



Graduate School of Development Studies

**GLOBAL VALUE CHAINS, STANDARDS AND LOCAL
ENTERPRISES UPGRADING FOR EXPORT:
Case of Fish Industries in Uganda**

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Okumu Bedijo James

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Members of the examining committee:

Dr Peter Knorringa [Supervisor]

Dr Lee Pegler [Reader]

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Inquiries:

Postal address: Institute of Social Studies
 P.O. Box 29776
 2502 LT The Hague
 The Netherlands

Location: Kortenaerkade 12
 2518 AX The Hague
 The Netherlands

Telephone: +31 70 426 0460

Fax: +31 70 426 0799

Dedication

To my parents, my wife and sons: Aldrine and Humphrey.

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List of Acronyms

AFARD	Agency for Accelerated Regional Development
BMU	Beach Management Unit
DFR	Directorate of Fisheries Resources
EU	European Union
FSMS	Food Safety Management System
GGVC	Governance of Global Value Chain
GVC	Global Value Chain
HACCP	Hazards Analysis Critical Control Point
ICIEDA	Iceland International Development Assistance
ISO	International Standard Organisation
LED	Local Economic Development
LG	Local Government
LVEMP	Lake Victoria Environmental Management Project
MAAIF	Ministry of Agriculture Animal Industry and Fisheries
MIS	Management Information System
MOFPED	Ministry of Finance Planning and Economic Development
MoTI	Ministry of Trade and Industry
MSY	Maximum Sustainable Yield
NAADS	National Agricultural Advisory Services
NUSAF	Northern Uganda Social action Fund
PMA	Plan for Modernisation of Agriculture
PPPs	Public Private Partnerships
QMS	Quality Management System
SANAS	South African Micro Biology Laboratory
SPS	Sanitary and Phytosanitary Standards
UBOS	Uganda National Bureau of Statistics
UFPEA	Uganda Fish Exporters and Processors Association
UIA	Uganda Investment Authority
UNBS	Uganda National Bureau of Standards
UNIDO	United Nation International Development
USA	United States of America
WTO	World Trade Organisation

Abstract

The impact of food safety standards has great effect on the local enterprises upgrading for export in developing countries. However, of particular concern to greater efficiency in realising this especially in the fish and fishery sector is the challenge of meeting safety standards. My study on standards and local enterprises upgrading in the fishing sector in Uganda has revealed the proactive responses that stakeholders showed towards upgrading after the EU ban on fish export in the 1990's. While some firms invested in new tools and met the conditions for the export requirements others exited the export market. These led to losses of jobs, income and revenue for the economy.

The findings revealed that, the innovations and upgrading in the industrial processing resulted into change in the value chain structure, from that which used to be controlled by fish mongers, to a chain dominated by factory agents and the middlemen. In the final analysis, the paper suggests the need to ensure joint action by stakeholders to invest in aquaculture to sustain the enormous demand for fish in both the local and export market.

Relevance to Development Studies

The debates on Value Chain Upgrading is taking a central stage in Development partners, Governments, Private sector policy cycles especially the need for export promotions. It is anticipated that, the findings from this study on Local Enterprise Upgrading for export in Fish Industries in Uganda, shall contribute to knowledge sharing in development studies on the importance of upgrading to National and Local Economic Development.

Keywords

Global Value Chains, Standards, Fish industries, Upgrading, impact on economy.

Chapter 1

INTRODUCTION

1.2 Introduction

This chapter contains the general background and motivations for carrying the study on standards and local enterprise upgrading in fish industries for export in Uganda. It highlights the statement to the problem, purpose of the research, research questions, and the methodology. The different methods of data collection are presented, including the method of data handling. The last section contains the structure of the research paper.

1.3 Background

In the recent years, globalization has changed the face of transaction in the world. In the case of seafood, safety standards have become a prominent issue for global trade in agricultural food products (Henson and Jaffe 2007). Value chains upgrading and the global networks put emphasis on the importance of localities in designing more strategies to deal with intensifying global opportunities (Allen J. Scott 2004). This state of affairs is reflected in the sense that the world is in the process of transforming and becoming a global village and a ‘single social system’ (Giddens 1989). This calls for local enterprises to upgrade and develop local niches to tap global market opportunities for their products.

The impact of the global market standards compliance presents potentials for opportunities and gains for innovative enterprises. These global demand for standards affects developing countries attempt to widen the market of their products (Henson and Jaffe, 2007). The demand for global standards lead to the debate on local upgrading capacity: a dilemma that has to be religiously taken on board either by the local entrepreneurs or the public institutions. Others argue that the space for local enterprise upgrading¹ is defined by sourcing strategies of the global buyers (Schmitz 2004).

¹ Local Enterprise Upgrading; refers to the activities that add value to primary products so as to increases their competitiveness in the export markets. For example the use here refers to Uganda’s fish processing for export market.

Ponte (2005) noted that, the EU ban on Uganda's fish export in the 1990's has led to the demand for upgrading of quality standards for export. This has seen a number of key interventions brought on board to improve on Uganda's competitiveness in fish export. The responsibility of management of fisheries resources, standards upgrading and Quality Assurance in Uganda is vested in the Department of Fisheries resources (Nyeko, 2004). The laws that are used in the sector are: National Fisheries policy 2004 that replaced the fisheries and crocodile Act of 1964, Local government Act CAP 243 as amended and the Fish Quality Assurance Rules, 1998. The Ministry of Agriculture provides the quality assurance: monitoring, inspection and supervision of the fishing activities along the various landing sites.

Uganda government has adopted a co-management approach in the fisheries resources in Uganda. These require cooperation and collective learning among the actors. The role BMU plays along the value chain helps to enlists local support in the registration of the local boat owners. They provide an entry point to the Government inspectors among the fisher folk² as per the National Fisheries policy (MAAIF 2004:6).

1.4 Statement of the problem

Globally exports of fish and fishery products are seen as a developing country success story (Henson and Mittula 2004). Over the last few years developing countries export of fish and fisheries products, increased at an average rate of 6% per annum (Rahman, 2007., Henson and Mittula, 2004). The challenge that the developing countries have been facing relates to the meeting of global standards and food safety especially in fish export because of the perishable nature of the product (Rahman 2007). Previous studies suggest that exporters in a number of developing countries have experienced problems complying with these standards requirements (see for example, Henson et.al. 2007, Zaramba 2002).

Uganda with a surface area of 241,000 km square has 440,000 km square is covered by water rich in fisheries resources. According to (Uganda investment Authority 2009) fish sector has become the second foreign exchange earner for Uganda. However, because of inadequate baseline data, fisheries resources in Uganda, as in many other countries, are greatly under-valued.

² The categories of fisher folk includes: fishermen, boat owners, fish processors, fishmongers, and all who derive their livelihood from fisheries activities.

(World Bank 2003) study attests the fact that, fish earnings has increased tremendously, totalling \$220 million and contributing 12% of total GDP in 2006.

In the case of Uganda, Fisheries sector has been able to provide an export base that provides contribution to financing of the National Budget. Promotion of Uganda's competitiveness in fish export requires a clear analysis of the Global value chains. The governance being a buyer driven chains, the lead firms like the fish processors: Greenfields, Ngege (Uganda limited) Hwang Sung, Glover gem, Marine and Agro, may provide a nodal point of contacts by linking overseas factories with evolving products niches in the main consumer market.

Fish processing for export depict a characteristic of a buyer driven in their relation with local fishermen. Being the main actors in the chain, they enjoy the benefit of having global contacts and networks with EU, US, UK, Chinese markets. This provides an analysis of 'governance of inter firm relations and implications of learning and upgrading' (Schmitz and Knorringa, 2000:68) on the local processors. The phase of local enterprises upgrading is determined by the level of entrepreneurial abilities and expected benefits that can be got from the upgrading. These calls for the development of synergy and collaborative learning among firm so as to make use of the common tools and o widen market information sharing.

The European Union ban on Uganda's fish export in the 1990's had wide-ranging effects on Uganda. The loss in the export revenues, and the negative repercussions that were felt by the fishing communities, processors, transporters, and the closure of three processing factories all point to the downturn effect of the ban(Ponte, 2005:70). In order to re-enter the global fish market many innovations had to be adopted by Government and the fish exporters in order to meet the quality standards and the hazard analysis critical control point (HACCP). Little data is available on the level of local upgrading opportunities and how Uganda is making effort in sustaining meeting the standards.

The key question is: has Uganda been able to competently position herself to upgrade and sustain meeting of the quality standards that are required for the international fish export market. This study therefore will seek to provide some discussion on The Global Value chains, Standards and Local Enterprises upgrading for exports: in fish Industries in Uganda.

1.5 Relevance and Justification

The role of value chain upgrading and meeting of quality standards and cluster formation in fisheries resources management employment and income creation and contribution to GDP growth has been highlighted world over. In Uganda, major researches have tended to focus on the fish cluster and the Nile Perch Clusters in Lake Victoria Uganda. Little research seems to have been done on the Global Value chains, Standards and Local Enterprises upgrading for exports: Case of fisheries Industry in Uganda.

1.6 Research Objective

The objective of this study is to carry out field assessment on Local Enterprises upgrading for exports. The research will specifically target the fish industries with view of studying the process of fish processing for export and its impact on the economy.

1.7 Research Question

What are the main value chain and upgrading strategies in fish export sector in Uganda? Who have been the actors? What has been the impact on fish export promotions on the Ugandan Economy?

1.8 Sub - Questions:

1. What type of value chain strands have been essential in the local upgrading to meeting quality standards in Uganda's fish export industries?
2. What are the main constraints to upgrading in meeting quality standards in the fish industries?
3. How have the new Standards and safety requirements influenced Policy/Institutional reform in meeting the quality standards in fish process upgrading?

1.9 Research Methodology

In collecting data for the study, both primary and secondary data sources were used.

Secondary data

The secondary data provided literature on global standards, enterprises upgrading and the value chain processing in the fish industries. The sources that provided information on status of Uganda fishing industries included: Government documents, Association reports, Ministry of Agriculture Animal Industries and Fisheries data on exports. Furthermore, it provided useful background information on earlier studies on standards in order to appreciate earlier works, identify gaps, and measure level of contribution of this research. The data and the literature related to value chains and fish clusters in Uganda, processing and policies on food safety standards and the HACCP and Quality Assurance standard practices were reviewed.

Primary Data

The fieldwork was supported by interview guide that was administered on 18 respondents. This included eight in-depth interviews with (3) Senior Fish Inspectors at the Ministry of Agriculture Animal Industries and Fisheries (MAAIF), and Five Fish Inspectors at the District and Sub county levels. One fishery inspector at the upper stream strand of the Value chain at Kasenyi was interviewed on the dynamics that are involved fish handling for export markets. These were used to obtain information on the latest developments on fish process upgrading, standards requirements especially after the ban of Ugandans fish export by EU and other countries in the 1990s.

The in-depth interview provided face to face interactions through observation of facial expressions that provided useful information on the value chains upgrading. Two (2) Focus group discussions were held with middlemen and the factory agents, BMUs, at Kasenyi and Dei landing sites at the 2 different levels of Value chains in Lake Victoria and Lake Albert respectively.

In the field data collection, the researcher employed other methods like participant observation; here I attended the meetings of the BMU at Lake Albert and Kasenyi landing sites. The period of research coincided with the election of new BMU new office bearers. This gave an opportunity to interact and probe the BMUs on their roles in the management of the landing

sites and enforcement of hygiene and quality standards at the beach. The fourth method that was used was photography and analysis of photographs, which relates to the topic to bring out reliable data in a triangulated manner to support the study.

