries trade related aspects;
- b) Officials from the Ministries responsible for trade, both domestic and external trade.
- c) Relevant staff/ officials in regional economic commissions (RECs) including East Africa Community (EAC), IGAD, COMESA, Lake Victoria Fisheries Organization (LVFO), Regional Fisheries Management Organizations (SWIOFC and IOTC), and WTO.
- d) Staff or officials of Association of Fish Traders, Processors and Exporters from the respective countries.

The interviews were conducted physically or virtually through emails, telephone conversations using a pre- developed and tested questionnaire (Annex 2). List of those contacted is given in Annex 3.

4.1 GIS Mapping

A GIS expert was engaged to develop the GIS base maps with overlay of the routes, destination and products. Trade data from multiple sources were collated and converted into a table of trade flows, considering the place and direction of movement of the fish and fisheries products (traded commodities). The trade flow table contained geographic identifiers of origins and destinations of commodities traded as well as the volumes of commodities traded. Spatial coordinates of the origin and destination were obtained online via the mapcarta website (<https://mapcarta.com>), which contains over 14 million destinations worldwide to the lowest administrative level. 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 scaled by the volumes traded. The maximum value used in the scaling was 2000 tons, as 90% of the data was below this value; therefore, any value above this was given the same line thickness. Where arrows overlapped, the produced flow lines were edited and spaced manually while preserving the general direction of the flow and thickness.

The map of the Eastern African fish trade corridor, which also include the IGAD countries not included in the TOR was drawn showing the follow of fish and fisheries products from the source, routes and destination.

4.2 Data analyses and report writing

The information and data gathered were analysed, and synthesized, and was used to prepare a comprehensive report on the Fish Trade Corridors, characteristics, patterns, fish species, products and form, and drivers for informal trades in the Eastern Africa Corridor region. The report also includes; the GIS Map of the fish and fisheries products flows, including the species, source, routes and destination. The density and the colour of the arrows on the base map are indicative of the varying volume of the products where information was available.

3 Results and Main Findings

3.1 Fish Production in the Eastern Trade Corridor

This corridor consists of the five countries namely; Kenya, Uganda, Burundi, Rwanda and Democratic Republic of Congo. Some of these countries however overlap with IGAD countries, which include; Djibouti, Ethiopia, Kenya, Somalia, Sudan, United Republic of Tanzania and South Sudan. Due to trade flow overlaps, it is important include the IGAD countries that may be players in the Eastern corridor through importation of fish and fish products.

The fisheries sector in all these countries except for Uganda and Kenya contribute small percentage to the country's economy, generally below 1%. Being the largest producer of fish in the region, fisheries sector in Uganda contributes about 12% to the agricultural GDP and 2.5 % to the national GDP (FAO, 2013). The contribution from the fishery sector of the other countries in the region is very low, less than 1% to the national GDP, despite the fact that some of these countries have large water bodies, including dams, rivers, lakes and also seas. No accurate data are available on

contribution of the fisheries sector to the economies of Somalia, South Sudan and Djibouti. It is estimated that fishery exports contribute to about 2% of the Somalia's total exports (FAO, 2013). Only Uganda and Kenya, among these countries, are actively engaged in fishery product exports, dominated by Nile perch. In 2016 for instance, Kenya exported 4,686 Metric tons of fish, of which 1,221 Metric tons was Nile Perch (Ministry of Agriculture, Livestock and Fisheries, 2016). There has been a declining trend of exports over the past few years, mainly due to the overfishing and illegal fishing. For instance in Kenya there was a 46% decline in fish export in 2016 compared to the previous year where 8241 Metric tons of fish were exported. Uganda is the largest fish exporter among the countries under this study, followed by Kenya and Somalia. The main products exported from Uganda and Kenya is Nile Perch (*Lates niloticus*) from Lake Victoria.

3.1.1 Capture Fisheries production

Inland fisheries dominate the fisheries sector in the region. Four countries (Somalia, Kenya Sudan and Djibouti) of the Eastern Trade corridor have access to marine resources but more than 94% of fisheries production recorded is harvested from inland fisheries. The bulk of Kenya's national fisheries production is from Lake Victoria. The contribution from marine fisheries was only about 6% of the total fish production. The overall fisheries sector in the region contributes only about 8.7% of the total fisheries production in the African continent (FAO, 2013). Table 1 shows the capture fisheries production in the Eastern Trade Corridor, including Tanzania, which has a population of over 421 million. The total capture fisheries production of these countries in 2016 was just over 1.3 million tons (Table 1) up from 1.2 million in 2010

3.1.2 Aquaculture Production

Aquaculture production grew rapidly over a period of 7 years from 117645 MT in 2010 to about 193764 MT in 2016, up by over 60% during the period (Table 2). Even though aquaculture is practised in the region, it is mainly small-scale enterprises. Uganda has the highest aquaculture production, contributing about 61% of the total aquaculture production in Eastern Trade corridor of Africa. Kenya's production has steadily increased since 2010 following the Economic Stimulus Package (ESP) initiative that targeted aquaculture production. In 2016 production was however a decline from 2014 production of 1.4 million tons.

Table 1: Capture Fisheries Production in Eastern Trade Corridor of Africa in Metric tons

Country	Population '000	2010	2011	2012	2013	2014	2015	2016
Burundi	10524	17305	10654	12309	13232	16054	20120	21805
DRC	78736	224491	221250	218000	227414	229612	230726	237379
Djibouti	942	1590	1167	2167	1702	2298	2012	2220
Eriteria	4954	2939	4452	4300	4300	4300	4300	4300
Ethiopia	102403	18058	24041	28952	38371	50119	45519	45500
Kenya	48401	140437	181385	158804	163140	168235	165201	171205
Rwanda	11917	13000	16994	18980	22390	25159	29334	25013
Somalia	14317	30000	30000	30000	30000	30000	30000	30000
Sudan	39578	N/A	N/A	34000	33700	33500	33000	33000

S. Sudan	12230	N/A	N/A	37000	37000	37000	37000	37000
Uganda	41487	413805	437415	407635	419249	467196	396205	389244
Tanzania	55572	350762	347927	378668	379341	340726	374451	370003
Total	421061	1212387	1275285	1330815	1369839	1404199	1367868	1366669

Source: FAO Yearbook. Fisheries and Aquaculture Statistics 2016/FAO

Table 2: Aquaculture Production in Eastern Trade Corridor of Africa in Metric tons

Country	Population '000	2010	2011	2012	2013	2014	2015	2016
Burundi	10524	17	62	160	165	165	1326	1330
DRC	78736	2970	2970	2869	2869	2871	2957	3161
Eriteria	4954	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ethiopia	102403	25	25	38	45	86	91	95
Kenya	48401	12194	22295	21888	32513	38545	44610	52480
Rwanda	11917	100	265	506	1165	1504	1620	1580
Sudan	39578	N/A	N/A	1000	2500	2000	4500	4500
S. Sudan	12230	N/A	N/A	20	20	20	20	20
Uganda	41487	95000	85713	95906	98063	111023	117590	118051
Tanzania	55572	7339	7249	9917	10165	10317	10742	12547
Total	405802	117645	118579	132304	147505	166531	183456	193764

Source: FAO Yearbook. Fisheries and Aquaculture Statistics 2016/FAO

3.2 Overview of Trade in Africa

Africa has smart agriculture and fisheries policy frameworks at continental and regional level. The CAADP and Malabo 10 year road map are the overarching framework developed to guide agriculture and fisheries transformation and development on the continent. A key Malabo goal is to triple intra Africa trade by 2025 and to reduce hunger by a half. The continent has 7 active Regional Economic Communities (RECs) that are committed to economic integration through tariff reduction, harmonization of external tariffs and nontariff measures (NTMs). The creation of Free Trade Areas (FTAs) where all goods are zero-rated has expanded intra-trade opportunities. Although Africa seems to be integrating, there is far less trade within Africa than with the other regions of the world (less than 12%).

These efforts notwithstanding, Sub-Saharan Africa has the highest prevalence of undernourishment, where around one in four people in the region remains undernourished (FAO, IFAD and WFP. 2014). In this region, chronic hunger is on the increase and access to adequate food is a challenge to large populations. This is in contrast to Northern Africa, which has had a consistently low prevalence of hunger at less than 5 %. Reversing this trend is the Africa Union's biggest challenge and requires transforming into actions the growing political will in the region demonstrated by the commitment made at the June 2014 African Union Summit to significantly reduce hunger by 2025. There is therefore need to improve availability and access to fish and fish products to the more than 400 million people on the continent that depend on fish as a vital source of nutrition. The problem of realisation of the contribution of fish trade to socio-economic development is manly

because fish trade in the trade corridors remains largely informal and invisible in national accounting and economic development statistics. There is also an apparent lack of political will to empower the trading blocs established by African leaders and as a result these institutions have remained weak, mainly performing administrative functions (Hartzenberg, 2011). The trade in fish and fish products among African countries if properly developed would play an important and major role in the region's food security and economic development. Unfortunately, there is no adequate attention given to improving intra trade, through inclusion in national and regional policy, despite its potential in addressing the region's food and nutrition insecurity, and poverty.

3.2.1 Intra-Regional Trade in Africa

Africa cannot do without trading with the outside world but it can reduce its vulnerability to external shocks by boosting intra-regional trade and furthering market integration. Such a promotion of intra-regional trade constitutes an imperative response to challenges facing Africa. Despite significant progress, international trade has so far not served as an effective tool for the achievement of rapid and sustainable economic growth and development for many African countries. Promotion of intra-regional trade constitutes an imperative response to challenges facing Africa and will contribute to enhancing the countries' capacity and getting them ready to compete more effectively on international markets.

Trade thrives when countries produce what their trading partners are eager to buy through simplified trade processes, which is not the case in Africa. The low intra regional trade, which is between 10% and 12% of Africa's total trade, compared with 40% in North America and 60% in Western Europe, is mainly due to complex trade rules, tariffs, regulations, cross-border restrictions and poor transport networks, which promotes unrecorded informal trade (Tafirekenya, 2014). The volume of intra regional trade would increase if the informal trade statistics could be captured officially at the border points. The governments must therefore endeavour to support the informal trade by ensuring the rules for official cross border trade are simplified to encourage transitioning of informal to formal trade or simply recognise the informal trade exists, and support it through policy development that favours it to facilitate data collection.

Although the trade in fish and fish products among African countries plays an important role in the region's food security and economic development, no adequate attention is given to improving intra trade, through inclusion in national and regional policy, despite its potential. The problem is partly due to an apparent lack of political will to empower the trading blocs that the African leaders established and therefore the reason that these institutions have remained weak performing mainly administrative functions (Hartzenberg, 2011).

3.2.2 The Informal Trade in Africa

In Africa, it is estimated that the informal sector represents 43% of official gross domestic product (GDP), almost equivalent to the formal sector. While the sector may provide short-term solutions to poor households, it is not beneficial to the

economic development of African countries in the longer term and therefore the need for policy makers to recognise its importance and regulate it. If properly regulated, informal trade can in the short and medium-term encourage entrepreneurial activity and regional trade, and therefore contribute to greater food security, enhance income earnings and employment opportunities for poor.

Some of reasons for the poor understanding of the informal trade, is the lack of information on the comprehensive economic value of specific market chains; unclear supply and demand trends for specific species, products and markets; lack of awareness of the main operators and their relationship along the market chains; policy and regulatory constraints and lack of incentives for involvement in formal trade; lack of capacity among small and medium enterprises (SMEs); lack of strategies to empower women and the poor to effectively participate in fish trade; and poor access to technologies and information for the market participants.

Factors that encourage informal trade

A review of reports and information from respondents enumerates a number of factors that contribute/ encourage informal trade in the fisheries sector. These among others include;

- 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 can 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.

BOX 1

For example, on the Uganda/Rwanda Border point, the delays are caused on the side of Rwanda border through laxity of the customs and immigration officers. Due to this inefficiency, many traders usually choose other entry points, such as Gisenyi into Democratic Republic of Congo (DRC) to avoid costly delays through the Rwanda border though the journey is much longer and has worse roads. The delays are costly and punitive for those interested in doing straight, formal and legal business. The case of Ugandan fish processing firm that exports fish through Kyanika official border post can experience delays some times up to 2 days. This increases their transaction costs

3.2.3 Intra-Regional Trade Facilitation Initiatives

Africa has already taken different initiatives to scale up cross- border trade. The African Union's work focuses on the establishment of a CFTA, while the Comprehensive Africa Agriculture Development Programme (CAADP Compact) based on a 10% investment and 6% growth in the agriculture sector and Regional Economic Communities (REC)'s promotion of regional integration and intra-regional trade, remain top priorities for the continent. Yet, apart from few success stories, intra-regional trade is quite low. The poorly produced and packaged fisheries products raise concerns about fish quality and safety that ought to be addressed. Inadequate infrastructure remains one of the principal obstacles to intra-African trade. Other factors impeding intra-regional fish trade include inefficient cross- border procedures; Rules of Origin; catch certificates; quality and safety issues; Illegal, Unreported, Unregulated (IUU) fishing aspects and ecolabelling; poor investments and private-sector development. If these issues are addressed, intra-African trade could be a powerful driver of Africa's growth and economic maturity.