Sampling

In data collection, snowballing method was used alongside purposeful sampling technique. The snowball enabled the researcher to reach out to the inspectors who later on gave contacts of the processors, agents and the suppliers. These techniques enabled the researcher to reach the respondents that were easily located using the available networks and contact. The sample selection included fish inspectors and the Beach management Units (BMU) who monitor standards enforcement at the landing sites. In order to collect information on the upgrading, processing factories and the local processors were also sampled. The sample area included Lake Victoria landing site of Kasenyi that serve the fish factories in Entebbe and Lake Albert [Dei landing site, side of Nebbi District]that serves the local and regional market and occasionally serving the processing plant.

Field data management

The information obtained from the field was transcribed, coded, summarized, and analyzed using both qualitative and quantitative method. The quantitative method used here involved interpretation of the tables and the graphs that were analyzed from the information got from official Government of Uganda Sources. Typical quantitative information collected was; data on fish export volumes and value for the last couple of years, and the major export destinations.

1.10 Scope and Limitation

As observed earlier, the study focused on the standards and local enterprises upgrading in fish industries in Uganda. The main limitation of the study has been time constraints in the field data collection. Data collection using semi structured interview guide could not capture quantitative data that could be used to provide generalisation on the study. Therefore, triangulation was used and tools such as participant observation, focused group discussions and in-depth interview techniques were adopted to help capture the required data on upgrading for exports in Uganda fisheries Industries.

In the case of the processing factories, a serious challenge of non response was experienced. This constraint was addressed by follow-up approach and reliance on secondary information from relevant data on fish export from Ministry of Agriculture Animal Industries and Fisheries(MAAIF), Uganda Fish Processors and Exporters Associations, Uganda Investment authority(UIA). There was a problem of inadequate data on the fish processing and marketing that targets the local market especially at Lake Albert side that was sampled [Dei Panyimur] landing site.

1.11 The structure of the paper

This research paper contains five chapters. Chapter 1 is about the general information on the study. Chapter 2 contains the literature review and definition of concepts on the study. It discusses earlier studies and relates it application in answering the research questions. Chapter 3 contains the situational analysis of fish sector and discussions on costs and margins. Chapter 4 provides an analysis of the different standard requirements for the various strands of the value chain and markets and the processing requirements. It also contains information on constraints and prospect. Chapter 5, discusses the impact of value chain upgrading in Uganda. Finally, Chapter 6 provides discussions and conclusions to the study.

Chapter 2

CONCEPTUAL FRAMEWORK

2.1 Introduction

This chapter contains the main concepts that guide the study on standards and local upgrading in the Uganda's fishing industries. I have situated my study along the main concepts of Global Value Chains, governance, rents, and institutions to provide a conceptual framework for the study. The analysis of the key concepts shall guide the study and provide a link with research questions in order to provide an answer to the impact of standards compliance and the role institutional reform plays in the Uganda's fish sector.

2.2 Global Value Chains

What is Value Chains?

The concept of Value chain analysis provides an understanding on the various levels of value addition: from primary products to final delivery to consumers (Kaplinsky, 2000:40, Porter 1980). Value chains development can be a very important strategy in rural poverty reduction and helping to improve on the competitiveness of the developing countries by investing in innovations for local enterprises upgrading. The primary products like fish resources, forests, minerals, food products may not be economically made attractive in markets unless value is added to them.

The concept of value chains is important in understanding, what Knoringa (2008:28) referred to as the dynamics that is involved in linking the local producers to global markets. The different stages involve many activities in the design, production, value addition and marketing, Research and Development (R&D) and branding. These stages are all critical in maintenance of required quality standards that provide a better mix of creating a niche in the product quality upgrading. This helps to determine the levels of benefits and making careful investments decision on the type of areas where a given firm can add value based on its competitive advantage. The investments decision may provide a framework for understanding the nature of innovations that is required to 'respond to the world market demand' (Guimarães, 2002).

Value chain analysis may provide an understanding on the key elements in creating competitiveness and this entails:

- Inter firm cooperation and coordination: this is essential in that it generate opportunities for efficient utilization of resources and promotes free flow of information among firms. This involves the cooperation among local firms in order to innovate and create opportunities for easy market access in the international trade forums.
- Learning and innovations are necessary in creating an environment for sustainable upgrading and competitiveness.

2.3 Value Chains Governance

Governance

The earlier discussions highlighted the role value chains and standards lay promoting value addition and competitiveness of a firm. The governance process may be defined as the way in which the lead firm of a specific value chain organizes or coordinates and monitor controls the activities and inputs of firms participating at different functional levels firm producer to consumer (Humphrey & Schmitz 2002, Gereffi, 1994). The works of (Humphrey and Schmitz 2002, Knorringa and Lee Pegler, 2006, Gereffi, 2005) provide an analysis and understanding on the different studies on global value chains in footwear, aircraft, automobile and the role of producer or buyer driven chains in the global commodity chains.

The GVC analysis has been applied in several studies such as, the global wood furniture value chain (Gereffi, 2003), Sialkot surgical instruments manufacture in Pakistan (Khalid Nadvi, et.al:1999), Learning and upgrading in the wood furniture upgrading (Kaplinsky, 2001). The positioning of the lead firm and the role it plays in design, branding and marketing especially in a buyer driven value chain also determines the level of distribution of benefits along the chain in the transaction. By playing the drivers role (coordination and management) governance ensures control over what is to be produced, how, when, how much and in what and price (Humphrey and Schmitz 2002:6-7).

Thus, this becomes very crucial in understanding the policy environment that responds to the market opportunities. The GVC analysis provides a level of traceability of production levels and exploitation of an area of competitive advantage to reap from globalization. The lead

firms exploit their financial, political, business contacts [networks] and technological capabilities to control the global production chains.

2.4 Rents and barrier to entry

The concept of rent helps to understand the essential primary returns that accrue to those parties who are able to protect themselves from competition. The analysis of the role rent play help to locate the power centres and the decisions that have to be taken in resources allocation. This is based on the deferent policy environments, resources base in order to maintain a share of a given market. (Kaplinsky 2000:25) identifies the key elements of value chain analysis as barriers to entry of benefits and entry in the global market. The different forms of rent namely: technological, human resource, marketing, relational, policy, and financial rents determine the levels of benefits and resources allocations and analysis of the cost implications on the new investments.

The case of fish sector, governance process can be seen as focusing on the vertical relationship between processors and suppliers on one hand. The other side of the value chain involves the movement of goods and services from the producer to consumers. Barriers to entry in upgrading affects sharing of margin as local producers may lack the capital for technological upgrading and contacts. The [local fishermen] may be reduced to being suppliers to the factory or the users of factory by-products like the heads and the bones of the Nile Perch that has been processed.

2.5 Standards and Rules in GVC

This section provides a brief discussion on standards and the different typologies and the responses that a given firm/ country may exhibit in relation to standards compliance. A brief definition and explanation of the concepts of standards is provided. Standards may refer to the different quality requirements that relates to safety conditions that have to be met by a given market segment. The standards provide a benchmark for providing acceptability and measure of gains along the value chains.

Typology of rules and standards

The GVC involves a lot of rules and standards that have to be met by the competing firms that would like to insert themselves in the global commodity market. In relation to legislative

governance (Kaplinsky 2000) identified, codification that is essential tool that allows for traceability and maintenance of trust in the international business transactions. The standards that are set may attract legal sanctions and barriers to entry of a given product in case of non-compliance to the international standards.

The shift from product to process standards

According to (Humphrey 2006) inspections of all the elements of food value chain process provide traceability and synergy in standards enforcements. This calls for cooperation among the produces to establish a network that may provide collaborative learning for knowledge sharing. These call on the local enterprises, to upgrade in order to improve on their products to meet international standards. A number of factors have been seen by scholars as a reason for shift to product control to process standards. The widely quoted example is the HACCP that has been adopted by many countries in the mid 1990's especially in the US, Canada, EU countries that made HACCP as a mandatory in plants processing meat, poultry, fish and fruits (Humphrey,2006,Kaplinsky & Morris 2000,). The codification requirements and inspections are seen as a way of providing the required testing and verification to ensure food safety.

The need for standard and food safety may not only be required for consumer protection but also to provide a level of acceptability of generally accepted manufacturing practices. This may in the end be crucial in ensuring some level of traceability of products that is critical in maintaining of business contacts.

2.6 Upgrading and positioning within the Value chain

Firms upgrading may refer to the need of doing things better and having in mind an improvement in quality. Upgrading means that a given firm creates some level of innovations in order to enter a given market segment in order to reap some margins. This helps the firm to recoup the cost of investing in the machines, human resources, Research and Development (R&D) etc. The nature of competition and demand for meeting the quality standards in the HACCP requirements warrants the need for upgrading. In the study of upgrading trajectories, some scholars have argued that, the “relationships between producers and the lead firm are usually characterized by complex mix of market, hierarchy and networks” (Knorringa et.al, 2006:471). The hierarchical nature of the relationship between producers and the suppliers sometimes pose a critical question of power relations. The few firms that are able to have access to critical drivers of innovation like technology, knowledge and financial capital are able to create

new products and be proactive to new demands of the market and open up to the new opportunities because of their capacities to carry out R&D on new methods of production and new markets sources.

The upgrading by firm in order to develop a niche and improve on competitiveness can be broken down into four trajectories namely:

Process upgrading this may entail increasing internal efficiency in the transaction costs, for example improving on response time in making deliveries, and use of less input for more output.

Product upgrading involves introduction of new products as a way of replacing the old ones. These lines may involve changing the value chain of the production line and the different links

Functional upgrading refers to changing the mix of the activities within the firm. Firms may take to out sourcing of the products instead of involving in direct line of production.

Chain upgrading: this may involve anew-innovative way of doing things. For example of Taiwanese firms that moved from manufacture of transistors radios, to calculators, to TVs, to Computers, laptops and cell phones (Kaplinsky, .al 2001,Gerefi 2004, Nadvi 2004:55) noted that technological upgrading is essential in meeting global standards and that it provides a basis for improving localities access to innovation. This process enables the firms to acquire innovation and efficiency in the production and timely delivery to the consumers. In Uganda, the demand of standards has not been an exception.

2.7 Institutions

Having discussed the different concepts of; Standards, governance of the global value chains, the concept of institution help us to understand the power relations along the value chains. In discussing upgrading strategies and constraints, institutions play a vital role in providing the policies and the control along the value chains. (Best, 1990) noted that the desire for market control lead to institutional innovations in the form of inter-firm cooperation. Institutions are essential as they define the formal rules, standards that are expected in any given organization to help create safety nets and reduce transaction costs.

Institutions help to devise and minimize constraints that shape human interactions (North, 1990). Institutions are important in providing the policy direction and enforcement mechanism. The case of food safety and standard the EU standards may not only provide for safety and quality of products but also to large extent provide high opportunities for those

countries/individual firms that are able to innovate to meet the standards requirements. Institution therefore here, is used to provide a level playing field to attract selective inward investments (exogenous) while harnessing opportunities for promoting endogenous growth of local enterprises for exports.

The role institutions play in the global market can either help in creating innovations or lead to collapse of less industrious firms. The demand for standards like by EU, WTO, etc calls on the local processors/exporters to carefully study the dynamics in the market and enter into partnerships for mutual benefits. Compliance with the set rules and legislations that the global institutions put in place and harmonization of this laws by the national and local institutions helps to provide a clear line of linkage and network that boost mutual benefit among the trading partners. This calls for compliance in a proactive way to respond to global standards set by the global institutions.

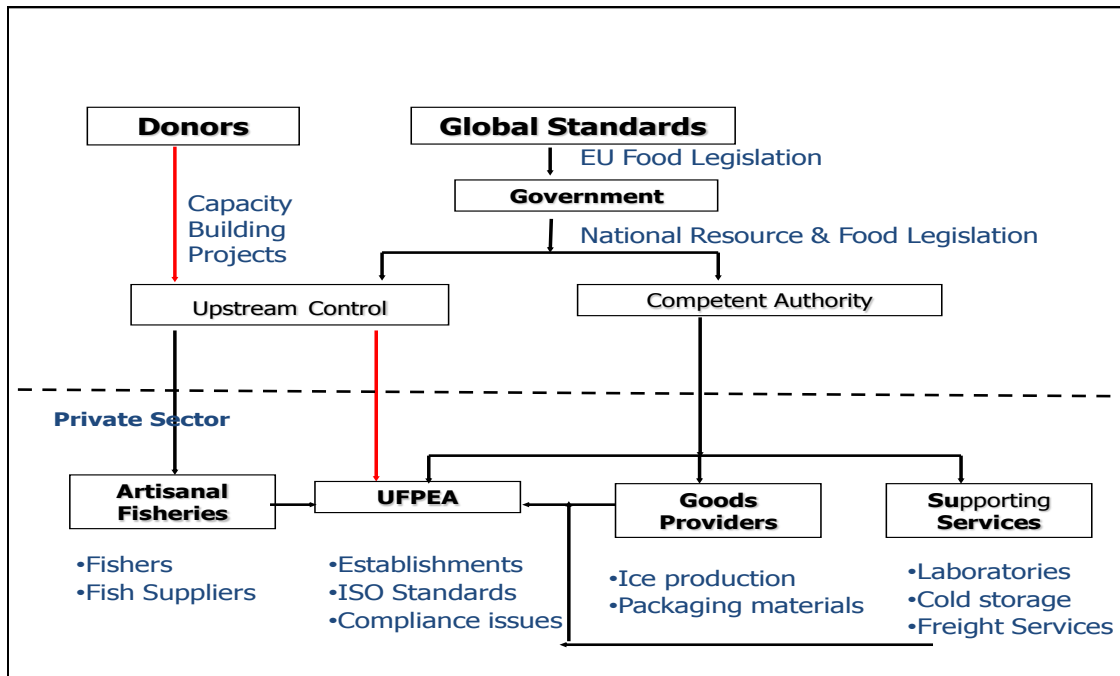
2.8 Analytical Framework

This section tries to link main concepts in the study and the applications in answering the research questions. The study on Global enterprises upgrading for export in the frame here has five main actors: the EU(Global standards), the donors that provide the fund for landing site upgrading and capacity building on standards and safety, the Government that provide the legal framework and polices together with enabling environment. The other actors include the Business associations (UFPEA) that ensure conformity with standards among the members and the private sector that the innovation that are required in the upgrading of the fish sector for export. The main actors have been highlighted in bold letters with the arrows showing the levels of their actions along the value chains. While the dotted lines represents a set of actors that are at the meso and micro levels that provide the lead in the implementation of the upgrading strategies.

The standard compliance involves not only the use of Quality Assurance Rule,2008 in Uganda, HACCP, ISO but also compliance and that is backed by the role of Competent Authority is the key to realization of the achievement of Good Management Practices (GMP) essential in meeting global food safety and standards requirements. The analytical framework helps to understand how the constraints in the upgrading can be overcome with the synergies among actors in order to meet global standards for exports. The presences of related and supporting services like the transport and freight services, labelling, ISO, ice plants are

important. They help to provide a support to the processing plants in the establishment of clusters that help to promote collaborative learning and cooperation.

Figure 1: Showing Analytical Framework



Source: Adapted from UFPEA, 2009.

2.9 Conclusion

In conclusion, this chapter has highlighted the role institutions play in global standards and how they help reduce the barriers to entry and upgrading of their products to meeting international standards. Standard compliance requires that there should be well functioning of institutions at both the global and national levels. The establishment of enabling environment like Bureau of Standards, financial institutions, Businesses associations, and strong Government support help to stimulate an atmosphere for both endogenous and exogenous development. The analytical frame has finally tried to bring out the link between the concepts and the interaction among the various chain segments in creating innovations to meeting of quality standards.

Chapter 3

VALUE CHAIN PROCESS IN UGANDA FISH SECTOR

3.1 Introduction

This chapter builds on earlier chapter on concepts. There is a section on value chain process and segment, and it brings out the situational analysis of the fisheries sector. It further discusses, input supply distribution and the different cost and margin. It helps to answer the research question on the different process of the chain segment and the costs and margins. It presents the technology involved in the local processing.

3.2 Situational analysis of fisheries sector

The fisheries resource base in Uganda covers about 20% of the country's surface area and comprise of five major lakes; i.e., Lake Victoria, Kyoga, and Albert. According UBOS, 2003 (Uganda Bureau of Statistics), Lake Victoria is estimated to contribute to half of Uganda's National fish catch. Little or no data is currently available on the volume of fish caught in Lake Albert. The major fish species caught in these lakes are Nile Perch (*Lattés Niloticus*), tilapia (*oreochromis niloticus*) and 'Mukene' (*Rastreneobola Argentea*). The data on Uganda's total fish is estimated at 330,000 tons, annual average, and this is the maximum sustainable yield (MSY) (MAAIF 2004).

The activities of fishing are considered to be an occupation of people below the social ladder. Occasionally unemployed youths and middle age men from the mainland areas during dry seasons migrate to the landing sites to provide labour as fishers doing the real fish catch. The boat owners' are the real wealthy people who hire the services of the local fisher folks to do the catch for them. In some cases the boat owners govern the value chain in that they own the boats, nets, buy more fish from other boat owners, transport the fish using refrigerated trucks to processing plants in Entebbe.

According to (MAAIF 2004:8) Uganda is estimated to have capacity to produce about 300,000 metric tons of fish annually on a sustainable basis. The report further revealed that, the maximum catches ever realized were 245,000 metric tons in 1990 after which catches declined. The catch level in 2001 was about 220,726 metric tons. Artisanal fishermen, who were estimated

at 136,000 in 1997, wholly dominate Uganda's fisheries. Over 700,000 people are involved in fish clusters like boat making fish capture and industrial processing. There are several activities by exporters and processors that are aimed at value chain upgrading and processing of fish especially targeting the export market.

3.3 Characteristic of the value chain strands

The characteristic of the value chain captures the roles of different chain actors in input supply with particular reference to their interaction in the value chain process. Of particular emphasis, here is also how the main input the fish is got from the water bodies and delivered to the processing factories. The highlight on the methods that is used in the fishing is brought to focus in both the lower stream and the upper stream strands of the value chains.

Input supply cluster

In Uganda, both the local processing and fish industry is supplied by fish that is caught by the local artisanal fishers using the local fishing vessels. There is begging to emerge local boat making clusters, net making from the mosquito nets, seine nets (used illegally). In some cases, the industrial processors use motorized boats for the capture fisheries. The activities of fishing around the area of study involves the local artisanal fishers using local boats, canoes, and sometimes motorized boats and nets to do the actual capture of fish.

The fish sector in Uganda is based on capture fisheries production in the major lakes of Victoria, Kyoga, George and Albert. In the area studied, there are over 600 landing sites around Lake Victoria alone and over 16 landing sites around Lake Albert side of Nebbi District. These landing sites are easily accessed by vehicles except in few cases like landing sites in Kalangala, which is accessed, by a ferry or speedboat. The upgrading in the transport sector has been made possible with the effort of Uganda Government that has facilitated easy access to communication

Fish is caught using long lines gears, Gill nets and sometimes mosquito seine. The motorized boats used on average two persons per boat in the process of capturing fish. The costs incurred in the case of motorized boats include fuel, sometimes hire of the engines for the local fishermen who do not own the engines. The lower section of the value chains around Lake Albert is dominated by the fishermen using local boats and canoes and some isolated cases of motorized boats. Here two to three men are involved in the fishing activities. One person would

be paddling the canoe as another lays the nets and sometimes scooping water off the boat when there are waves to avoid get drowned in the fishing water. The cost incurred here involves both the man-hours and the cost of fuel, hire of engines in some cases.

The clusters present a complex nature of diversity of activities ranging from capture fisheries, processing, boat making, and other fishing gears making especially the local ones. The field study revealed that, in Kasenyi landing site there are over 65 boats that operate along the landing sites out of which 52 have motorized engines of 15 horse powers. The main fish species caught being tilapia and Nile Perch. Factory agents and the suppliers/middlemen camp along the landing sites waiting to buy the fish from the local fishermen. In Lake Albert side of Dei and Panyimur there are over 16 landing sites that were used in the study. They seem to have similar characteristic with that of Kasenyi. The major difference is in terms of the dynamics in the level of technology and the use of the fishing gears.

3.4 Value Chain process and segments











This section discusses the responsibilities of the different chain drivers with emphasis on their actions in as far as it relates to the process of adding value to the fish that serves both the local and the international market. It is a chain link map of the roles of different actors in the input supplies to the factories and processing. An analytical chart here is used to show the various link to the responsibilities along the chain.

The fish processing value chains involves interaction of among several actors with various levels of niches and competencies. The major fishing waters provide the factories with the fish that is processed.

Spatially the chain is strongly focused on a small number of gazetted landing sites on Lake Victoria, together with smaller outlying beaches on Lake Victoria and on Lakes Kyoga and Albert, at its start and on processing factories at its end (Marriot et.al 2004:15).

The activities of the various chain agents help to add value to the fish that serves the different market segments.

Figure 2: Showing Value chain segments in capture fisheries.

Actor	Responsibility in the Chain segment
Boat owners/fishers  	Production and management of resources Including artisanal capture fisheries
Factory agents/Middlemen  	Buying of Fish from fishermen and Transporting it to the factories
Processing Factories  	Filleting, freezing, quality assurance of fish products
Exporter/Importers  	Governance of global value chain: shipping/distribution
Retail markets  	Provides the sale services to consumers

Source: Adapted from (Nyeko 2004).

Distributors /Suppliers to the factory

This category is very essential in providing the much-needed input in the factories. The supplier and the factory agents [middlemen] are essential in the chain in that they ensure continued supply of fish to the processing plant. Through their networks, they develop a chain of relationships to advance the fishermen and invest in overhead costs to ensure that the fishermen sell to them instead of the factory agents.

The fish agents play a critical role of monitoring the price at which the suppliers are buying from the fishermen. The agents act as local inspectors on behalf of the factory in order to ensure that hygiene and standards compliance is enforced at the landing sites.

The study confirms some earlier study on Value chains that saw costs and margins and share of benefits along the chain as being controlled by the 'lead firm' who control, the cost, profits along the chain (Nyeko, 2004, Gereffi 1994, UNIDO 2004). In this case, the processors/exporters determine what price to pay to their suppliers/middlemen who supply them the fish from the landing sites. Cooperation and joint effort is lost along the chain process when market information sharing and trust is not maintained.