Africa's policy towards regional integration and intra-Africa trade needs to consider fish trade diversification as one of the central issues, since the lack of export-import similarity is a principal hindrance to intra-Africa trade and regional integration. A fundamental challenge is therefore to address supply chain constraints, value addition, value chains to render African fishery products more competitive in regional and international markets in order to boost intra-African trade to create diversification and competitiveness. Also of importance are policies, which create an environment for trade facilitation in which there are efficient core services such as finance, telecommunication services, energy and adequate transportation networks. Thus the following are important to achieve deepened regional integration and intra-regional trade:

- 1 Improving physical infrastructure in Africa,
- 2 Simplifying and harmonising documentation, rules and procedures, and customs formalities.
- 3 Establishing Free Trade Areas and Customs Unions;
- 4 Removing trade facilitation bottlenecks
- 5 Establishing one-stop border posts (OSBP) on all cross border points
- 6 Improving payment systems and promoting currency convertibility

3.2.4 Informal Cross-Border Trade (ICBT)

Informal cross-border trade (ICBT) refers to trade in legitimately produced goods and services, which escape the regulatory framework, set by the government, as such avoiding certain tax and regulatory burdens (Lesser and Moisé-Leeman, 2009). This trade constitutes a significant proportion of regional cross-border trade in many African countries with between 30-40% of total intra- South African Development Community (SADC) trade attributed to ICBT. The average estimates of the ICBT value from this region are US\$17.6 billion annually (Afrika and Ajumbo, 2012). In East Africa, the informal economy in East African Community (EAC), as with the rest of African countries, is largely comprised of micro, small and medium-scale enterprises (MSMEs) that are seen as semi-organized and unregulated. In Kenya, these enterprises are responsible for the employment of 7.5 million people or 80% of the country's total employment outside small-scale agriculture (Ogalo, 2010). These figures highlight the important role ICBT can play to support Africa's on-going efforts at addressing poverty alleviation by enhancing food security and income creation particularly for rural populations on the continent who would otherwise suffer from social exclusion. Despite ICBT's potential ability to have positive macro-economic and social ramifications, ICBTs remain largely unacknowledged in many policymaking platforms because data is not properly captured on their activities. Thus, another important question to ask is how can the envisaged Tripartite Free Trade Agreement (TFTA) address the needs and challenges that are faced by ICBTs

Informal Cross Border Trade can help alleviate poverty and enhance regional food security and therefore the need for Africa to enhance its data collection and analytical capabilities on the ICBT sector to facilitate appropriate policy responses. There is the need to streamline ICBT in the national and regional trade strategies. It is also important to support and reform ICBT that produces positive socio-economic ramifications.

3.2.5 Importance of Informal Cross-Boarder Trade in Africa and Challenges

While it is difficult to get an accurate overview of the extent of informal cross-border trade in Sub- Saharan Africa, reviewed surveys suggest that such trade still represents a significant proportion of regional cross-border trade. In Uganda, for example, informal exports flowing to its five neighbouring countries were estimated to account for US\$ 231.7 million in 2006, corresponding to around 86% of Uganda's official export flows to these countries (Lesser and Moisé-Leeman, 2009). Similarly, informal imports were estimated at US\$ 80.6 million, corresponding to approximately 19% of official import flows from these countries. The informal trade often consists of small consignments, 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 such as avoiding official border posts. Some of those that pass through official posts perform illegal practices such as under-invoicing, misclassification of goods and mis-declaration of country of origin. Some such traders especially fish traders, take small quantities across the borders and bulk on the side of the importing country as happens at Malaba and Busia on the

Uganda/Kenya borders. Due to these mal-practices, the countries miss the opportunities to quantify economic contributions of the informal trade commodities.

3.3 Fish Trade in the Eastern Trade Corridor

Fish trade flow in the Eastern Corridor is determined by the demand for fish by the importing countries. The Eastern Africa countries conduct a good percentage of its fish trade among themselves as well as other African regions such as Western Africa, Southern Africa and Central Africa. For example Kenya and Rwanda import fresh tilapia from Uganda. Most of the fish imported by Rwanda is re-exported to DRC. Eastern Africa also exports fish to Europe, North America, Middle East, South East Asia, Southern Asia and China. Tables 3 and 4 indicate the value and percentages of the recorded imported and exported fish.

Regional trade is mainly conducted informally by small scale and traditional traders across the borders and bulk of this trade is unrecorded. The products traded include dried, salted and smoked products and fresh fish, mainly tilapia. Uganda is the main fish supplier to the regional markets. Official data indicate that regional fish trade generate an average of US \$ 35 million per year for Uganda (FAO, 2013). Illegal fish trade is prevalent in the region to avoid government regulations such as taxes and tariffs, and selling undersized fish.

Table 3: Fish Exports from Eastern Africa to Major Destinations 2016

Country	Value In USD '000	Percentage %
European Union	575475	60.0
China	125709	13.3
North America	27681	2.9
Eastern and southern Asia	76443	8.1
Southern Asia	1836	0.2
Near East	30939	3.3
Eastern Africa	29005	3.1
Central Africa	8095	0.9
South Africa	1167	0.1
Western Africa	457	0.1
Total	867807	92.0
Total Exports value 2016	944463	100

Source: FAO Yearbook. Fisheries and Aquaculture Statistics 2016/FAO

Table 4: Fish Imports to Eastern Africa from some of World Regions 2016

Country	Value In USD '000	Percentage
European Union	125787	30.7
China	49266	12.0
North America	229	0.1
East and Southeast Asia	32539	8.0
Southern Asia	12434	3.0
Near East	1721	0.4
Eastern Africa	17997	28.8
South Africa	21693	5.3
Western Africa	363	0.1
Total	262029	88.3
Total Imports Value 2016	409266	100

Source: FAO Yearbook. Fisheries and Aquaculture Statistics 2016/FAO

3.3.1 Informal Cross-Border Trade in the Eastern trade Corridors

Informal cross-border trade in Eastern Africa is relatively more discernible when compared to other parts of the continent. Countries such as Uganda, Tanzania, Ethiopia and Somalia are generally recognized as sources of non-processed tradable goods consumed in Kenya and South Sudan. Kenya is a major source of manufactured goods sold informally in the region while Uganda is the major source of fish (mainly fresh tilapia on ice and dried fresh water sardine - *Omena*) traded in Kenya, South Sudan, Rwanda and DR Congo. With regard to non-processed goods, food items are the most traded to satisfy the huge demand in the horn of Africa and to mitigate ecological variations. All the countries in the region except South Sudan trade in re-exports (Jean-Guy, 2012).

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 major reasons for traders' choices of informal channels has been given by the border officials as the high custom duties and also to avoid US\$ 30 processing fees under customs clearance. Even with the introduction of a STR by COMESA to reduce documentary requirements by traders with goods value of US\$ 500 or less, for issuance of Simplified Certificate of Origin at the border post, still a large at percentage of cross-border trade avoid formal crossings.

ICBT-transactional values can be as low as US\$ 20. The reforms for ICBT through STR and One Stop Border Post (OSBP) have however began to yield results as more data and information of ICBT is being captured and would be used to inform national development plans. Information received from the border officials manning the Kenya/Uganda Malaba and Busia borders indicate that many traders are now opting to use official legal routes, as there are no incentives to use illegal border crossing. The official routes are efficient making the transactions at the border cheaper and faster. This information on the advantage of the use of official OSBP ought to be disseminated to other African countries in the trade corridors to encourage

establishment of OSBP and formal trade across the borders. 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.

There is a lucrative trade of processed factory by-products, such as heads, frames (after filleting), meat, fats and skins, which processed by smoking, drying or salting and oil extraction. There are both domestic and regional markets for these products. The regional destination for the products includes such countries as South Sudan, Rwanda, Central African Republic (CAR) and the DRC. Due to the illegal nature of informal trade, the bulk of the fish traded through the informal routes are immature. DRC is the main export destination for regional fish from Uganda, followed by Kenya and S. Sudan. The mode of transport for fish commodities for the regional market is by refrigerated trucks for fresh fish and ordinary trucks for dried and smoked.

Most of the Nile perch from Lake Victoria that is consumed locally, or exported to regional markets, comprises of either undersize or over size fish harvested outside of agreed slot size (below 50cm or above 85cm length) whose bladder has been taken out for the valuable for fish maw trade. It is estimated that 70,000 tonnes of Nile perch was traded informally in 2008 (MFPED, 2015). These quantities have continued to increase over the years. The Regional fish trade is estimated at US\$ 50 million, which largely illegal and consists of immature fish and therefore not recorded. The fish heads are most popular by-product for direct human consumption while fish frames are mostly deep-fried. Smoked/dried fish frames are mostly exported through informal channels (Dhatemwa, 2009) to such countries as Democratic Republic of Congo (DRC) and Sudan. Fish eggs produced by Nile perch are popular commodities in local and regional markets, either roasted or deep-fried for consumption. Currently also there is increased regional trade to DRC especially sun-dried eggs from tilapia. Fish trimmings, threads of fatty meat, skin, and bones are moulded into fish balls, which are deep fried and sold as snacks to supplement fish soups and sauces.

Informal fish trade from Uganda to regional markets increased from US\$ 38.4 million in 2005 to a peak of US\$ 56.4 million in 2007 but decreased to US\$ 27.1 in 2011 (UFPEA/ICFA, 2012). Uganda is the main exporter of fish to the African Great Lakes Region. There is also a large domestic market for fish. The share of Nile Perch to artisanal processing and fresh markets (both domestic and regional) was 22.5% and 38.5% respectively in 2014. In Uganda, the key players in the data collection at the border posts are the Uganda Revenue Authority (URA), Uganda Bureau of Statistics (UBS) and the District Fisheries Departments (UFPEA/ICFA, 2012). URA records formal fish exports while UBS records informal fish exports. The two institutions have a strong presence at the border posts, for statistical records of the fish trade in terms of fish quantities by weight and values. Fish species are only partially recorded and fish sizes are not recorded. Therefore, while their data would be extremely valuable for economic planning purposes, their suitability for fisheries management is limited. DFR has the technical responsibility in the administration of the fish trade, but this responsibility is largely left to the District Fisheries Departments. However, due to staffing challenges only some of the Districts have

deployed Fisheries Officers at the border posts, while others have either delegated other staff, especially Agriculture officers or just left the cross border trade unattended.

In Kenya, the Kenya Revenue Authority (KRA) collects fish export and imports statistics at the border points. State Department of Fisheries (SDF), Kenya was always concerned of the disparity of the statistics especially of imports between the Department and KRA. It was apparent that the HS Codes especially of frozen tilapia imports was all lumped together as frozen fish and therefore KRA statistics showed more volumes (22,033 tons) and value of imported tilapia in 2016 compared with SDF figures of 14,063 (Ministry of Agriculture, Livestock and Fisheries, 2016). This issue has now be addressed by establishment of a one-stop agency for imports and exports permits application and processing. Since July 2017, the import and exports data is fully harmonized. The application for fish exports and imports is done online to the SDF through the KENTRADE portal. The approvals by SDF are done and necessary levies paid before the applicant can be issued with necessary permits to import or export fish.

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). The KRA also collects statistics for international fish imports and exports at the airport and Port. The records are available for the imports and exports of fish that pass through the official customs. There is a significant amount of illegal fish that passes through the porous borders unrecorded. Most of the illegal fish are undersize fish. The other type of fish that is not recorded at the border posts is the legitimate fish that cross the borders in small amounts usually on a bicycle or on foot. These are regarded as informal small consignments and are neither levied nor recorded. Unfortunately, it is becoming clear that these small amounts add up to huge volumes through bulking at the importing country. This informal trade is estimated to constitute about 43% of the traded fish, which is nit recorded and therefore not captured in the national statistics, denying the recognition and prioritization in the national development plans. One example is the low per capita consumption of fish figures for Kenya as the amount recorded is so much less than what is consumed.