Problem of Trust

Middleman 1:

In some cases we are not paid at all when the factory owners claim that our supplies are 'reject' (bad quality fish), and the price they pay us cannot allow us make profits. We just do the business to survive.

Middleman 2:

I had to leave the business because my consignments to the factory were considered as 'rejects' and I lost over Ushs 4,500,000 (equivalent of 1600 euro¹), as a result of the bounced delivery. I now concentrate on transport and I have 5 motorised boats that are hired by fishermen. When asked about how they arbitrate in case of misunderstanding? He reported that the factory owners (Asians) do not want to have face to face negotiation. Instead they send you to their agents.

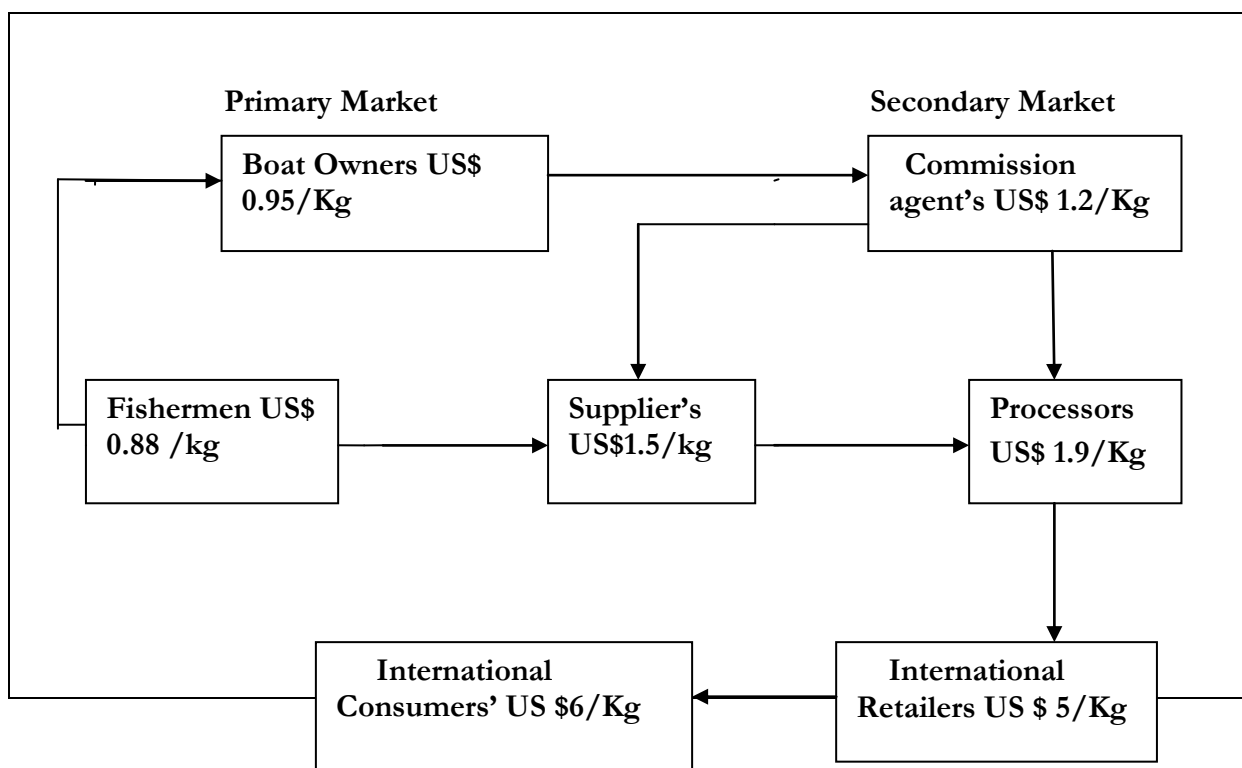
[Field work, focus group discussions, with Factory suppliers at Lake Albert

In some cases, the suppliers even reported that they supply the factories and their supplies are actually taken on credit. When they are taken on credit they may be paid later when the processor have actually sold to their international contacts. The complex nature of the chain governance and share of margins has had a negative influence on the upgrading of the local enterprises.

3.5 Cost and Margins

The findings as seen in section 3.7 revealed that the processors and middlemen take a bigger share of the margins undercutting the fishermen. The price of fish at the landing site is much lower compared to the final price at which the middlemen sell to the factories or the consumers. The variation in the costs and margins has been alleged to be as result of information asymmetries that exist in the market and the different levels of value additions. The figure below shows the various price variations:

Figure 3: showing the cost and margin



Source: Author's fieldwork, 2009

The figure above shows how margins is shared along the chain in an export oriented value chain. The primary market involves the fish capture and sale by the fishermen who either sell the fish to the boat owners who later sell to the commission agents. Or the second option is where the fishermen sell to the factory suppliers/ Middlemen directly.

The secondary market involves the commission agents who sell fish to suppliers who deliver the fish to the processors. Throughout the value chain the margins and gains increase as more costs are incurred. The cost in upgrading includes: investments in ice, motorised boats, refrigerated trucks and hi-tech processing methods at the factory. The fishermen are paid an equivalent of US\$ 0.88/Kg of fish landed and the margins continue to rise as more people are involved in the chain. The middlemen tend to exploit their contacts with the processors to reap some higher margins as seen above. Yet the exporters get superior profits when value is added to the fish products. Earning about US\$ 5 in international market [EU, China, US], fivefold the amount that is paid to the lower value chain actors³.

The findings in figure 3 revealed that, the real share of benefit that can be got from value chain upgrading. In the case study the winners in the chain were evidently seen to be the exporters and their agents [middlemen] who earned higher margins. The fishermen get lower prices because of selling fish in fresh form without value addition. This explains the high margins that the processors get after incurring a lot of costs in refrigerated trucks, investment in technology at the factory, testing and freight charges.

3.6 Small scale processing

Fish processing for local and regional markets have not yet attracted a lot of safety, standards compliance compared to those destined for export to EU, US, Japan and other foreign markets. Fresh fish is usually preferred but because of risks of perishability and poor transport and inadequate attention (lack of ice and refrigerated trucks), only the consumers that live around water bodies and main roads are the ones that sometimes access the fresh fish. This explains the reason for prevalence of lack of animal protein related diseases even among the fisher committees. This scenario can be said to be so that a lot of attention is given to fish destined for export or regional market coupled with skyrocketed fish price.

The increasing demand in the various markets has led to overfishing, leading to dwindling fish stock in water bodies this has led to low catch of fish. The fish for the local market is preserved and processed by sun drying, smoking, salting to prolong the shelf life of

³ The data above on the margins and cost are based on field work findings and the Uganda investment authority report 2009. The details figures in the table, was obtained from BMU chairman at Kasenyi landing site on the prices at which they buy from the middlemen and factory prices.

the fish products for distant markets. The fish species most available in the local market is dried “Mukene”, Tilapia, Nile perch in smoked in traditional oven. The local fish processing have not attracted a lot of attention in terms of standards enforcement due to the reason associated with costs of compliance that can be high even for large scale processors (see for example, Henson and Mittullah 2004) contends that, the upgrading costs for local producers to access high value markets can be considerably high.

3.7 Conclusion

In conclusion, this chapter has discussed the different chain segments in the Uganda fish sector with specific roles of input suppliers to the factories. The aspects of cost and margins were analysed. It also shown that the local processing still has barriers to upgrading and that they earn low profits. The next chapter will attempt to discuss the trends in the upgrading and provide an understanding for the rationale of upgrading after the ban on Uganda’s fish export to EU market and the constraints to the upgrading. The roles institutions play in promotion of joint action and reducing constraints will also be discussed.

Chapter 4

STANDARD AND SAFETY THE PRACTICE: Constraints and prospects in fish Value Chain

4.1 Introduction

This chapter builds on the previous chapter by looking at Value Chain Upgrading for export. This will provide answer to research questions: on constraint and prospects to addressing challenges in meeting standards and upgrading in the fish sector in Uganda. The role that different institutions play on upgrading will be discussed.

The study by Ponte (2005), pointed out that in the early days of Uganda's Fish exports, processing companies did not have operational HACCP plans and there was no regular systems of inspections or the regulatory oversight by the competent authority at that time, the Uganda National Bureau of standard. This chapter has been able to confirm (Porter 1990) view that nations do not only succeed in isolated industries but in pulling synergies to enhance vertical and horizontal relationships. The successive bans in these period from 1997-2000 as shown above were due to the reasons relating to alleged cholera outbreak, Salmonella contamination of fish products(Balagadde,2002, Ponte 2005).

The debates on food safety standards and agreements on Sanitary and Phytosanitary (SPS) measures that presents strict guidelines have been criticized by some scholars as being a protectionists tool providing justification for prohibiting imports by applying and enforcing more rigorous regulatory standards than on domestic suppliers(Henson and Jaffe 2004; Ponte 2005). In the case of fish processing sector in Uganda Ponte, 2007:73 noted that, there was no scientific proof on the fact that Uganda's fish consignment had contamination. The different interventions that provided capacity, building and landing sites upgrading were all aimed at meeting the EU standard requirements in fish export sector.

4.2 The fisheries sector in Uganda at a glance

The fisheries sector before the period of EU ban on Uganda's fish export experienced logistical and institutional problems as seen below;

Inadequate infrastructure like landing sites, roads, sanitation, lack of electricity, refrigerated truck. The poor state of this infrastructure affected the quality and repute of the Uganda fishing sector. According to the one respondent, he noted that the sector had very poor state of landing sites. The sanitation and hygiene around the landing sites were appalling. The situation could further not be improved upon due to unreliable data on the fish production, capture, and marketing. The inadequate state of data collection meant that the quality of policymaking suffered from lack of baseline data to provide evidence based policy outcomes. This led to the decay in the sector, leading ban on fish export.

Weakness of the regulatory authority was alleged to have been due to inadequate funding for fish inspection activities. This has been a major constraint affecting routine inspection of the landing sites to ensure timely reporting and quick response in case of violation and the enforcement on the use of proper fishing gears. In the absence of funds, a respondent noted that, sometimes, inspection was done once a year.

Figure 4: Showing Chronology of the EU Fish ban on imports

- February 1997-Spain and Italy detected the case of Salmonella bacterial infection in fish products from Lake Victoria: this led to ban on fish imports from Uganda.
- April 1997-EU inspections confirmed ‘serious microbiological contamination.
- In December 1997-1998 ban due to cholera outbreak in the East Africa.
- In November 1998, the EU sent a team of Food and Veterinary mission to Uganda to assess compliance of the production conditions of the fishery products. Two plants closed down.
- In march 1999 based on the EU and press reports, number of Districts banned sale of fish.
- In August 1999, the EU sent a team of Inspectors to assess the capacities of the competent Authority in Uganda in relation to control of pesticide residues.
- UNBS responded to the EU report, and after a private laboratory to perform pesticides, monitoring was established in Uganda.
- July 2000-2001 ban was lifted and the quality of inspection improved by transfer of competent authority from UNBS to DFR, and EU accepted the Process and Functional Upgrading in the standards and safety in the processing plants.

Source: Adapted from UNIDO, 2003.

4.3 Governance, Upgrading and Rents

This section discusses the processes in the upgrading and innovations that characterized the Uganda's fish industry in their attempt to re-enter the export market. Although the road to sustaining the export market is not smooth for all the processors, a combination of synergies and collaborative efforts among the stakeholders (Government, Donors, Association-UFPEA, and Private sector) has seen Uganda's fish exporters rising from 11 plants in 1999 to over 15 processing plants currently. After the ban, different levels of upgrading took place in the factories including process, functional; and product upgrading to conform to EU standard. The upgrading processes were seen as a way of improving on the quality and branding of Uganda's Nile perch export to meet the EU standard and safety requirements.