Tanzania does not allow exports of whole tilapia to Kenya but allows the export of commercial fish processing by-products for industrial use in Kenya, which are tariffs zero-rated. KRA does not record any statistics of commodities that are not custom levied and therefore the statistics of this fish, which is used for human consumption was not available but this has recently been rectified.

Rwanda imports fish from Uganda but the bulk of it is re-exported to DRC as the Rwandese fish, thus contributing to distortion of fish trade statistics in the region.

Lake Turkana fish, since 2016 now transits through Tanzania to DRC via the Tanzanian/Kenya Isebania border. Before this, the fish used to transit through Uganda via Busia border posts. This change has awakened the Isebania border post and made it quite active in cross border fish trade.

BOX 2

Capturing ICBT flows in Eastern Africa: An Example of Uganda's Effort It is important for countries to have knowledge of the informal trade volumes and value of ICBT in order to evaluate its contribution to national economy and therefore give the sector the attention it deserves. There are aggressive attempts in Uganda to capture ICBT flows. Uganda generates sizeable foreign exchange earnings from the informal trade sector. Deliberate efforts by the government have allowed the country to systematically estimate the impact of the country's informal sector. Data from Uganda's customs demonstrate a thriving informal market in Ugandan manufactured goods for South Sudan, DRC and Tanzanian markets. The value of Ugandan informal exports to its five neighboring countries Kenya, Rwanda and Tanzania, DRC and Sudan stood at US\$ 223.89 million in 2006, corresponding to around 83% of official exports to these countries over the same period (Jean-Guy, et al 2012). ICBT has had positive effects in Uganda in terms of employment creation and increased income. The strong regional demand for agricultural commodities from Ugandan presents opportunities to support the development of the agricultural sector and enhance regional food security. The captured data on ICBT is pushing policy makers in Uganda to give ICBT the attention that it deserves. Through ICBT data collection, the Ugandan government has gradually developed greater awareness and appreciation of the potential impacts of ICBT

3.3.2 Trade Facilitation in COMESA

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. By doing so, COMESA aims to promote competitiveness in regional and global markets and has taken a number of important steps. A customs-bond guarantee scheme/plan was developed to eliminate unnecessary administrative and financial costs associated with national customs bond guarantees for transit traffic. An Automated System for Customs Data And Management (ASYCUDA) was put in place which records manifests, customs declarations, customs accounting procedures, examination controls, warehousing, import and export licenses and permits and foreign trade processing procedures. It also clears goods through customs faster and generates accurate, reliable and timely trade and customs revenue statistics (UNECA, 2010). 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. It also plans to achieve a single trade and investment space in which tariffs, NTBs and other impediments to the movement of goods, services, capital and people have been totally removed by 2025. COMESA also plans to

harmonize its regional agenda with those of its sister RECs (UNECA, 2010).

With the exception of the United Republic of Tanzania, the EAC's member countries also belong to COMESA and therefore EAC applies many of COMESA's trade facilitation and promotion measures. EAC also has developed a protocol for cooperation on fish standardization and quality assurance. It supplements COMESA's measures with a regional database of trade and investment opportunities, laying the groundwork for a regional investment promotion center.

3.3.3 Regional Policy Instruments

Policy instruments and protocols that are relevant to the informal trade sector exist at the regional level. The Eastern Africa Community (EAC) Fisheries and Aquaculture Policy though draft 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 the two most important policy instrument developed for informal trade facilitation. The result of the implementation of the OSBP and the use of COMESA STR seem to be an answer to facilitating small-scale trade across the borders and thus making the data and information on informal trade more available. There is proof at the border post of an increase in legal cross-border trade and revenue and, a decrease in transit times for small traders travelling by foot or by bus, with waiting time at the border now drastically reduced to barely two hours, whereas before, it could take a whole day. As well as exempting traders moving goods on the Simplified Trade Regime list of eligible goods across the border duty free, there has also been a decrease in corruption and smuggling at the borders and the time it takes small traders to cross the border has also decreased. Most of the small traders have the opinion that the introduction of the STR is one of the OSBP's most successful reforms for small traders who are realizing benefit in their profit margins.

Simplified Trade Regime (STR)

Simplified trade formalities for small traders basically mean 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). Goods originating from COMESA Member States pass through the borders of those states for resale are duty free. Exemptions covering the commercial side and STR will bring benefits to small traders. In order to assist small traders to understand the STR, trade information desks have been set up at border posts throughout the countries where the STR applies. The trade information officer assists in filling in the forms and also with any inquiries traders have. The STR has three elements:-

1. A simplified Certificate of Origin from customs as the trader leaves the country to certify the origin of the goods.
2. 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.

3. A simplified customs document, that is filled in as the trader enters the country he is exporting to.

One-Stop Border Post (OSBP)

OSBP is a border post shared by border officers from two adjacent countries to enable them to jointly conduct cross-border and security clearance procedures. The Eastern Africa has established OSBP in many strategic border posts such as Busia and Malaba, the border points of Uganda and Kenya. One of the strong characteristic of Eastern trade corridor is the establishment of OSBP in all major and busy cross-border posts of the Eastern Africa countries. It is a practical way to reduce duplication of controls and reduce the time spent at, and costs involved in, border crossings. OSBP implies that goods and passenger vehicles only stop once at the border, and exit one country and enter another at the same time. Many tripartite countries have fully embraced the concept and aim to convert most, if not all, of their border posts to OSBPs. However, converting a border post to OSBP requires substantial amounts of finance to make adjustments to the infrastructure. It requires changes in border procedures and putting in place appropriate legislation and infrastructure for Information and Communication Technology (ICT). The implementation of OSBP is therefore not the optimal economic solution for all border posts, especially those with low traffic volumes. 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.

There are a number of challenges to be overcome when establishing an OSBP, including managing change at the border and managing stakeholder expectations. Implementing an OSBP involves a radical change in the operations of especially customs and immigration. One of the major challenges faced in implementing OSBPs is the lack of a coherent policy environment at regional level in which to plan and operate. The following issues ought to be addressed to ensure ICBT becomes more efficient in operations and data availability:-

- The taxes that can be applied to ICBT without compromising compliance
- Standards and regulations that would encourage informal sector without undermining the formal sector and therefore the economy.
- Application proven administrative measures that could help transform informal sector to formal.



OSBP at Uganda/Kenya Border – Malaba



Fisheries Inspector- Uganda

3.4 Fish production and trade linkages in countries of the Eastern Corridor

Fisheries stakeholders in the countries in the Eastern trade Corridor have strong linkage, especially between producers and traders; and between fish suppliers commonly known as agents and processors for cured fish.

In Somalia it is a common practice for fish traders to provide financial assistance to fishermen for supply of fish. Fishermen obtain their fishing operations inputs from the traders on credit basis, with the agreement that they will exclusively sell their catches to the concerned traders. Local fishermen also have financial arrangement with fishermen from Yemen for better market access to Middle East markets.

In Sudan, some fishers have special contracts with wholesale traders or companies, who have the transport facilities (mainly insulated trucks, or trucks carrying large insulated fibre containers with ice). In remote fishing areas on the shores of reservoirs and lakes (e.g. Damazine) fish is carried by fishmongers, using motorcycles or bicycles to the nearby local markets of larger villages or the small towns in the state (FAO, 2013).

In Uganda traders are a major source of credit to fishermen, who may not have adequate capital to develop and maintain their operations. The obligation to sell their catches to certain traders however, is minimal, as fishermen are migratory, thus it works only during the peak harvest seasons. However, if fishermen get loan from boat owners, then they need to sell their catches to the boat owners, who need to recover their money, thus it obviously restricts the freedom of fishers to sell to any buyer offering a better price.

This dependency among stakeholders could be reduced and become more transparent and balanced with the current efforts and trends of establishment of fishermen cooperatives, Beach Management Units (BMU), fish traders associations, processors and exporters associations in some of the countries. With the availability of micro credit, accessible to small-scale fishermen, fish traders and fish processors, the dependency on traders or processors will be minimal. In Uganda, for example, with the formation of fish traders' cooperatives, members can now access loan

facilities at 2.5% interest per calendar month and this has boosted their business. The interest is much lower than the one charged by money-lenders, which is as high as 10% on daily basis. Kenya, Uganda and Tanzania have very well established fish processors associations, which support the fishermen and fish transporters. However, there is still a lot to be done to strengthen the associations and cooperatives, especially those for less value fish species to help them function efficiently and effectively. In Ethiopia, fishermen cooperatives around the lakes with strong support from the government play important role in providing assistance to their members for fishing operation and marketing their catches. For example, a cooperative in Hawassa Lake do market intervention by being directly involved in processing and selling the fishermen catches.

3.4.1 Access to Marketing Information

Fishermen and retailers in this region have a common complaint of limited access to fish marketing information. The current wave of use of mobile apps, fishermen, small-scale traders and processors can access to market information from various sources. Industrial processors and exporters have better access via internet or other means to get up to date market information. Governments in this region have assisted in the establishment.

Kenya has a very well developed and effective Electronics Fish Marketing Information System (EFMIS) through which information on the fish quantities landed per beach and value per kilogram for the key fish species is disseminated through mobile phone. The system disseminates key fish market information from about 150 fish landing sites and markets. The database of market information is updated on a daily basis, with information on quantities and prices of by SMS sent to a special code 5565 and also disseminate synthesised market information through various avenues, including radio and Internet. EFMIS monthly Market Bulletin is the summarised price information of Lake Victoria fisheries, distributed free by e-mail to over 1,000 stakeholders across the world. Over 30% of the fishermen and 60% of the traders access market information through this system. In Uganda, Agricultural Market Information System (AMIS) provides information on fish markets and prices and has a Fish Info-trade covering price information on Nile perch and tilapia, accessible on subscription basis, making it too expensive for the small-scale fishermen and fish trader to use. Sudan receives market information from fish dealers/traders.

The region should establish a simple information systems and the easiest most efficient way to put in place such a system is to expand the existing systems like Fish Info-trade Uganda and EFMIS Kenya into a regional system.

3.5 Marketing Chain of Major Species

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*.)

3.5.1 Nile Perch

Most of Nile perch is produced from Lake Victoria by Kenya, Uganda and Tanzania and lesser quantity from Ethiopia and Sudan. The majority of Nile perch from Lake Victoria are destined for exports, while the fish caught in other countries are consumed locally. In Uganda and Kenya, Nile perch fishermen sell their catch to middlemen operating within the lake and on islands; or bring their catches to the mainland where fish is sold to retailers or middlemen/factory agents. Middlemen using insulated fish transport boats with ice, sell their fish directly to industrial processors or to their agents at landing sites.

Nile perch products for export

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% of the Nile perch exports. Other destinations for Nile perch include Japan, USA, Israel and Middle East. About 50% of the Nile produced in Kenya is exported, while the domestic market takes the rest.

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. Fish maws are in high demand in China and Hong Kong, for their supposedly medicinal benefits and their use as a tonic and food base. The fish maws are slowly replacing shark fins in banquets in Hong Kong (Tuuli et al, 2015). This commodity is also highly regarded for its rich collagen content as a specialized adhesive and for clarification of wine and beer (Hickman, 1999). The emerging fish maw market unfortunately target large mature fish, which are important for stock recruitment and this, is starting to negatively impact on the fish stocks and therefore affecting the established export market. When the fish maws are removed from the fish the rest of the fish is sold in the local market, and this has also contributed to reduction in the supply of raw material for the processing and exporting factories. It could be argued that the big fish whose swim bladder has been removed, is available for local market and therefore enhances food and nutritional security, but the need for regulation of this emerging trade is critical. It is not clear whether the fishers get the real value for their products considering that it is a luxury trade commodity in Hong Kong (Sadovy, 2016). There is therefore, need to develop strategies that would ensure the small-scale fisheries optimise benefits through value chain interventions.



Fish maws cleaned and ready for drying

Nile perch products for local and regional markets

The Nile perch that is rejected for export and undersized Nile perch 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.

Most of the Nile perch from Lake Victoria that is consumed locally, or exported to regional markets, comprises of either undersize or over size fish harvested outside of agreed slot size (below 50cm or above 85cm length) whose bladder has been taken out for the valuable for fish maw trade. Processed factory by-products, include heads, frames (after filleting), meat, fats and skins, which are processed by smoking, drying or salting and oil extraction. The fish heads are most popular by-product for direct human consumption while fish frames are mostly deep-fried before sale. Fish eggs produced by Nile perch are popular commodities in local and regional markets, either roasted or deep-fried for consumption. Fish trimmings, threads of fatty meat, skin, and bones are moulded into fish balls, which are deep fried and sold as snacks to supplement fish soups and sauces. There are both domestic and regional markets for these products. The regional destination for the products includes such countries as South Sudan, Rwanda, Central African Republic (CAR) and the DRC.