The fish processing for export in Uganda provides a nodal point of analysis of the governance structures in the chain process. The analysis of findings revealed two levels of rents and chain governance is evident. First, at the upstream level, it appears that the factories are largely price takers with very little bargaining with the importers in the developed world or their agents at Entebbe airport. In some cases the private processors like Green fields and Ngege Uganda Limited have established their own modern landing sites at Entebbe and Kasenyi respectively; so as to guarantee better sanitation, quality standard from landing site through transportation, to factories and finally to Entebbe airport. This implies that they govern the chain and have full control over the chain processing kicking out the middlemen (suppliers) and the local fishermen.

There is some limited level of upgrading by local processors. The use of poor tools has been alleged to be because of lack of capital, leading to the temptation of employing a 'low road' ⁴level technique which is associated with 'race to the bottom'⁵. This makes them become losers in the chain process as the technological and financial rents affect their levels of innovations.

On the other hand fish processing for export has been a positive drive that has helped to salvage the Uganda's fish market that has been experiencing ban on export. According to

⁴ Low road techniques refers here to the use of manual labor and employing simple tools(boats , nets, use of rudimentary fish processing Methods and inefficient transport for transporting fish like basket carriers instead of cold chains among the fisher folk in the fish capture and marketing.

⁵ Race to the bottom: Fishing here in Lake Albert is seen as an activity for those at the lowest social ladder (poor). This applies to those who actually do the fishing. But the boat owners, middlemen, transporter are middle income people who are always well off and employ the services of unemployed people with little skills.

(MAAIF 2004:9), Fish destined for processing has generally attracted higher prices than fish sent directly to domestic and regional market. This is because good quality fish is highly demanded by the international consumers. In order to meet the export standard, a lot of innovations and investments are required in filleting of the fish and freezing for export. The processors in order to guarantee quality set specifications on the type of fish to be delivered to them by the middlemen.

The field findings further revealed the change in the power relations. Industrial processing has changed the role fishmongers used to play. Prior to export oriented market chains fishermen dealt directly with women, bicycle, trucks owners who transported fish to the local market; the new chain structure has now agents, factory suppliers/middlemen who have emerged with wide contacts and networks buying fish at the landing sites on behalf of the processors. This confirms the study by (Humphrey et.al 2002) who contended that, the acquisition of these new capabilities and market contacts among the middlemen can lead to changes in power relationships. This has seen exercise of power by the middlemen and the processors replacing the traditional chain structure dominated by fishmongers as the drivers of value chain process.

The new market oriented value chains do not only put emphasis on fresh, frozen fish becoming prime in as far as margins are concerned but also affect the local producers from accessing the fish. Export oriented value chains has seen urban based suppliers who use advanced technology, for example mobile phones, computers, refrigerated trucks, ice, gumboots, rain coats, vertical cooperation's and: market oriented products specialization to drive away the local processors. The local fishermen have resorted to local processing which serves the local market that is associated with low margins.

4.4 Technology in fish processing

The challenge in meeting the standards in the export markets calls on the processors to upgrade their production methods, improve on efficiency, effectiveness, and trust with their networks. Industrial processing of fish involves fish products that are prepared, processed, chilled, frozen, packaged or stored, but does not include auction and whole sale markets in which only display and sale by whole sale takes place. According to Rule 13 of the Fish Quality Assurance Rules 2008, all fish processing plants are supposed to comply with the standards plan and designs of factories fully approved by the commissioner. All the 15 fish processing plants in Uganda now

have been approved to process fish for export. Twelve of these are members of Uganda Fish Processors and Exporters Association [<http://www.ufpea.co.ug/>].

Industrial processing is the part of value chain that helps to add value and promote the competitiveness through the innovations in the process and functional upgrading. The activities at the factories help not only to add value to the fish products, especially those that are destined for Export but also improve on the trust and networks that are essential in sustaining global market contacts. In order to ensure compliance with standards, all processors must be ISO registered and should submit regular reports on their activities to the competent authority on processes in safety and standard compliance.

The adherence to strict quality assurance in the fisheries sector is important given the latent perishability of the product. Fish being a highly perishable food product, requires proper handling, processing and distribution if it is to be utilized in a cost effective and efficient way with limited risk to human health and safety (Frasher and Sumar, 1998:275).

The need for global contact and market control has seen the need for technological investments in landing sites upgrading to handle fish for export. For example Kasenyi around Lake Victoria, Kigungu; these innovations whether spontaneously or deliberately done, are all aimed at improving or promoting innovations and creation of competitiveness for widening markets for Nile Perch.

The field work interview had a respondent who noted that ‘fish is supposed to be landed on a well built slab to avoid contamination, weighed and taken straight into a refrigerated truck and then transported to a factory’[the respondent is a senior fish inspector]. The need for quality assurance is further enforced through ,continuous inspection of the fishing activities along the different levels of value chains from capture, transporting, processing and packing and export[respondent is a senior Fish Inspector]. In order to guarantee safety and quality of fish, fishing boats that goes in the water to do the actual fish capture are supposed to be loaded with ice.

4.5 Standards compliance along the Value chains

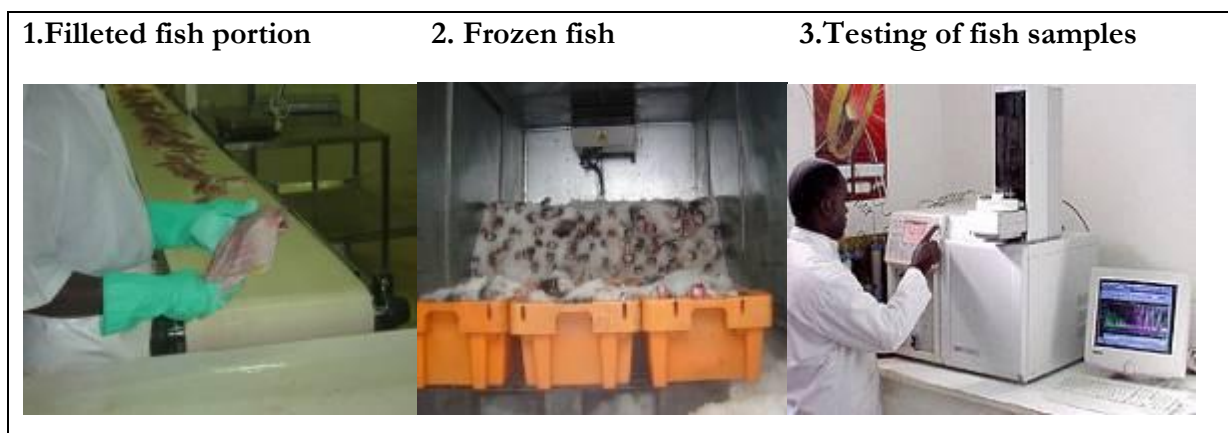
Export oriented fish value chain is not yet complete unless good quality fish is landed, weighed and transported and processed at factory. In the export oriented value chains, proper hygiene

must be observed at the landing sites. All the actors, agents, suppliers/middlemen are supposed to wear gumboots and overcoats. One respondent remarked that,

Only the best quality fish sold to processors for export market. The fish is supposed to be landed on a well built slab, weighed and taken straight to a refrigerated truck and transported to a processing factory [the respondent is a fish inspector].

The enormous demand for fish to meet the export quotas has always denied the local market the natural protein from quality fish. The local fish market tend to be fed with the factory by-products (or the small poor) quality fish.

Figure 5: Pictures showing standards and hygiene at fish processing factory



Source: Adapted from UFPEA 2009

The pictures in figure 5 show the different stages of quality assurance at export oriented value chains. In order to prevent the fish from being contaminated (or getting bacteria at the landing site), fish is washed, sorted, and kept in ice. Further, fish is filleted by hand, skinned, trimmed and the filleted portions are kept in polythene⁶. If the fish is to be frozen, it is packed immediately in waxed cartons as seen in picture 2 figure 5, above. There is also processing by-products such as the swim bladders, visceral fat and skins. The heads and the bones find their way onto the local market and sold fried by street vendors. Fish samples are tested, for microbiological and residual analysis, certified by the fish inspectors [see picture 3 above] at the

⁶ Source: Interview with senior fish inspector at MAAIF headquarters, Bugolobi branch office.

laboratories for export market. The testing is done in order to guaranty quality fish that meet good hygiene condition and safety is exported various international markets⁷.

4.6 Binding Constraints to upgrading

In international trade and export market, standards compliance is very crucial especially as it relates to safety in food sector, i.e., fish. The high transaction costs limit the entry of the local producers to export market chain in that they may face several barriers to entry due to several wide-ranging constraints:

The high cost of upgrading presents a serious barrier to local producers and this confirms what (Knorringa, et.al 2008) refers to as the high standard requirement, and the fact that processors are subjected to ‘codified standards and direct inspections by buyers’, this limits the participation of the local producers in the export market. In the case of fish which is perishable commodity, may require careful handling. Yet, the cost of investments in refrigerated trucks, costs of testing of the samples are far beyond the reach of local processors.

Challenge of sustaining the export sector in fish Industries

There is already a threat of dwindling fish stock with the high tonnage that the factories require us to deliver sometimes we spend 2 to 3 days loading fish before we can at least 5 tons to deliver to the factory. These affect our business especially when the factory does not pay use in cash.

That is why for me I supplement my income with other business in produce in the Southern Sudan markets because I cannot spend many days waiting for fish to be loaded. Sometimes even, I deliver less tons like 2-3 to the factories.

[Focus Group Interview with Middlemen at Kasenyi landside]

⁷ Source: Author’s own fieldwork interviews with fish inspectors, factory agent and middlemen, and the member of Uganda Fish processors and exporters reports 2009.

From the study the value chain process best depict the behaviours of what (Berner, et.al 2008), referred to as a “survivalists” as opposed to “growth oriented” entrepreneurs. Instead of carrying out more research on the market, information and forming a network that provides for collaborative learning being risks averse may end up quitting the business. This explains why the processors sometimes have a temptation of transporting fish from un gazetted landing sites (where the factories agents, fish inspectors are situated) to be processed for export.

Further, at the upstream there are constraints to upgrading arising from low margins and problem of access to credit to meet the financial costs of upgrading. These combination of factors work in a way that the low margins that the processors meet is associated with too much of international competition and stringent EU demands, insurance and freight charges coupled with inadequate access to credit has had some processing plants closing down. This constraint confirms what (Mitullah 2008:17) referred to as lack of trust among the processors who compete among themselves, and do not share market information and sometimes confide in their ‘drivers and agents’ in their transactions. Given this scenario, the development of cluster and collective efficiency that comes because of networks and joint action may not be possible. The after effect is increased transaction costs due to inadequate synergetic relations among processors.

The study found out that, processors have been facing some challenges in the international export market, because their product is seen as unbranded, undifferentiated products. This affects the traceability especially in chilled, filleted and frozen fish products. This state of affairs impacts negatively on the margins that accrue to the exporters (processors). A situation, that has implication on the downstream levels of the value chains; in that the suppliers who are the primary agents in supplying the fish may end up getting low prices.