Smoked Nile perch heads for transportation



Smoked juvenile Nile perch at Ugandan market



Dried Nile perch skins for DRC



Salted Nile perch by-products

In Ethiopia Nile perch is harvested from the two lakes at ArbaMinch (Chamo and Ababya) and Lake Turkana. Some are harvested from the Blue Nile, the rivers in Gambela and Benshangul Gumuz. Fishermen land fish on the ground, cut there and transport in public transport to the nearest trader or retailer who may not have cold chain facilities. The main destination for this fish is Addis Ababa, Ethiopia for hotels. Lake Turkana Nile perch is transported to Kenya and Uganda and finds its way to DRC. (FAO, 2013)

3.5.2 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.

In Uganda fishermen normally sell their catch to middlemen or to retailers at the landing sites. The retailers transport the fish using bicycles/motorcycles or pickup vans to urban centres where it is sold in local markets or at cross border posts. Most of tilapia 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.

In Kenya tilapia remains as the main fish consumed, either in fresh or sundried form. Due to the low yield of fillets, which is at about 30%, making the filet is extremely expensive and it is sold in major cities across the country. However the biggest challenge faced by the traders is the lack of cold chain facilities and therefore traders depend on ice bought from the Nile perch value chain. Lack of insulated containers to transport the fish has also been a bottleneck, with most of the traders relying on open trucks and buses to transport the fish overnight. The dried and smoked tilapia from Lake Turkana, bordering with Ethiopia, finds its way through Lodwar to Nairobi and other cities. A good percentage of the dried tilapia is also transported in Busia market for export in the region especially the DRC.

The wholesale fish market, Gikomba in Nairobi, receives tilapia from various sources the sources including imported tilapia from China and sells to retailers from retail markets in Nairobi and across the country. The major source of tilapia in this market is Lake victoria, currently dominated by cage-farmed fish from both Kenya and Uganda. Kenya imports frozen tilapia from China, which is sold by the importer to retailers at this wholesale market. Tilapia that is produced in the region whether from the lakes or farmed, is more preferred by Kenyans even though it is much more expensive compared to imported tilapia from China. Locally/regionally produced tilapia sells at between KES 350-450 (US\$ 3.5-4.0) per Kg while China frozen Tilapia

sells at between KES 150-200 (US\$ 1.5-2.0). The Chinese fish are a threat to Aquaculture development in the region due to these low prices of the commodity. The market chain is the same as the tilapia produced locally but targets low income clients who are unable to afford their preferred tilapia.



Refrigerated trucks with Tilapia from Lake Edward



Agents of importers and suppliers & Fish inspectors



Packed tilapia in ice for transportation to Kenya



Packaged iced Tilapia ready for export to Kenya



Imported frozen Tilapia from China at Gikomba market



Fish vendor (Tilapia) in Gikomba market

In Ethiopia, fishermen sell their catch to cooperatives and Fish Processing and Marketing Enterprises (FPME), which processes the fish into fillet, packed and sold in frozen form through FMPE's outlets, retailers and to catering (hotel and restaurants) sector in major cities. Dried tilapia is also exported from Lake Tana to Sudan. Currently at Hawassa, all the stakeholders are involved in capture and marketing of tilapia. These integrated activities are also conducted at the Amora Guedel landing site, where the consumer comes to buy fish not by weight, but by head count and then pay extra to fillet it (FAO, 2013).

3.5.3 Fresh Water Sardines (*Omena*)

Omena (Kenya), *Mukene* (Uganda) or *Dagaa* (Tanzania), is mainly harvested from the Lake Victoria. *Omena* fishing is carried out at night using light attraction. Floating paraffin pressure lamps are used to attract and congregate the fish, which are then scooped from the water using scoop-nets or lampara nets. In Kenya, *Omena* fishing is mainly carried out by men using seine nets. Though some women, less than 5%, also own fishing crafts and gears, it is still men who venture into the lake to carry out actual fishing activity. When landed, the fish is sold to artisanal processors, who are mainly women, to process it into sun-dried product. Depending on the target market, sun-drying *Omena*, which is done by spreading it on the ground, on mats/tarpaulins or on raised racks. The practice of spreading on the ground is deliberate to gain extra weight, but it usually results in poor quality end product, with sand and other foreign materials. This is not acceptable for human consumption but even rejected by the animal feed factories. In Uganda, the main customers for *Mukene* are feed producers and to a lesser extent domestic consumers. There is also an animal feed marketing channel through small scale milling of *Omena* by individual farmers to produce compounded feeds for poultry, dairy and fish. Kenya imports dried *Omena* from Uganda and Tanzania for human consumption.

Omena that is dried on mats and racks for human consumption fetches a higher price, than that which is dried on the bare ground. The sun dried *Omena* of varying sizes is packed in tins or sacks depending on the quantity that is required by the buyer. 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 be found in shops and supermarkets in form hygienically packaged sundried, salted, deep-fried or powdered.



Mukene dried on racks. Photo by: Yvette Dieiouadi



Dried *Omena* at the market



Packaged Omena ready for transportation

3.5.4 Catfish

Catfish in the region is either harvested from capture fisheries or is produced from aquaculture. In Uganda, the catfish is mainly found in three major water bodies but the highest quantity is recorded from Lake Albert while in Ethiopia it is mainly caught in Lake Tina. In Kenya, catfish is harvested from lakes and rivers, and also produced through fish farming for consumption and for bait. Generally catfish is consumed in domestic markets

Large size catfish is usually not preferred by Ethiopians, who consider its appearance as not appealing and it is not normally brought to market as a whole fish. Therefore once it is landed, the fish is filleted, packed in plastic bags and sold in major cities.

In Sudan and South Sudan harvested catfish are consumed locally in fresh form, but some are traditionally processed into dried and smoked products. These processed products are marketed to major towns. Some products from South Sudan also find their way to Sudan through cross border trade.

3.5.5 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.

In Puntland, one of the main marine fish production centre in Somalia, domestic fish marketing is not well established and as a result there are generally no intermediary players between the producers and consumers operating in the chain. Even in Bosaso which, has the biggest landing site, bulk of the fish landed is sold directly to the general public at the landing site, without the involvement of any intermediaries.

Any surplus of fish like tuna and kingfish is smoked and later sold in Bosaso or exported to Yemen. Fishermen operating in the southern regions around the Bajuni Islands sometimes sell fresh fish directly to traders from Kenya (FAO 2013). Some demersal fish and sharks are usually gutted, salted and dried on the beach, and then exported to Mombasa by boat.

In Djibouti, most of the fish are landed at night and sold the following morning. Marketing chain is usually very simple, as most of the catch is sold to markets nearby the coastal areas and there is hardly any fish going to interior markets.

3.6 Major players in the Domestic, Regional and international Trade

3.6.1 Fish Producers

The major players in the fish trade are the fish producers who include the fishermen and fish farmers. 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.

3.6.2 Fish Processors

The traditional fish processing is carried out at the lading sites mainly by women, who either dry or smoke fish according to need to preserve and/or demand for the commodity. The industrial processors buy first grade fish from the landing sites through their agents and process at their urban factories under very strict hygiene practices. The fish so processed is usually destined for overseas markets.

3.6.3 Agents and Traders

Once the fish is harvested, the agents also known as middlemen purchase the catch at the landing sites either through predetermined prices or through auction. The middlemen comprise of both men and women though the majority of this group of the value chain dealing with fresh fish are men and those dealing whereas the majority of those dealing with processed fish are women.

3.6.4 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.

3.6.5 Fish Inspectors

Most of the countries that export fish to the international markets have to comply with international fish quality and safety assurance standards. 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. In addition to the factory inspectors, there also inspectors that are stationed at the cross border posts and also at the fish markets to inspect fresh fish. This is the case in Kenya, Uganda and Tanzania. Unfortunately there are no set standards for cured fish in almost all the countries of the region, so not much inspection is carried out on smoked and dried fish.

3.6.6 Local and National Governments

The governments' role in the fish trade is policy and legislation development, and enforcement. Also the governments have 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.

3.6.7 Other Players

RECs are important for standards setting and policy development to facilitate regional trade. African Union for developing policies to promote intra regional trade across the continent. The Development Partners and NGO are other important players in facilitation of regional trade through capacity building and advocacy. Universities and research institutions have proved useful in conducting surveys and quantification of informal trade.

3.7 Mapping Fish Trade Flows

3.7.1 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 middlemen 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 products from all over the lakes and rivers are sold in the main markets of Addis Ababa and Bahirdar. In Uganda most of the fish sent to major cities like Kampala, Entebbe and Soroti and to major processing areas around the country. 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 centers 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.

The Sudan capital Khartoum receives fish from several fish producing states, as it is the largest market for fishery product in Sudan. 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. There is no flow of fish to the countryside because only coastal communities consume fish as the inter land communities are nomadic with meat preferences.

Table 5: Summary of Domestic Trade Flows of Major Species in the region

Country	Main Fish Species and Products	Main Sources of fish	Major Domestic Markets
Ethiopia	Tilapia (fresh, frozen fillet, smoked)	L.Tana, Rift Valley lakes, Lake Bishofu-Guda	Addis Ababa, Bahirdar
	African Catfish (frozen fillet)	L.Tana, Rift Valley lakes	Addis Ababa, Bahirdar
	Nile perch (frozen fillet)	Rift Valley lakes, Gambela, L. Rudolf	Addis Ababa
Uganda	Tilapia (fresh, dried/salted, smoked)	L. Victoria, Kyoga, Albert	Kampala, Entebbe, Masindi, Soroti, Masaka, Kabele
	Nile perch (fresh, under size and 2 nd grade fish, salted/dried, smoked of	L.Victoria, Kyoga, Albert	Kampala, Jinja, Entebbe (processing centres) Mpondwe, Ninule

	frame, head, skin)		(borders for dried products)
	<i>Mukene</i> (dried, salted, deep fried)	L. Victoria	Kampala, Entebbe, Busia, Kabale, Butiaba.
Kenya	Tilapia (fresh, dried/salted, smoked)	L. Victoria, Turkana	Nairobi, Mombasa, Busia, Dominion
	Nile perch (fresh, under size and 2 nd grade fish, salted/dried, smoked of frame, head, skin)	L.Victoria,	Mombasa Busia, Kitale
	<i>Mukene</i> (dried, salted,)	L. Victoria	Nairobi, Mombasa, and other cities.
Somalia	Marine finfish small pelagic and demersal fishes (fresh, frozen, dried/salted, smoked)	Ras Aseyr, Ras Mabber of the Puntland Coastlines, Bajuni Island, Zeila	Mogadishu, Bosaso, Berbera, Kismanyo
Sudan	Freshwater fish: Tilapia, Nile perch, <i>barbus</i> , <i>Labeo</i> , Catfish-fresh, dried, smoked	Along the White and Blue Nile rivers and dams	Khartoum, Kasala, Medani, Sennar, Dongla, Atbara, El Obeid and Gadarif.
	Marine fish (small pelagic fishes): fresh	Red Sea	
South Sudan	Freshwater fish: Tilapia, Nile perch, <i>barbus</i> , <i>Labeo</i> , Catfish-fresh, dried, salted and smoked	Sudd Wetlands area (Main landing sites: Bor, Terekeba, Adobakar)	The urban centers of greater regions of Upper Nile, Bahar Ghazal and Equatorial
Djibouti	Marine fish: Wahoo, tuna, trevally, grouper	Todjuara, Obock, Djibouti, Lovada	Djibouti and cities in the coastal areas.
Tanzania	Mtilapia, Nile perch, Dagaa	Lake Victoria, Lake Tanganyika,	Dar-es-Salaam and other urban centres

Source: FAO, 2013

3.7.2 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. Interestingly 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) promotes 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 of 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.

Table 6: Flow of Fishery Products From Uganda to Regional Markets.

Border Post or Market	Type of fish/ product	Source of fish (country/ water body)	Volume (tons)/year	Value in USD or local currencies	Originating country	Destination Country and Major town
Dei (informal trade)	Nile Perch (immature and sun-dried)	Lake Albert (Uganda)	130	1,040,000,000 UGX	Uganda	DRC/Mahagi Port
Dei (informal trade)	Brycinus (Ragogi) smoked	Lake Albert	42	33,600,000 UGX	Uganda	DRC
Panyimur market (informal trade)	Nile Perch (immature and sun-dried)	Lake Albert				
	Brycinus (Ragogi) smoked	Lake Albert				
Busia	Tilapia	Lake Kyoga/L. Victoria Farmed fish	1600	16,000,000,000 UGX	Uganda	Kenya (Nairobi, Eldoret, Nakuru, Busia)
Busia	Alestes	Lake Turkana	286	-	Kenya	Uganda
Malaba	Tilapia	L. Kyoga	104	832,000,000 UGX	Uganda	Kenya
Jinja	Tilapia	L. Victoria	416	5,000,000,000	Uganda	Kenya
Mpondwe	Tilapia Immature Nile perch Dagaa Alestes	Lake Victoria Lake Victoria Lake Victoria Lake Albert			Uganda	DRC
Katuna	Tilapia (fresh) Nile perch (fillets) NP (Whole) Dagaa Salted fish (mixed)	Farmed fish Lake Victoria Lake Albert	189.6 147.9 40 48000**		Uganda	Rwanda
Bunagana	Dagaa				Uganda	Rwanda/DRC

	Tilapia Salted					
Kyanika	Salted fish Smoked fish				Uganda	Rwanda/DRC
Arua	Alestes Nileperch Ragogi	Lake Albert			Uganda	DRC
Elegu	Tilapia (fresh) Nile perch (fillets) Dagaa (Sundried)	Lake Victoria Fish farms	1200		Uganda	South Sudan
Busia	Dried Omena	Lake Victoria UG	200 tons (2017)	Ksh 20000	Uganda	South Sudan
Malaba	Fresh Tilapia	L. Albert Uganda	100,000 tons (2017)	Ksh. 20 million	Uganda	Kenya

Source: Derived from questionnaire (Uganda Fisheries Department)

Table 7: Flow of Fishery Products via Busia Border to Regional Markets.

Border Post or Market	Type of fish/product	Source of fish (country/water body)	Volume (tons)/week	Value in USD or local currencies	Originating country	Destination Country and Major town
Busia	Fresh Tilapia Nile perch	Lake Victoria (Uganda)	2		Uganda	Kenya (Nairobi)
Busia	Smoked Tilapia	Lake Victoria (Uganda)	2		Uganda	Kenya (Busia, Kakamega, Vihiga, Kisumu, Eldoret, Nakuru, Nairobi)
Busia	Dried Omena	Lake Victoria (Uganda)	1		Uganda	Kenya (Busia, Kakamega, Vihiga, Kisumu, Eldoret, Nakuru, Nairobi)
Busia	Tilapia (Sun dried & Salted) Barbus Alestes	Lake Turkana	15		Kenya	DRC Uganda Rwanda

Source: Kenya Fisheries, Annual Statistical Bulletin, 2016

Table 8: Regional Trade of Fishery Products in the Horn of Africa

Products	Origin	Destination	Remarks
Dried fish (Dried catfish, barbus)	Ethiopia (lake Tana)	Sudan/South Sudan	
By products of Nile perch: Dried, smoked of frame, head and skin	Uganda, Kenya, Tanzania	DPR Congo, Sudan, Kenya	Uganda is the main supplier for the region Kenya imports from

			Tanzania
Smoked/dried Tilapia	Uganda, Kenya, Ethiopia	DPR Congo, Sudan, Rwanda	
Dried/smoked catfish	South Sudan	Sudan, Ethiopia	
Dried <i>mukene/ Omena/Dagaa</i>	Uganda, Kenya, Tanzania	Rwanda, DPR Congo, Sudan, Tanzania, Kenya	Imported <i>mukene/dagaa</i> into Kenya is mainly for animal feed
Fresh Tilapia	Uganda	Sudan, Rwanda, Kenya	
Dried salted Tilapia	Kenya	DRC	From L. Turkana via Tanzania
Fresh Nile perch	Uganda, Ethiopia	Kenya	Transshipment/cross border trade
Fresh/chilled marine fish	Somalia, Sudan	Djibouti, Yemen, Egypt, Saudi Arabia	From North-West Zeila to Djibouti, By boats to Yemen
Frozen Nile perch	Uganda, Kenya	Rwanda, DPR Congo, Sudan, Ethiopia, Uganda	Small quantity for catering, retailers and humanitarian organizations
Live Lobster	Somalia	Kenya, UAE	By air
Dried Fish maws	Kenya, Uganda	Uganda	For re-export to Far East Kenya also exports small quantities to China
Dried Shark meat	Somalia	Kenya	By boat to Mombasa
Dried Shark fins, Sea cucumber	Somalia, Sudan, Kenya	Middle East markets	For re-export to Far East. Sea cucumber mainly from Sudan

Source: FAO, 2013

Table 9: Kenya Import of Fish and Fishery Products (2016)

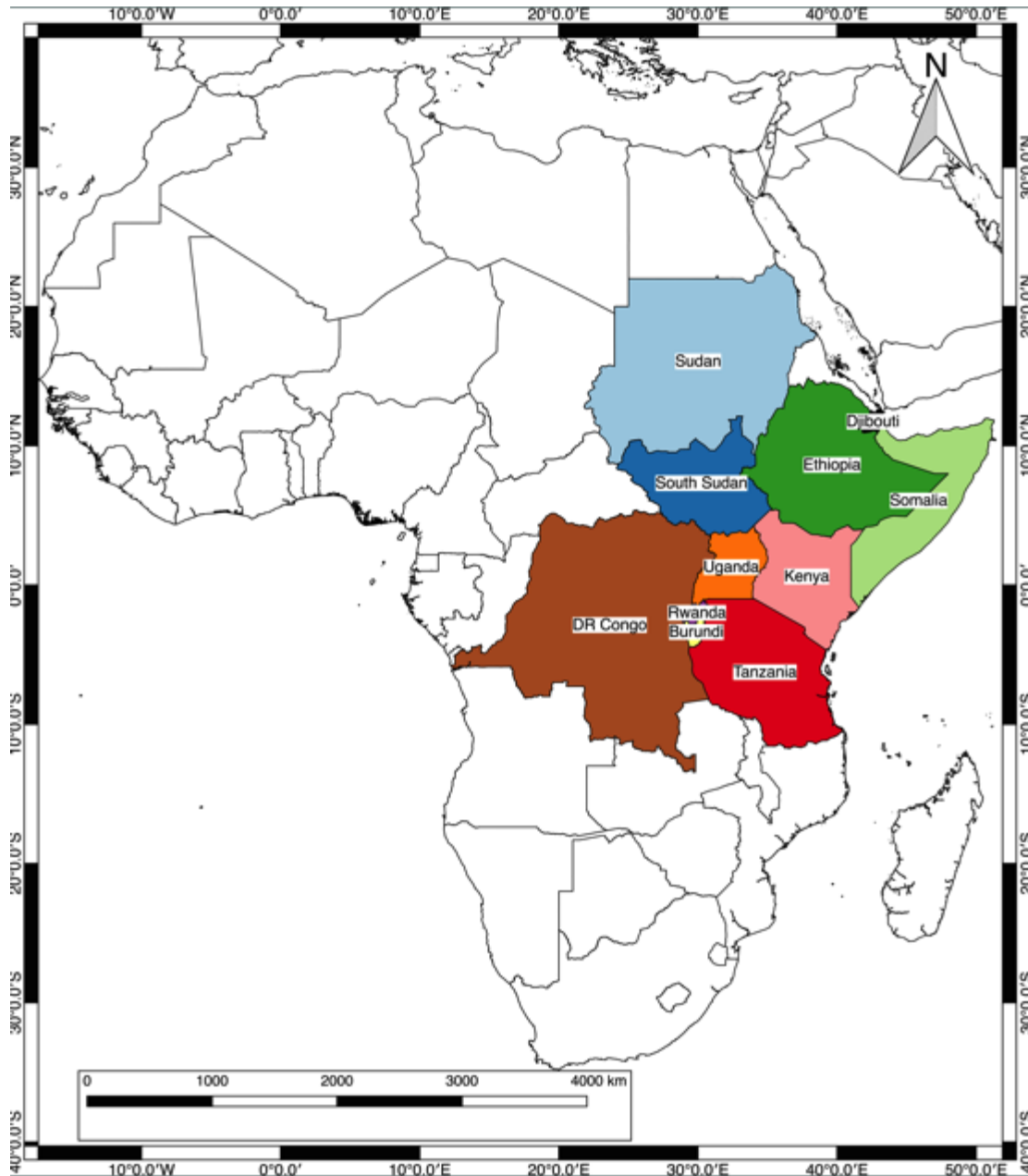
Country	Volume (tons)
China	11193
Uganda	1420
Japan	1028
Tanzania	961
Others	656
Vietnam	179
Mauritius	299
Germany	244
Norway	46
South Africa	153
Korea	163
Oman	135

Source: Kenya Fisheries, Annual Statistical Bulletin, 2016

3.7.3 Fish Trade Flow Maps of Eastern Africa Corridor and the Horn of Africa

The area covered under this study include, countries of the Eastern Africa and the Horn of Africa as shown on *Figure 1* below. These countries belong to different RECs namely; EAC, COMESA and IGAD. A number of these countries however belong to two or three different RECs. This brings into sharp focus the need for trade policies harmonization in Africa to facilitate commodity trade for the benefit of the continent's population especially access to food to enhance food and nutrition security.

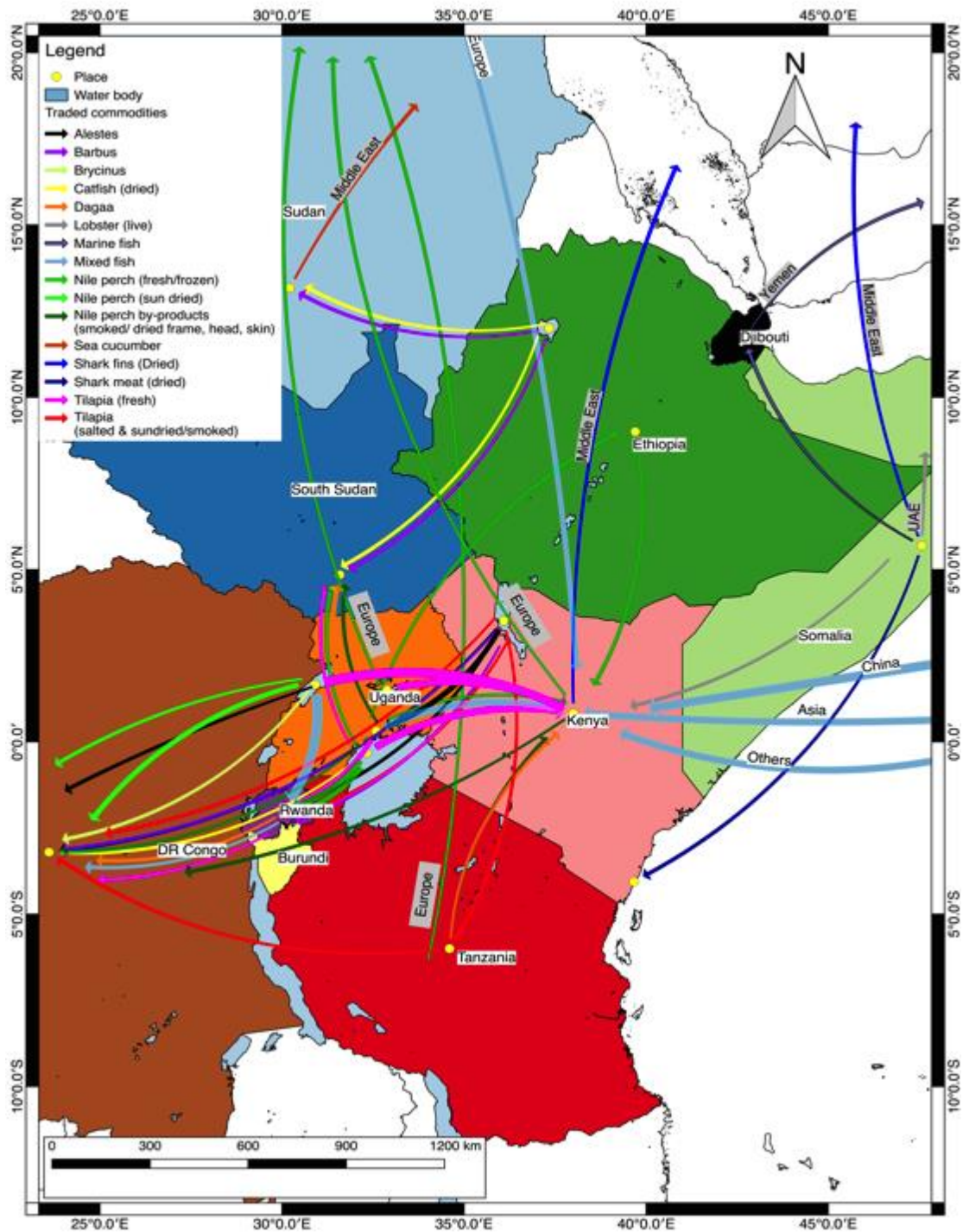
Figure 1: Map of Africa showing the Countries of Eastern Africa and the Horn of Africa



i) Formal trade in the Eastern and Horn of Africa countries

Figure 2 below shows the fish and fish trade flow in the countries under this study. The flow map was developed using the quantities of the fish products that are either known or can be approximated. In this regard, the map indicates the volumes of fish trade through the arrows thickness.