There is also the aspect of limited funds to finance the innovations and the upgrading that is critical in creating competitiveness and harnessing of competitive advantage. The inadequate access to credit that is critical in financing the upgrading and the value chains process may affect the competitiveness of the local fishermen entry into the processing for export. The high interest rates that the banks offer on loans affect the bargaining power of the local suppliers to access substantial amount of venture capital to be invested upgrading process. Except around Lake Victoria were programmes like Lake Victoria Environment Management Programme (LVEMP) has been active in promoting synergies in landing sites upgrading and capacity building for sustainable fish resource management around the lake.

The field study revealed that around Lake Albert some NGO's are prominent: AFARD that is helping on sanitation campaigns and food security and HIV/Aids campaign , CARITAS a faith based organizations that is focusing on food security, spiritual aspects and food security with little attention to microcredit. While World Vision- Uganda, is involved in health and education campaigns. The activities of the NGOs here do not help in upgrading and cluster development directly as their programmes focuses on livelihood that local enterprises upgrading.

According to the (UIA, 2009) the effect of global financial crisis has seen falling demands for the fish products. This has led to low investment climate as investors are shying away from investing in the capital market and this seems to affect the upgrading process as there little is credit. This has become worse with increased freight and handling charges because of the increase in the fuel and air fees reduce the margins of the exporters. This further worsens the potentials for endogenous upgrading capabilities leaving the few exporters like: Kaladero SL, Mondo Marine, Fioritalesrl, Anova Foods BV and East Coast Europa have the global networks and contacts to continue governing the export market chains.

4.7 Prospect in addressing constraints in the fishery sector

The process in addressing constraints is essential ensuring standards and safety requirement along the value chain segments. Implementing and maintaining quality systems in the global market requirement and enforcement of local laws on the use of proper fishing gears is very important. This may include programmes like:

- Prerequisite programmes on good manufacturing practices (GMP) with support from donors organizations like UNIDO
- Ensuring compliance with HACCP
- Compliance with Quality Management Systems (QMS) and ISO 9001: 2000.
- Food Standards Management Systems (FSMS) ISO 22000: 2005 Certification.

These strategies are important in the Promotion of Investments in upgrading to widen market opportunities to create and sustain competitiveness in the fish export market. These actions in promoting product and process upgrading to meet the export quotas was undertaken with support of the chain actors like the private sector, and donors (UNIDO).

According to the field findings, Government is actively involved in the licensing of the fishing gear to ensure the use of proper fishing vessels. The role of Licensing of fishing vessels that has been a reserve of government targets compliance to hygiene, standard storage of fresh fish using ice, etc. The study further found that the boats are supposed to be painted with food friendly paints. It was also noted that in some landing site Government missed out on its core function of provision of funds for upgrading and provision of electricity at landing sites an infrastructure that is a catalyst in triggering development of local innovations.

There is now evidence of private sector innovations in investing in private laboratories for testing the samples. This development has helped to restore confidence in the EU market of the safety of the fish for export. The proactive response on the side of the association (UFPEA) and the lead firm to invest in equipments confirm what (Humphrey 2002:1024) in his study contended that, inter-firm cooperation are essential for innovation and upgrading. Investments in upgrading therefore provide an innovation that is critical in building local capabilities. Furthermore, investments by both Government and private sector in landing sites upgrading evident in Uganda. The effort in provision of electricity and road networks attest to the benefit of having good infrastructure in the promotion of competitiveness in the sector.

In order to address the challenge of the global financial crisis and the inadequate access to credit, the presidential round table discussions with the exporters and processors involved in the sector helps stimulate access to opportunities in commercial banks. These associations develop collective strategy to raise the competitiveness rating hence restore confidence in the investors to invest in Uganda [<http://www.ufpea.co.ug/gallery.html>].

Thus, participation in trade shows in Brussels among other EU exporters and importers help in sustaining access to global market for the exporters. The continued demand for the Nile Perch in the EU markets presents prospect for incentive to innovate and meet the export standards. The fact that the white flesh of Nile Perch can compete with other marine products in the EU other global market calls for continued local enterprises upgrading.

4.8 Institutions, Policies and Joint Action

This section makes a brief discussion on the role different institutions⁸ play in ensuring that standards and safety is enforced in order to promote sustainable use of the fisheries resources. The different laws, policies that guide the operations of the sector are also discussed here. The clear link that the presence of, related and supporting services for example laboratories for testing samples for residual analysis, packaging, and transport play are analysed. Institutions here refers to both the macro and meso level that provide the active link to promote what (Helmsing 2002) referred to as ‘collective efficiency’ in promotion of both Local economic development and export competitiveness.

The fish Value chain involves the interaction among several actors. These actors: Government, private sector and the donors play critical roles value chains and hygiene promotions. This case study presents a unique characteristic; unlike the Italianate clusters that developed spontaneously (Schmitz and Musyck, 1994, Knorringa 2002), rather the case of Uganda showed how the factories had to adopt a proactive response to EU Standard and safety requirement for export.

Global institutions and standards

Export oriented cluster in fish processing draws the synergy of multiple of actors. At global level, there are safety standards that a country has to comply with in order to access the export markets. These include EU, WTO requirements like the HCCP, ISO Food Safety management Programmes (FSMP). The role that the National institutions played includes policy designs and enforcement of compliance with these global standards. This calls for innovation to upgrade and investments in collective learning and creation of networks for continued market access.

Government-The national level:

At the National level, the Ministry of Agriculture animal industries and fisheries provide quality assurance and guidelines on proper fisheries resources management. The role of the centre under the Department of Fisheries Resources (DFR) under Ministry of Agriculture, Animal

⁸ Institutions: These are formal and informal organisation that provide rules for the fish value chain process. In the study they include: Donors, EU food standards, Government, Business Associations of Exporters, and BMUs.

Industries and Fisheries is mandated to promote, guide and support the sector. The centre is responsible for setting and enforcing the standards and regulations in fisheries sector. The laws that are used in the sector are: National Fisheries policy 2004 that replaced the fisheries and crocodile Act of 1964, Local government Act CAP 243 as amended and the Fish Quality Assurance Rules, 1998. The PMA and PEAP guidelines also provide the basic legislation on the management and investments in the fish sector. The BMU act 2003 spells out the roles of the owner's of fishing vessels in ensuring the enforcement of the use quality fishing gears.

Strengthening of fish inspections

Uganda Government over the years has also been appointing designated fish inspectors in both upstream and the low stream strand of the value chains. These staff are the teams of the competent Authority that are supposed to carry out capacity building for the insurance of hygiene, use of proper fishing vessels, training of the BMU's and carrying of routine supervision of the activities of the sector. All this roles have been targeted at quality improvement.

The strengthening and stream lining of the Fisheries inspection services through the building of the capacity of the Competent Authorities by the Directorate of fisheries resources (DFR), has helped to develop guidelines, inspection manuals on standards. The Government has been able to draw donor support to the capacity building interventions. The major donor here includes EU, UNIDO, ICIEDA, etc. The critical challenge in these roles of Government has been 'disconnect between the competent authority and the local fish inspectors' [the respondent is a senior fish inspector]. This has been blamed on numerous policy reforms and to a large extent, corruption and incompetence on the part of the local authorities (who have inadequate skills and tools to perform their duties).

Policy of Liberalization

The Government effort in promoting the increased competitiveness in the fisheries sector has been backed by the policy of Liberalization. The policy has provided a framework for promotion of Local economic development through the application of Public Private Partnership. Although one would argue that, it's the key responsibility of Government to upgrade landing sites, in Uganda a combination of both government effort, Donors and the private sector has vividly established synergies for collaborative effort in upgrading.

Local Governments

Decentralization has tended to weaken the positive side of the former solely command and control system as the price for addressing the negative aspects (MAAIF 2004). The local Governments have had the challenge of inadequate staffing and limited resources to boost their monitoring roles. To date the inspections of the lower streams sections of the fishing waters have been decentralized to Districts. The roles include enforcement on the use of proper fishing gears and supervision of BMUs. The District staffs are also required to provide monthly and quarterly reports to the central Government so as to help in the compilation of national data bank on the activities of the fishing industries.

Private sector- Chemiphar (U) Limited

The privately established laboratory has provided Uganda with an efficient system of tracking and carrying of routine checks on the quality of fish destined for export. The study revealed that, these laboratories are provided with equipments and technical support from both the Government and UNIDO have been an essential step in process upgrading for improvement in the quality of the fish to meet the export standards. The Uganda national Bureau of Standard, microbiology laboratory that has been also equipped with better Quality management system to meet internationally recognized standard has been accredited by SANAS⁹ in April 2001. These laboratories have been approved by the EU team of inspectors as being sufficient to carry out pesticides residue analysis (PRA). The effort of UNIDO, Chemiphar- a Belgian affiliate of chemical laboratories, and the ICIEDA, Icelandic project for building the capacity of the Fish inspection and testing units all points to joint efforts in ensuring standards compliance

Associations

Uganda Fish processors and Exporters Association (UFPEA)

This Business Association has been very crucial arms in the chain governance. The Uganda Fish export and Processors Association has been an umbrella arm of government that has been

⁹ SANAS is an affiliate testing laboratory in South Africa that helps to carry microbiological testing of the samples of fish for export.

championing the cause for quality and standards compliance among the fish exporters. To date all the fish exporters have been able to implement the ISO 9000 Quality management Systems and HACCO. All fish processing enterprises for export have been certified with ISO 9001:2000. This development has been made possible due to the co- operation of the fish exporters and the processors themselves but also largely as a result of the intervention of UNIDO and the Government.

Beach management Units

BMUs provide day today management of the landing sites; they help in inspection, licensing and daily monitoring and compliance with byelaw for proper management of the fisheries resources (Nyeko, 2004). The BMU guidelines 2003 provide that one of their roles is to improve on the cooperation among the fisher communities and promote gender sensitive activities among the fisher folk. Besides, they provide leadership roles that help to foster the use of proper fishing gears. The study revealed that, BMU's being grassroots institutions derive their legitimacy from the good practices, cooperation and transparency that they emphasise in execution of their duties.

Networks and Collaboration among stakeholders

The Ministry of Trade and industry provides a collaborative network and linkages with regional and international bodies on the issues to do with the global market access. Through the Uganda National Standards (UNBS), the Ministry of Trade and Industry (MoTI) has been able to forge synergies with other line ministry like Ministry of Agriculture Animal Industry and Fisheries (MAAIF) to employ Public Private Partnerships (PPPs) in the fisheries sector to innovate and attract regional markets like COMESA, EU, US and widen options for the exporters to realize better margins and expand market access.

Ministry of Trade has also been active in promoting Uganda's Competitiveness in the international trade forum, for example they have been sponsoring Uganda Fish processors and Exporters Association to attend conferences in Brussels on food safety and provide enabling environment for private sector led growth in Uganda.

4.9 Conclusion

In conclusion, this chapter has highlighted the role that institutions play in promotion of joint action in order to help revamp the fish processing sector. The role that Government played in landing site upgrading and donors that funded this interventions and the private sector that invested their entrepreneurial abilities in creating innovations in the processing helped to improve on the image of Uganda's standards and hygiene compliance. The findings have been able to confirm the view of (Porter 1990) that, nations do not only succeed in isolated industries but in pulling synergies to enhance 'vertical and horizontal relations'. The efforts in technological upgrading, testing laboratories, and inspections have helped improve on Uganda's competitiveness in fish export sector. The next chapter will present the impact of meeting standards on the economy and the Local economic development promotions in Uganda.

Chapter 5

IMPACTS OF VALUE CHAIN UPGRADING

5.1 Introduction

This chapter provides a discussion on impact of standards compliance upgrading on a wide range of sectors from the level of the economy, local marketing, community economic development and the processors. The discussion analyses the impact of policy outcome that governs the management of fisheries resources in Uganda.

5.2 Impact on fish marketing

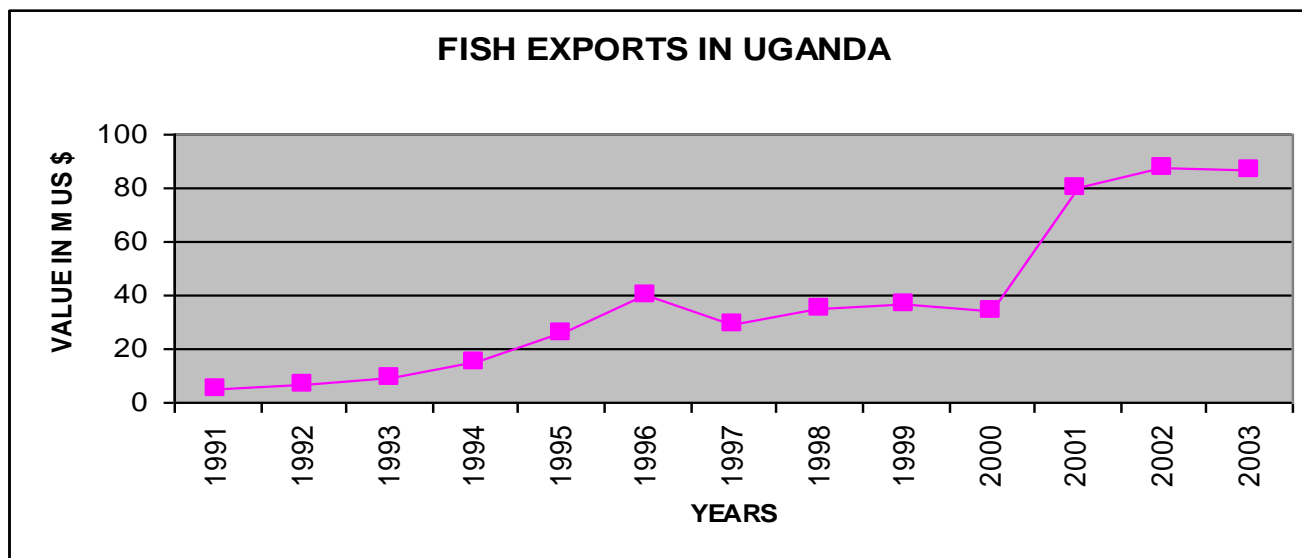
5.3 Export market

The data available on fish exports indicates that by 1980s, Uganda's fish export to regional markets were initially going through the boarder points of Busia, Kenya, Mpondwe¹⁰ in Kasese and Arua to democratic Republic of Congo. However, beginning 1990's, a few companies started exporting limited quantities of Nile Perch fillets to Europe. According to (Uganda Investment Authority 2008) report, over 24,965 tons of fish was exported which earned Uganda over US\$124Million in export revenues.

In order to ensure compliance to EU export requirements, the fresh fish is certified by the Competent Authorities, and taken to the factories by the suppliers. The value chain involves processing fish into fillets that are taken to Entebbe airport (fresh fish) or Mombasa port (frozen fish) and shipped on a container destined for export. The fish that is export by the flight via Entebbe airport are for major destinations of Europe, US [details in Appendix 4]. The fish export oriented cluster has been the priority area of Uganda Export promotion strategy after the traditional exports of coffee, tea and sugar. Together with flower, apiary [see Enzama 2007, UIA 2009], these non traditional export sources have been targeted for upgrading in Uganda.

¹⁰ Mpondwe is currently has a Morden market constructed by Government at the tune of over U shs. 65billion [23million Euros equivalent]. It's now the centre of territorial threats of War with DRC Congo.

Figure 6: Graph showing trend of Fish exports in Uganda



Source: MAAIF 2004.

The graph in figure 6: show the trend that has been experienced in the fish export. Industrial processing for export began to pick up 1991 to 1995 between in Uganda. From around 1997 to 1999 when the ban was slapped on Uganda fish export earning went down from due to the reasons that were explain in figure:4 [chronology of EU fish export ban]. The recovery from 2000 to 2003 indicates an upward trend. This has been due to upgrading and synergies among the actors (and the government's policies of liberalization) that helped in revamping the sector. Government on her part with donor support have invested in landing site upgrading, capacity building and intensified inspection and enforcement of fisheries laws. These efforts have helped to sustain the innovations and Uganda's competitiveness in fish export sector.

5.4 Local and Regional market

The fish for the local market is usually sun dried, smoked, salted and sometimes sold fresh and fetching different prices to local, regional markets: in DRC, Sudan, and Kenya. According to (MAAF 2004), it is estimated that out of the total quantity of fish landed, 60% is marketed fresh,

while 20% is processed using traditional methods of smoking, salting, frying and sun drying. The poor nature of routine inspection, have been alleged to have caused poor data collection on economic value of local fish marketing.

The increase in the commercially attractive species like Nile Perch, Tilapia has led to increased access to markets in both fish catches and fishing efforts. The local fishermen faced by competition for the good quality fish that tend to be bought by the factory agents and processed for exports sometimes are left with no portion but to wait for the factory by-products like the bones and the head of the Nile perch that they fry and sell to the local markets.

5.5 Contribution of fisheries sector to Uganda's Economy

This section looks at the impact of standards and upgrading to the export and revenue diversification in Uganda. It attempts to highlight the contribution of the sector to employment and GDP growth. Critical analysis of the sector contribution on economy is presented in trend form for a number of years to show the export volumes and the value over the years.

The contribution in terms of expansion of jobs, revenue earnings and foreign exchange earnings for Uganda may help to attest to impact that the processing plants have on the economy. The findings depict a typical developing country poor employment condition that has been observed by earlier studies (Knorringa and Pegler 2006, Nadvi and Schmitz 1999). Despite upgrading the labour conditions of the workers and the quality of employment did not improve much. The majority labour force still lack technical skills especially among those involved in capture fisheries and a few skilled, working in processing plants.

According to (UIA 2009), the fisheries sector is the second highest foreign exchange earning sector in Uganda. Table 1: indicates that investment in fish sector is currently estimated at US\$ 200Million with employment of over 700,000 people. The report further notes 2008 as having over 24,965 tons of fish that was exported which earned Uganda an estimated US\$124million in export revenue.

Table 1: showing Fish export by Value ('000' dollars) and volume, 2004-2008

Year	Volume in Tons	Value
2004	31,808	103,309
2005	39,201	142,691
2006	36,461	145,837
2007	31,681	124,711
2008	24,965	124,436

Source: UIA 2009.

Table 1: shows the fish export earnings. The peak of fish export was in 2006 when Uganda exported 36,461 tons that earned around 145.671 Million dollars from fish export. This is only the officially recorded statistics according to (UIA, 2009). There is hardly any data available on the fish that is sold to the local or the regional markets. The fish products exported includes , fresh fish (not chilled), chilled and frozen fish, dry smoked fish, fish maws, fish meals, fish oil, fish skins and live fish as ornamentals(*ibid*). See appendix 4 for major export destinations.

5.6 Winners and losers

The ban on fish export in Uganda shows how the demand for standards compliance had drastic effect on the economy (Mohammed, 2006). Three plants closed their business because of EU restrictions; the remaining plants worked at 20% capacity, 60-70% of the employees lost their jobs. The need for upgrading to meeting standards led to restructuring of the regulatory authority and the inspection systems, with the department of fisheries becoming the 'Competent Authority' (Klaus Frohberg, 2006). The small inefficient firms collapsed and the larger efficient ones have been able to survive with enormous investments in technological upgrading and innovations.

The firms that survived the ban had networks and collaboration with their global partners. They were able to invest in upgrading and capacity building in training competent human resources to manage the global challenge of standard. The findings revealed that Greenfield and Ngege Uganda (ltd) were not affected because their operations were already

compatible with international standards. This enabled them to be winners in the value chain as they are able to reap high margins that enable them to sustain their business. Although, due to high margins and innovations in the export oriented sector, the number of processing plants have shot up from 11 in 1997 to 15 plants currently (KlausFrohberg, et.al, 2006, Ponte 2005, Nyeko, 2004); the lower strand of the value chains have not attracted much progress in upgrading

With upgrading of landing sites, exclusion of the local processors¹¹ became rampant. These were as a result of hygiene and sanitation measures that were required. The absence of government effort to provide capital for creation of an incubator for local upgrade makes the fishermen lose in the game. Thus in gazetted landing sites like Kasenyi, the local fisher folk are excluded from doing fishing because the landing site is privately owned by Ngege Uganda (Ltd).

5.7 Contribution to Local economic Development

The fish-processing cluster has been able to provide employment opportunities for the local people as factory agents; petrol stations pump attendants, recorders, drivers/transporters, owners of restaurants. These activities contribute to provision of basic services and promote LED in a given locality. The processors through corporate social responsibility have been supporting hygiene promotions, education campaigns and road sector improvements. These activities being critical drivers to achievement of LED has helped to improve on the rural poor access to basic services in their localities. The value chain upgrading is beneficial to LED strategies in that the revenue that is derived from licensing of the fish processors and the local boat owners, local enterprises help to finance LED strategic plans.

5.8 Socio-Economic Impact on the Local Fishermen

The competition for better quality of fish for processing coupled with what (Henson and Jaffe,2000) refers to as the proactive nature of the processors in the chains may force out the small-scale fishermen in the fish value chain process especially along the gazetted landing sites. The exporters because of their levels of networks and contacts may end up undercutting the poor fisherman by exploiting their financial, human resources and innovations as competitive

¹¹ Local processors: in the study refers to artisanal fishers who used smoking, salting and sun drying methods of fish processing. In some cases sell fresh fish without ice to middlemen/commission agents.

advantage to govern the value chain process. The example of Kasenyi landing site owned by Ngege Fish industry in Uganda and Green fields around Lake Victoria landing sites shows how exogenous development can limit the participation of the local population.

Value chain upgrading may not benefit the local fisher folk, as the absence of venture capital tends to limit their innovativeness. In the absence of strong social enterprises among the fisher communities, they are rendered to become ‘fish hunters’; an activity associated with lower status compared with processors and exporters. A few who have contacts may own boats or hire engines or motorized boats to capture fish.

5.9 Conclusion

This chapter has been able to provide a discussion on the impact of standards compliance on the local market, export market and the implication on foreign exchange earnings for Uganda. The contribution on employment creation and the impact on the local fishermen and impact on the local economy has been discussed. The study revealed that, investments in the fish export sector is currently estimated at US\$ 200Million with employment of over 700,000 people. The next chapter provides a general conclusion and proposes some policy directions for sustaining the fishing sector’s contribution to the economy.

Chapter 6

CONCLUSION

Reflections on the study

6.1 Summary

This chapter provides a summary and discussions on salient feature of the study on Global value chains and local enterprises upgrading in Uganda. The study has described a typical response to Global Standards and the need for local enterprises upgrading to meeting the safety and standards. The study contends that the EU ban on Uganda's fish export did not only lead to closure of non-compliant plants but also impacted on jobs, income and revenue loss for Uganda during the period 1997-1999 in the fish sector.