Figure 2: Fish and Fisheries Products Trade Flow in the Eastern Africa Trade Corridor including the Horn of Africa



ii) Informal fish trade in the Eastern Africa Trade Corridor including the Horn of Africa

Figure 3 shows the flow of the data deficient traded fish in Eastern and the Horn of Africa derived from the table below (Table 10). Most of this information was derived from LVFO.

Table 10: Informal trade of fisheries products in the Eastern Africa Trade Corridor

No	Origin	Border	Destination	Product	Product grouping for mapping purposes
<u>a) BURUNDI</u>					
1.	Burundi	Gatumba	DRC	Tilapia	Tilapia
2.	Burundi	Gatumba	DRC	Clarias	Mixed fish
3.	Burundi	Gatumba	DRC	Mukeke	Mukeke
4.	Burundi	Gatumba	DRC	Ndagala	Ndagala
5.	Burundi	Ruhwa	Rwanda	Mukeke	Mukeke
6.	Burundi	Ruhwa	Rwanda	Ndagala	Ndagala
7.	Burundi	Kanyaru	Rwanda	Mukeke	Mukeke
8.	Burundi	Kanyaru	Rwanda	Ndagala	Ndagala
9.	Burundi	Kanyaru	Burundi	Fish fingerlings	Fingerlings
10.	Burundi	Gasenyi	Rwanda	Mukeke	Mukeke
11.	Burundi	Gasenyi	Rwanda	Ndagala	Ndagala
12.	Burundi	Mugina	Tanzania	Ornamental fish	Ornamental fish
13.	Burundi	Kabonga	Tanzania	Ornamental fish	Ornamental fish
14.	Burundi	Kobero	Tanzania	Ornamental fish	Ornamental fish
15.	Burundi	Rumoge	Tanzania	Tilapia	Tilapia
16.	Burundi	Rumoge	Tanzania	Clarias	Mixed fish
17.	Burundi	Rumoge	Tanzania	Mukeke	Mukeke
18.	Burundi	Rumoge	DRC	Tilapia	Tilapia
19.	Burundi	Rumoge	DRC	Clarias	Mixed fish
20.	Burundi	Rumoge	DRC	Mukeke	Mukeke
21.	Burundi	Gasenyi	Rwanda	Dried fish	Mixed fish
22.	Burundi	Kanyaru	Rwanda	Dried fish	Mixed fish
23.	Burundi	Kabanga	Tanzania	Ornamental fish	Ornamental fish
24.	Burundi	Murusagamba	Tanzania	Ornamental fish	Ornamental fish
25.	Burundi	Buhingu	Tanzania	Ornamental fish	Ornamental fish
<u>b) RWANDA</u>					
26.	Rwanda	Ruhwa	Burundi	Fish feeds	Fish feeds
27.	Rwanda	Ruhwa	Burundi	Fish fingerlings	Fingerlings
28.	Rwanda	Kanyaru	Burundi	Fish feeds	Fish feeds
29.	Rwanda	Gasenyi	Burundi	Fish feeds	Fish feeds

30.	Rwanda	Gasenyi	Burundi	Fish fingerlings	Fingerlings
31.	Rwanda	Gasenyi	Burundi	Fresh fish	Mixed fish
32.	Rwanda	Kanyaru	Burundi	Fresh fish	Mixed fish
33.	Rwanda	Rusizi	DRC	Fresh fish	Mixed fish
34.	Rwanda	Rusizi	DRC	Dried fish	Mixed fish
35.	Rwanda	Rusizi	DRC	Smoked fish	Mixed fish
36.	Rwanda	Rubavu	DRC	Fresh fish	Mixed fish
37.	Rwanda	Rubavu	DRC	Dried fish	Mixed fish
38.	Rwanda	Rubavu	DRC	Smoked fish	Mixed fish
c) TANZANIA					
39.	Tanzania	Mugina	Burundi	Nile perch	Nile perch
40.	Tanzania	Mugina	Burundi	Dagaa	Dagaa
41.	Tanzania	Kobero	Burundi	Nile perch	Nile perch
42.	Tanzania	Kobero	Burundi	Dagaa	Dagaa
43.	Tanzania	Rumoge	Burundi	Dagaa	Dagaa
44.	Tanzania	Rumoge	Burundi	Kapenta	Mixed fish
45.	Tanzania	Kabonga	Burundi	Nile perch	Nile perch
46.	Tanzania	Kabonga	Burundi	Dagaa	Dagaa
47.	Tanzania	Lunga lunga	Kenya	Dagaa	Dagaa
48.	Tanzania	Lunga lunga	Kenya	Prawns	Prawns
49.	Tanzania	Lunga lunga	Kenya	Squids	Squids
50.	Tanzania	Lunga lunga	Kenya	Octopus	Octopus
51.	Tanzania	Taveta	Kenya	Dagaa	Dagaa
52.	Tanzania	Oloitoktok	Kenya	Dagaa	Dagaa
53.	Tanzania	Isebania	Kenya	Frozen NP byproducts	Nile perch byproducts
54.	Tanzania	Isebania	Kenya	Dagaa	Dagaa
55.	Tanzania	Kopanga	Kenya	Dagaa	Dagaa
56.	Tanzania	Rusumo	Rwanda	Frozen fish	Mixed fish
57.	Tanzania	Rusumo	Rwanda	Dried fish	Mixed fish
58.	Tanzania	Rusumo	Rwanda	Smoked fish	Mixed fish
59.	Tanzania	Isebania	Kenya	Frozen NP byproducts	Nile perch byproducts
60.	Tanzania	Isebania	Kenya	Fresh and frozen fillets	Mixed fish
61.	Tanzania	Isebania	Kenya	Dagaa	Dagaa
62.	Tanzania	Namanga	Kenya	Prawns	Prawns
63.	Tanzania	Namanga	Kenya	Squids	Squids
64.	Tanzania	Namanga	Kenya	Octopus	Octopus
65.	Tanzania	Sota	Kenya	Dagaa	Dagaa
66.	Tanzania	Holili	Kenya	Dagaa	Dagaa
67.	Tanzania	Tarake	Kenya	Dagaa	Dagaa

68.	Tanzania	Horohoro	Kenya	Dagaa	Dagaa
69.	Tanzania	Mutukula	Uganda	Fresh and frozen NP fillets	Nile perch
70.	Tanzania	Mutukula	Uganda	Dagaa	Dagaa
71.	Tanzania	Mutukula	Uganda	Dried NP byproducts	Nile perch byproducts
72.	Tanzania	Mutukula	Uganda	Prawns	Prawns
73.	Tanzania	Mutukula	Uganda	Lobsters	Lobsters
74.	Tanzania	Mutukula	Uganda	Squids	Squids
75.	Tanzania	Rusumo	Rwanda	Frozen & Salted NP byproducts	Nile perch byproducts
76.	Tanzania	Rusumo	Rwanda	Fresh and frozen NP fillets	Nile perch
77.	Tanzania	Rusumo	Rwanda	Dagaa	Dagaa
78.	Tanzania	Rusumo	Rwanda	Dried NP byproducts	Nile perch byproducts
79.	Tanzania	Rusumo	Rwanda	Prawns	Prawns
80.	Tanzania	Rusumo	Rwanda	Lobsters	Lobsters
81.	Tanzania	Kabanga	Burundi	Frozen & Salted NP byproducts	Nile perch byproducts
82.	Tanzania	Kabanga	Burundi	Fresh and frozen fillets	Mixed fish
83.	Tanzania	Kabanga	Burundi	Dagaa	Dagaa
84.	Tanzania	Murusagamba	Burundi	Frozen & Salted NP byproducts	Nile perch byproducts
85.	Tanzania	Murusagamba	Burundi	Fresh and frozen fillets	Mixed fish
86.	Tanzania	Murusagamba	Burundi	Dagaa	Dagaa
87.	Tanzania	Buhingu	Burundi	Frozen & Salted NP byproducts	Nile perch byproducts
88.	Tanzania	Buhingu	Burundi	Fresh and frozen fillets	Mixed fish
89.	Tanzania	Buhingu	Burundi	Dagaa	Dagaa
90.	Tanzania	Kigoma	DRC	Salted NP byproducts	Nile perch byproducts
91.	Tanzania	Kigoma	DRC	Dagaa	Dagaa
92.	Tanzania	Kasanga	Zambia	Salted NP byproducts	Nile perch byproducts
93.	Tanzania	Kasanga	Zambia	Fresh and frozen fish	Mixed fish

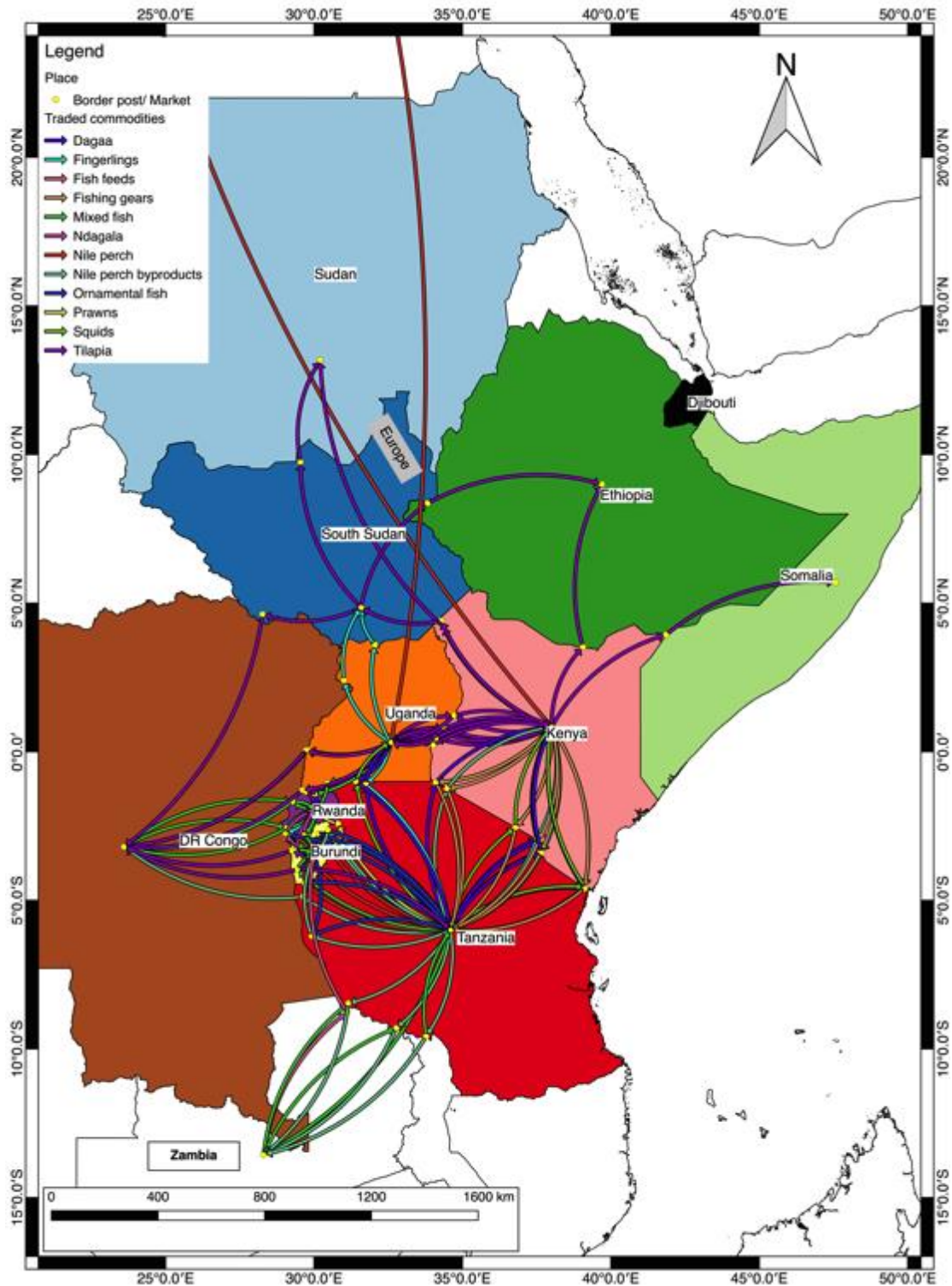
94.	Tanzania	Kasanga	Zambia	Dagaa	Dagaa
95.	Tanzania	Zambia	Kasanga	Farmed fish	Mixed fish
96.	Tanzania	Tunduma	Zambia	Salted NP byproducts	Nile perch byproducts
97.	Tanzania	Tunduma	Zambia	Fresh and frozen fish	Mixed fish
98.	Tanzania	Tunduma	Zambia	Dagaa	Dagaa
99.	Tanzania	Zambia	Tunduma	Farmed fish	Mixed fish
100.	Tanzania	Kasumulo	Zambia	Frozen & Salted NP byproducts	Nile perch byproducts
101.	Tanzania	Kasumulo	Zambia	Fresh and frozen fillets	Mixed fish
102.	Tanzania	Kasumulo	Zambia	Dagaa	Dagaa
103.	Tanzania	Mutukula	Uganda	Nile perch byproducts	Nile perch byproducts
104.	Tanzania	Mutukula	Uganda	Fishing gears	Fishing gears
105.	Tanzania	Mutukula	Uganda	Fish maws	Fish maws
106.	Tanzania	Kanyigo	Uganda	Dagaa	Dagaa
<u>d) UGANDA</u>					
107.	Uganda	Sio port	Kenya	Tilapia	Tilapia
108.	Uganda	Busia	Kenya	Fish feeds	Mixed fish
109.	Uganda	Busia	Kenya	Fish fingerlings	Fingerlings
110.	Uganda	Busia	Kenya	Nile perch byproducts	Nile perch byproducts
111.	Uganda	Malaba	Kenya	Fish feeds	Fish feeds
112.	Uganda	Malaba	Kenya	Fish fingerlings	Fingerlings
113.	Uganda	Malaba	Kenya	Nile perch byproducts	Nile perch byproducts
114.	Uganda	Luakhakha	Kenya	Tilapia	Tilapia
115.	Uganda	Suam	Kenya	Tilapia	Tilapia
116.	Uganda	Gatuna	Rwanda	Frozen fish	Mixed fish
117.	Uganda	Kagitumba	Rwanda	Frozen fish	Mixed fish
118.	Uganda	Cyanika	Rwanda	Fresh fish	Mixed fish
119.	Uganda	Cyanika	Rwanda	Dried fish	Mixed fish
120.	Uganda	Cyanika	Rwanda	Smoked fish	Mixed fish
121.	Uganda	Kanyigo	Tanzania	Fish fingerlings	Fingerlings
122.	Uganda	Mutukula	Tanzania	Fish fingerlings	Fingerlings
123.	Uganda	Bwera	DRC	Nile perch	Nile perch
124.	Uganda	Bwera	DRC	Dried Tilapia	Tilapia

125	Uganda	Bwera	DRC	Salted Tilapia	Tilapia
126	Uganda	Bwera	DRC	Tilapia	Tilapia
127	Uganda	Mpondwe	DRC	Dried Nile perch	Nile perch
128	Uganda	Mpondwe	DRC	Salted Nile perch	Nile perch
129	Uganda	Mpondwe	DRC	Tilapia	Tilapia
130	Uganda	Mpondwe	DRC	Nile perch byproducts	Nile perch byproducts
131	Uganda	Mpondwe	DRC	Mukene	Dagaa
132	Uganda	Mpondwe	DRC	Synodontis	Mixed fish
133	Uganda	Busia	Kenya	Tilapia	Tilapia
134	Uganda	Busia	Kenya	Fish maws	Fish maws
135	Uganda	Busia	Kenya	Frozen Nile perch	Nile perch
136	Uganda	Malaba	Kenya	Farmed fish	Mixed fish
137	Uganda	Malaba	Kenya	Tilapia (Dried/Smoked)	Tilapia
138	Uganda	Malaba	Kenya	Nile perch (Dried/Smoked)	Nile perch
139	Uganda	Malaba	Kenya	Mukene (Dried/Smoked)	Dagaa
140	Uganda	Bunagana	DRC	Tilapia (Dried/Smoked/Salted)	Tilapia
141	Uganda	Bunagana	DRC	Synodontis (Dried/Smoked/Salted)	Mixed fish
142	Uganda	Katuna	Rwanda	Mukene	Dagaa
143	Uganda	Mirama	Rwanda	Tilapia	Tilapia
144	Uganda	Cyanika	Rwanda	Tilapia	Tilapia
145	Uganda	Cyanika	Rwanda	Nile perch	Nile perch
146	Uganda	Cyanika	Rwanda	Synodontis	Mixed fish
147	Uganda	Cyanika	Rwanda	Mukene	Dagaa
148	Uganda	Mutukula	Tanzania	Mukene	Dagaa
149	Uganda	Nimule	South Sudan	Tilapia (Dried/Smoked/Salted)	Tilapia
150	Uganda	Nimule	South Sudan	Mukene	Dagaa
151	Uganda	Nimule	South Sudan	Tilapia fingerlings	Fingerlings
152	Uganda	Nimule	South Sudan	Fish feeds	Fish feeds

153	Uganda	Kaya	South Sudan	Labeo	Mixed fish
154	Uganda	Kaya	South Sudan	Momyrus	Mixed fish
155	Uganda	Kaya	South Sudan	Protopterus alestis	Mixed fish
156	Uganda	Kaya	South Sudan	Tilapia fingerlings	Fingerlings
157	Uganda	Kaya	South Sudan	Fish feeds	Fish feeds
e) KENYA					
158	Kenya	Lokichoggio Airport	Sudan	Tilapia	Tilapia
159	Kenya	Moyale	Ethiopia	Tilapia	Tilapia
160	Kenya	Mandera	Somalia	Tilapia	Tilapia
161	Kenya	Lunga lunga	Tanzania	Fish fingerlings	Fingerlings
162	Kenya	Taveta	Tanzania	Fish fingerlings	Fingerlings
163	Kenya	Oloitoktok	Tanzania	Fish fingerlings	Fingerlings
164	Kenya	Busia	Uganda	Tilapia	Tilapia
165	Kenya	Busia	Uganda	Labeo Momyrus	Mixed fish
166	Kenya	Busia	Uganda	Protopterus alestis	Mixed fish
167	Kenya	Busia	Uganda	Frozen fish maws	Fish maws
168	Kenya	Malaba	Uganda	Frozen fish maws	Fish maws
169	Kenya	Malaba	Uganda	Tilapia	Tilapia
170	Kenya	Luakhakha	Uganda	Tilapia	Tilapia
171	Kenya	Suam	Uganda	Tilapia	Tilapia
172	Kenya	Isebania	Tanzania	Fishing nets	Fishing gears
173	Kenya	Sota	Tanzania	Fish fingerlings	Fingerlings
174	Kenya	Sota	Tanzania	Fishing nets	Fishing gears
175	Kenya	Namanga	Tanzania	Fishing nets	Fishing gears
176	Kenya	Namanga	Tanzania	Fish fingerlings	Fingerlings
177	Kenya	Holili	Tanzania	Fishing nets	Fishing gears
178	Kenya	Tarake	Tanzania	Fishing nets	Fishing gears
179	Kenya	Horohoro	Tanzania	Fishing nets	Fishing gears
180	Kenya	Uganda	EU	Frozen Nile perch	Nile perch
181	Kenya	Busia	Uganda	Fishing nets	Fishing gears

182	Kenya	Nadepal	South Sudan	Tilapia (Dried/Smoked /Salted)	Tilapia
183	Kenya	Nadepal	South Sudan	Mukene	Dagaa
<u>f) DRC</u>					
184	DRC	Rusizi	Rwanda	Fresh fish	Mixed fish
185	DRC	Rusizi	Rwanda	Dried fish	Mixed fish
186	DRC	Rusizi	Rwanda	Smoked fish	Mixed fish
187	DRC	Rubavu	Rwanda	Fresh fish	Mixed fish
188	DRC	Rubavu	Rwanda	Dried fish	Mixed fish
189	DRC	Rubavu	Rwanda	Smoked fish	Mixed fish
<u>g) SOUTH SUDAN</u>					
190	South Sudan	Joda	Sudan	Tilapia	Tilapia
191	South Sudan	Joda	Sudan	Tilapia (Dried/Smoked /Salted)	Tilapia
192	South Sudan	Yubu	DRC	Tilapia (Dried/Smoked /Salted)	Tilapia
193	South Sudan	Boma/ Gambella	Ethiopia	Tilapia (Dried/Smoked /Salted)	Tilapia
<u>h) MALAWI & ZAMBIA</u>					
194	Malawi	Kasumulo	Tanzania	Farmed fish	Mixed fish
195	Zambia	Lake Tanganyika (Mpulungu)	Burundi	Fish feeds	Fish feeds
196	Zambia	Lake Tanganyika (Mpulungu)	Burundi	Canned fish	Mixed fish

Figure 3: Informal fish trade flow in the Eastern Africa Corridor and the Horn of Africa countries



3.8 Challenges facing Intra-Fish Trade in Africa

The study established a number of challenges that have to be overcome in facilitating the enhancement of intra-fish trade in Africa, especially the issues that encourage the informal cross-border trade. These issues consequently result to the

failure to capture trade flow volumes and value and therefore the trade commodities contribution to the countries' economies. Some of these challenges include:

1. Fish dependent communities are deriving social and economic benefits from cross-border fish trade, yet fish trade remains largely informal and not recognized by national and regional governments.
2. 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, unpredictable, complex border procedures and regulatory hurdles, compounded by low levels of literacy and knowledge about border procedures, particularly amongst women traders and processors
3. 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
4. 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.
5. 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
6. Formal intra-regional trade is impeded in countries within trade blocs due to different and unharmonised trade-related regulations such as customs procedures, technical regulations and standards among themselves and with countries of other African trade blocs.
7. The lack of transparency and critical information on formal border procedures, sanitary requirements and the applicable duties/taxes is another reason for high informal fish trade
8. 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 biosecurity associated with free movement of fish fingerlings, fish feed and fish products.
9. The lack of fish quarantine facilities and risk based import procedures exposes African fisheries and aquaculture to fish diseases and biosecurity risks associated with imports from other continents and regions.
10. The agreed regional trade policy instruments such as the Simplified Trade Regime (STR) adopted by EAC, COMESA and SADC partner states is not enforced to facilitate cross border trade. Especially of the small-scale traders.
11. Lack of transparency and predictability of trade-related regulations, procedures and fees and charges, which can be overcome by regularly publishing such information in official gazettes enabling stakeholders dialogue facilitate comments on new or modified regulations before entry into force.
12. Slow implementation of OSBP.

13. 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)
14. NTBs continue to impede trade the Eastern Africa trade corridors and therefore the need for the entire sub-region to develop collaborative mechanisms that will eliminate such barriers to trade.

4 Conclusions and Recommendations

Although informal trade has benefits such as enhancing food security, alleviating poverty and providing employment, in the longer run, it is likely to lead to negative economic and developmental effects due to lack of data and avoidance of relevant levies. Governments should therefore aim to better integrate and link informal trade with formal trade. This can be done by demonstrating the benefits of using agreed enabling policy instruments such STR and therefore encouraging, informal firms to register and formalize their domestic and cross-border activities. For firms that are registered yet evade formal trade-related regulations and duties, governments could facilitate formal trade by reducing unnecessary bureaucracies and inhibitive tariffs. It is important to gain a better understanding of the informal cross-border trade and the motivations behind it by conducting annual surveys on the extent and nature of informal cross-border trade, as has been done in Uganda (UBS, 2006 and 2007). Collecting and analysing this type of information will help identify adequate policy options for curbing informal cross-border trade, and will contribute to evidence-based policy-making processes. From this study and the literature review it clear that more data on informal intra trade is necessary. A deliberate effort to streamline border posts so that traders have no incentives to avoid the official border points should be pursued by the Eastern Africa trade corridor governments. Reduction of the cost of trading formally would enhance the efficiency of border controls and therefore improve compliance with existing trade-related regulations.

4.1 Recommendations to enhance Regional intra-trade in Africa

- 1 Integrating cross border fish trade into functional and efficient regional trading systems could significantly enable smooth flow of fish from surplus to deficit areas and therefore enhance the contribution of fish trade to national economic and social development.
- 2 Promotion of One Stop Border Post (OSBP) is a practical way to reduce duplication of controls and reduce the time spent at, and costs involved in cross border trade transactions.
- 3 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. If implemented and functional as it should, the STR would greatly facilitate the transitioning from informal to formal trade
- 4 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.
- 5 Inter REC Agreements on tariff regimes and NTMs could connect regional value chains and enable smooth flow of fish products, fish feed and services across the

continent. Greater attention should also be given to developing Regional Value Chains largely untapped within the continent.

- 6 Through stakeholders' consultations, 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.
- 7 Develop a vibrant communication strategy that will promote a 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 in the public and private sectors with special focus on informal trade.
- 8 Streamline Informal Cross-Border Trade (ICBT) through enhanced statistics and appropriate policy responses could enhance investments and services in the small scale fisheries sector
- 9 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 for better planning and provision of services to the small scale fisheries sector
- 10 Improve information dissemination of RECs trade agreements and protocols to the countries for implementation.
- 11 Enhance the transparency and reduce the levels of fees and charges for importation and exportation, using a uniform fee structure
- 12 Develop national policies that recognize and support small-scale fisheries and aquaculture development. Aquaculture fish should be specified so that they are not confused with capture fish of same species (Sizes vary and what is immature and undersize for capture may be mature for aquaculture).

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Annex 1: Terms of Reference

1. 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 US Dollars) to the total value of global fish imports (133.3 billion US Dollars). Nigeria and Egypt are the largest importers of fish, 1.2 Billion US Dollars and 0.6 Billion US dollars respectively (FAO, 2013). In terms of fish export, Africa is a major player in export market contributing about 4.2 % (5.8 billion US Dollars) to the global fish export trade (14.0 Billion US Dollars). Morocco and Namibia are the major fish exporting countries, with a total of 1.8 Billion US Dollars and 0.78 million US Dollars 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 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 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; 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 FishTrade 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 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.

2. Rationale

The key to achieving profitability, wealth generation and welfare is ensuring access to markets by fish-dependent communities. However, many fishers and fish framers 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.

West Africa Corridor: Dakar to N’djamena, passing through Senegal, Mali, Burkina Faso, Niger, Ghana, Nigeria and Chad.

Southern Africa Corridor: Dar es salaam (Tanzania) to Durban (South Africa) passing through Zimbabwe, Botswana, Zambia, Malawi, Mozambique and Democratic Republic of Congo

Eastern Africa Corridor: Mombasa to Goma, passing Kenya, Uganda, Burundi, Rwanda and Democratic Republic of Congo.

Central Africa Corridor: Libreville to N’djamena via Yaonde, passing through Gabon, Cameroon and Chad

The basis for selection of these limited numbers of routes as fish trade corridors is not based on informed besides from being African Union Trade Routes. The decision to select the study routes was based on a number of factors, including (i) the trade in fish and fishery products takes a number of routes in addition to the corridors designated by Africa Union, because the bulk of the trade occurs informally; (ii) fish trade routes are determined by the fish market structure, for example, with “assembly markets” tending to be on the border, and hence, important for informal cross-border trade; and often assembly markets tend to be far from the official corridors (Fig. 1); and (iii) trade routes are determined by the types of products. Therefore, the FishTrade Project selected (i) a pilot set of routes to undertake in-depth studies, (ii) these routes/corridors were the ones conveying major categories of products, mainly small marine and freshwater pelagics; and (iii) informal trading activities routes as they were deemed to be the main contributor to food and nutrition security for the low income consumers.

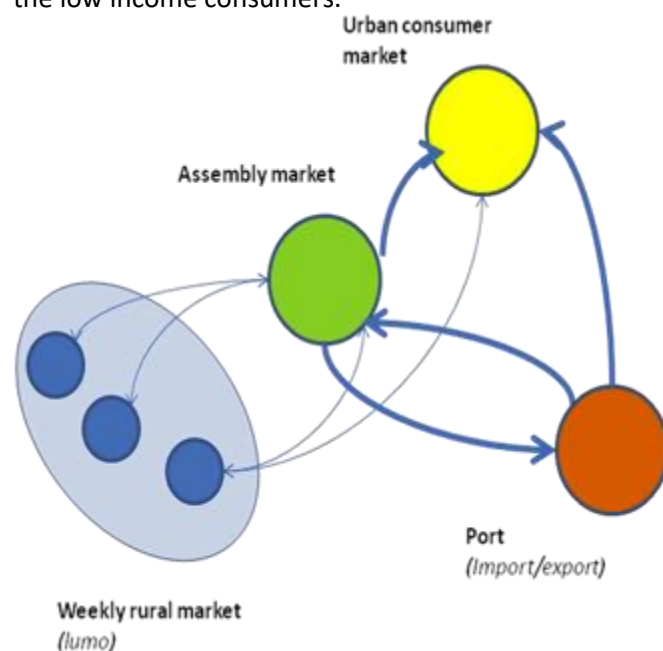


Fig.1 1 Sample of a fish markets structure West Africa, the case of Senegal

Important lessons learnt from the implementation of Fish Trade project were that (i) there is a prevalence of informal fish trade in Africa along diverse trade corridors that were not within the portfolio of the project; (ii) there is a significant level of official cross-border trade, but it was far less than products crossing the borders informally; (iii) products that are exported officially, are not recorded in official import statistics because they transit borders through informal routes; (iv) products imported officially are usually re-exported informally, distorting the official import-export statistics; and (iv) relative to international markets, many countries have increased their share of trade to intra-regional markets.

Therefore most AU member states with high fish production were not captured in the corridor analyses conducted. For a detailed understanding of the extent of intra-regional fish trade on the continent, it is therefore important that a comprehensive mapping of fish trade corridors be conducted in the whole of the continent, taking into account the above lessons. The outcome of this study would be critical in the consolidating achievements made by the Fisheries Governance and Fish Trade in enhancing intra-regional fish trade for food security and poverty on the continent.

The study would require one consultant in each of the five regional consultants (west, central, and east, southern and north) to conduct the identification and mapping of fish

trade routes and the trade patterns and characteristics. The study would identify main characteristics of the identified trade corridors, identify key aspects of fish trade along the corridor, and make recommendations as to how to improve trade along the corridors

3. Objectives:

The overall objectives of this exercise is to conduct comprehensive mapping of informal and formal cross border fish trade corridors of major fish and aquaculture products in Africa.

The specific objectives would be:

- 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

Specific Activities

These activities will be implemented simultaneously through the engagement of one individual consultancy for each of the five Regions of Africa: East, Central, North, Southern and West. The Consultant in each region will carry out following specific activities to produce a comprehensive document on the Fish Trade Corridors, characteristics, patterns, fish species, products and form, and drivers for informal trades in each region:

- i. Briefing by the AU-IBAR;
- ii. Participate in workshop for harmonization of methodology for the five regions
- iii. Consultation by email and phone with the national and regional relevant non-state actors in some selected countries by region;
- iv. Conduct mapping of fish trade, their characteristics, species, product and form and constraints
- v. Assess the status of infrastructure (inspection and conformity with SPS, storage awaiting inspections or shipment or in case of rejection) at borders necessary for smooth movement of fish and fisheries products;
- vi. Compilation of comprehensive reports with policy recommendations

4. Deliverables:

The Mapping process is expected to produce GIS based series of maps for each of the five regions which include:

- I. Map of each region (West, Central, East, Southern and North) with arrows superimposed showing trade routes/corridors for the identified fish species or species assemblage and product forms
- II. Main identified fish species, product or assemblage of fish products, the product form, characteristics and trade patterns
- III. The drivers of informal fish trade
- IV. Comprehensive report of the consultancy with policy recommendations

5. Duration and approach

The study would mainly be desk based research, reviews of documents, correspondence with stakeholders and use of own knowledge; and where possible, the study should review

documents from the FishTrade Project. The duration of this consultancy for each consultant is for 30 days but the final report should be submitted within 45 days from the date of contract award.

6. Qualification and Experience:

The required qualification for successful application is at least a post-graduate degree in fish trade and marketing, fisheries economics, fisheries management and aquaculture development or related disciplines.

General experience

- I. At least 5 years' experience in natural resources commodity trade and marketing
- II. Experience and knowledge of the fisheries and aquaculture sector is an advantage
- III. Familiarization on the role and functions of the RECs facilitating trade across borders

Specific experience

- I. Knowledge on fish trading and distribution patterns and characteristics in regions of the continent and associated constraints and barriers
- II. Proven evidence of at least 5 years' experience in value chain analyses of fisheries and aquaculture products in Africa
- III. Knowledge and experience in fish trade mapping studies

Reports

The Consultant is required to prepare the following Technical Reports in English:-

Inception Report (IcTR)

An Inception Report (IcTR) within 5 days of commencing the assignment. The IcTR of not more than 15 pages should include the proposed Methodology, the Timeline /Calendar and Programme of Activities, an Outline of the Contents of the Final Technical Report

Interim Technical Report (InTR)

The Interim Technical Report is perceived to be the First Draft of the Final Technical Report (FTR) and should be submitted within 20 days.

Final Technical Report (FTR)

The Final Technical Report (FTR) should take into account contributions and comments from the relevant AU-IBAR and stakeholders. The Draft Final Report must be submitted at the end of the Period of Implementation of the Assignment.

Submission and Approval of Reports

The copies of the Progress Reports referred to above must be submitted to AU-IBAR. The progress reports must be written in English. AU-IBAR is responsible for approving the progress reports.

Submission Of Technical Proposal

For this Consultancy, the Candidates should submit Technical Proposals Including the following:-

- i) Cover letter outlining the Methodology for collecting detailed information as per the tasks assigned to this Consultancy
- ii) A Profile and CVs of the Consultant (s) undertaking the work indicating relevant experience and contribution of each one of them in the study
- iii) Other relevant information showing experience in related field, demonstration of expertise by showing the experience, academic background, an inventory of past and current assignments of similar nature

iv) Contact addresses (Postal, Email and Telephone) of at least three referees or any other information that may show the consultants ability to carry out the assignment to satisfaction

Supervision

The successful consultants will work under the supervision of the Fisheries Governance Team.

Annex 2: Questionnaire

COMPREHENSIVE MAPPING OF FISH TRADE CORRIDORS IN THE FIVE REGIONS OF AFRICA: Eastern African Corridor: Mombasa to Goma, passing through Kenya, Uganda, Burundi, Rwanda and Democratic Republic of Congo; as well as South Sudan, Djibouti and Ethiopia

Preamble

The African Union Inter African Bureau of Animal Resources (AU-IBAR) is currently undertaking a mapping exercise to determine the major fish trade corridors in the five regions of Africa. This is in line with the implementation of the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa. This assignment has been sub-contracted to a number of consultants as per the attached letter of introduction.

Interview questions

The following questions have been designed to assess the extent and fish trade flow in Africa and kindly request a few minutes of your busy schedule to fill them. The information received will be held in confidential.

1. What are the key/main species of fish and fish products that are traded/pass through this border post/town? Kindly fill the table below

Border Post or Market	Type of fish/ product	Source of fish (country/ water body)	Volume (tons)/year	Value in USD or local currencies	Originating country	Destination Country and Major town

2. Who are the main actors (both formal and informal) in the regional fish trade? Kindly Tick as appropriate.

Gender/ Age	Wholesalers	Retailers	Processors	Other (Specify)....
Men				
Women				
Youth - Men				
Youth - Women				

Annex 3: List of Persons contacted

Name	Position/Institution	Country/ Region	Contact
Hussein Abegaz Issa,	Director, and Fishery Nutrition Task Force Coordinator	Ethiopia	husseinfish99@gmail.com
Juvenale Sahabo	Director of Fisheries	Burundi	sahabo.juvenal@gmail.com
Joyce Ikwaput Nyeko	Directorate of Fisheries Resources	Uganda	joyikwaput@hotmail.com
Mohammed Juma	Zanzibar fisheries	Tanzania/ Zanzibar	mcjuma2003@yahoo.com
Meck Koddy	Ministry of Livestock and Fisheries	Tanzania Mainland	koddymk@gmail.com
Theogene Rutagwenda	Director of Fisheries	Rwanda	rutagwendat2006@yahoo.com
Mr Ahmed DARAR DJIBRIL	Océanographe biologiste Directeur de la Pêche à	Djibouti	djidarar@hotmail.com
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