6.2 Conclusion

The study contributed to discussions on status of value chains upgrading in the Uganda fisheries industries. It has provided answer to the research questions on the value chains strands that are essential in meeting the export standards and safety requirement. It has confirmed the earlier studies on value chains and Standards (for example Mittula, 2004, Nyeko 2004, Henson and Jaffe 2007, Zaramba 2002) in that, cost of compliance can be high for local processors and that export market requires more standard and safety requirement than the local market. The cost of filleting, freezing fish export requires heavy investments and a lot of hygiene and safety conditions may not be within the reach of the local processors.

An analysis of the impact shows that upgrading can lead to situations of 'winners and losers'. Process upgrading led to change in the value chain structure; from that which used to be controlled by fish mongers, to a chain dominated by factory agents and the middlemen/suppliers who undercut the local fishermen on the issue of prising share of benefits along the value chain. The study highlights the constraints to upgrading in the lower strand of the value chain for example: technological rent; absence of venture capital, finally they resort to processing for the local markets where fewer standards are required. This confirms other earlier studies that viewed that the rigorous regulatory standards have effect on domestic suppliers (Jaffe and Henson, 2004; Ponte 2005). The case of Kasenyi upgraded landing site shows how the impact of upgrading

affected the livelihood of the local fishermen who were excluded from doing fishing activities at the landing site by the owner [Ngege Uganda Ltd].

The contribution of process upgrading to economy and Local Economic Development has seen fish sector becoming second revenue earner to Uganda's GDP after coffee and other traditional export sources (UIA 2009). In terms of employment, there are over 700,000 people employed directly or indirectly in the industry in Uganda. The sector provides livelihood support to the fishermen and contributes to development of local clusters of micro enterprises that promotes improvement in quality of life.

This case study presents the role that institutions can play in policy driven cluster and value chain development. Unlike other clusters in the industrial world; like the Italianate clusters that developed spontaneously (Schmitz and Musyck, 1994, Knorringa 2002), rather the case of Uganda showed how the factories had to adopt a proactive response to EU Standard and safety requirement for export. A number of actors, institutions were pooled in order to provide quick response to upgrading strategies. The donors [EU, SIDA] provided the fund for capacity, building and landing sites upgrading. Based on the findings of the study, it can be argued that the policy reforms that took place in the fisheries sector provided a land mark to innovations and upgrading in the sector. The policy of fish trade liberalisation, supplemented by Fish Quality and Safety Rules 2008, helped to provide confidence in The EU team of inspectors to accept Uganda's fish export in the EU markets.

Further analysis of the study confirms the importance of what (Helmsing 2002) noted 'related and support services' and the role it plays in promoting learning and innovations. The related services like the testing laboratory for residues analysis of samples helped to create a level of traceability and safety check. These services together with packaging transport and freight, policy and institutional reforms helped sustain the fish export market. While these innovations took place in export oriented clusters the constraint to greater efficiency in local upgrading at the lower stream of the value chain leaves a lot to be desired. The poor state of the landing sites, characterised by poor hygiene at around Lake Albert requires upgrading to promote value addition to the local fish processing.

Regarding the different upgrading in the different strands of the value chains, the study revealed that the export oriented fish processing sector achieved more attention than processing for local market. All the processing plants that export fish products are ISO and HACCP

compliant. The findings have been able to confirm the view of (Porter 1990) that, nations do not only succeed in isolated industries but in pulling synergies to enhance ‘vertical and horizontal relations’. This explains why the forging of synergies among the actors for example, Government Donors, Private Sector and Uganda Fish Exporters and Processors Association (UFPEA) was able to promote joint effort for upgrading strategies in the fisheries sector.

6.3 Policy recommendation

In the final analysis, the paper suggests the need to ensure joint action and collective learning by all the stakeholders (Government, Donors, Private Sector, Business Associations) to invest in aquaculture (fish farming). This is seen as strategy that can promote sustainability of supply of fish for local and export market. Already few farmers are beginning to engage in fish farming especially in the urban areas. These efforts need to be incorporated in the Government Poverty Alleviation Programmes like National agricultural advisory Services (NAADS), Northern Uganda Reconstruction programmes (NUSAF), and other programmes. The sustainability of the fish processing plants should be addressed through policies that can limit the quotas that the processors have to export and enforcement of the use of proper fishing gears.

Needless to mention is the fact it’s becoming critical to invest in inputs like capacity building, strengthening of fish inspections in both the downstream and the upstream levels. This is critical in that borrowing from other studies done on value chains (for example see Kaplinsky, 2000:40, Porter 1980), upgrading can be a tool for promotion of poverty eradication and national competitiveness. These interventions should not stand alone; it has to be backed by Government effort to upgrade landing sites.

6.4 Reflection for researchers

A further reflection on the study calls for other researchers in future to look at the issues on how the value chains, standards can be sustained given the high transaction costs. There is need to explore how local enterprise upgrading and value chains affect the livelihood of the fisher community. The lesson that has been drawn from the study shows that the competitiveness of a locality can be harnessed through innovations that promote collective learning. Strong institutional support and active private sector can be a driver of the innovation. Innovations in upgrading are critical in widening options for local enterprises upgrading, which is essential for export promotion and Local Economic development.

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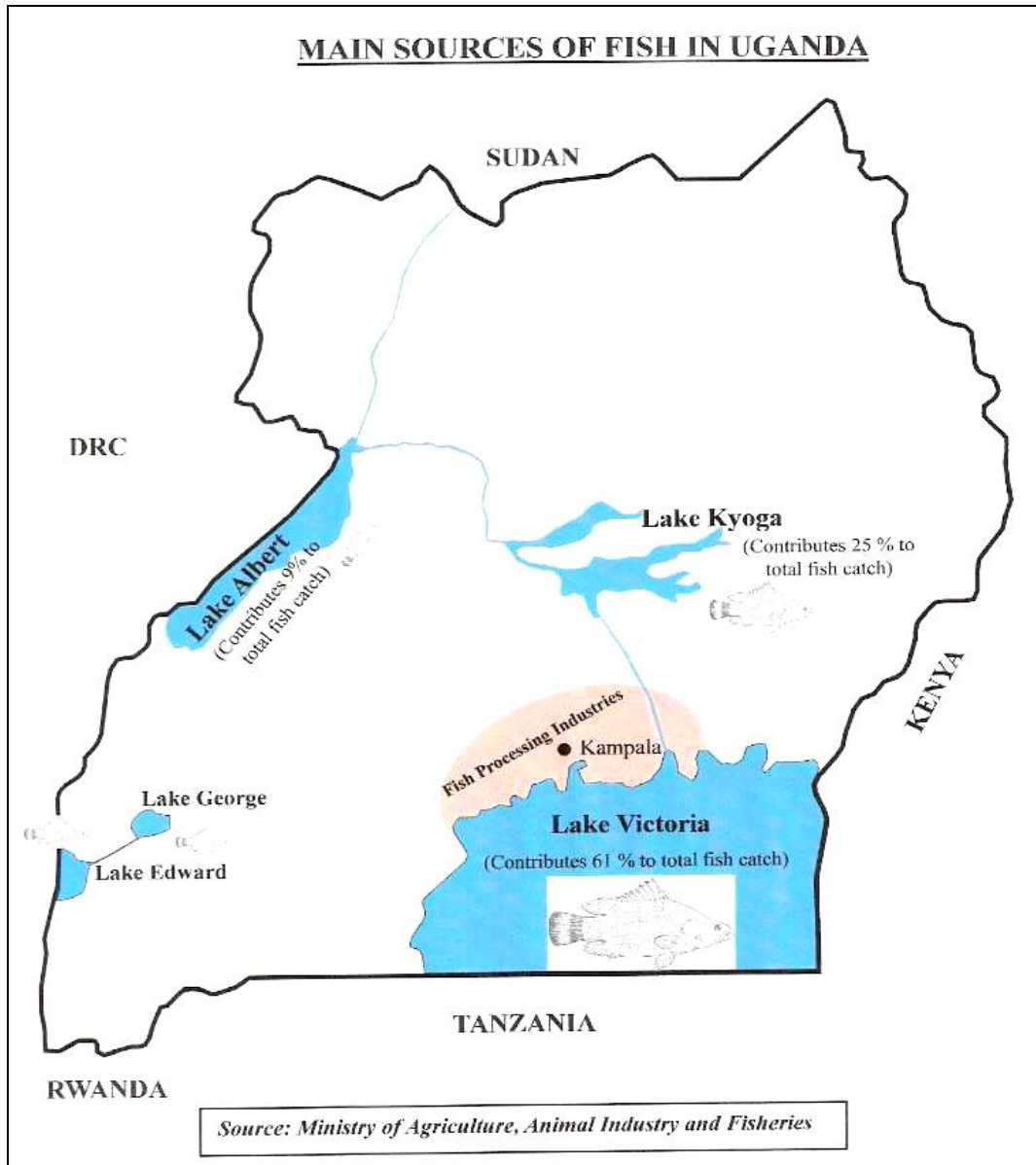
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Appendices

Appendix 1 Map 1: Showing Main Sources of Fish in Uganda



Appendix 2: Semi- Structured Interview guide

SEMI-STRUCTURED INTERVIEW GUIDE FOR STUDY ON STANDARDS, FISH VALUE CHAIN AND UPRGRADING IN UGANDA, July-August, 2009

[The research is part of the study programme leading to an award of MA Development studies at the *International Institute of Social Studies of Erasmus University Rotterdam*. The main purpose of the research is intended to carry out field assessment of the new approaches to Global value Chains and Local enterprises upgrading for export in Uganda's Fish Industries.

The information obtained shall be treated with utmost confidentiality and shall only be used for the purpose of this research.

Interviewer.....	Interview number
Department interviewed.....	Date.....

General Information

1. I want to ask you, what do you think are the main activities which the fishers involve in?
2. What do you think are the innovations/changes that have taken place to improve on standards/quality of fish for export after the ban on fish export to EU, etc?
3. What are the different requirements that exporters have to meet while exporting fish?
4. In your view, what do you feel are the methods of value improvements that are used to meet quality improvement requirement for export?
5. How many fish processing plants are in Uganda?
6. What are the various methods that are used in fish processing?
7. Do you think these methods are sufficient in creating more markets for fish?
8. In what ways are standards requirements monitored or emphasised:
 - During fishing/harvesting-Transportation-Packaging-Exporting
9. What are some of the problems that you are facing in an attempt to improve on the quality of fish for export?
10. How are the challenges for improving safety and quality being addressed?
11. Who monitors the enforcement of the rules in meeting the quality and safety requirements in the fish export chain?

Question about governance and fish market

Now I would like to ask you questions about the main market and buyers of your products

1. Who are the main buyers' of the fish products?
2. Does the buyer/exporter provide you with?

	Always	Sometimes	Never
Product specifications			
Input(ice)			
Fishing gears			
Financial support			

3. Who are the major international fish exporters?

4. In the last few years how much of the fish have been sold to the local and international markets?

5. How much has this access to the market contributed to the revenue base of the local/national economy?

6. Has there been attempt to improve on the equipments and the tools that are used in the processing of Fish for export?

7. If yes, how have these initiatives been funded [government, NGOs, Donors, Individual traders]? **In every formal business there are major actors who are involved in the value chain upgrading.**

1. Who are the major players that are involved in the fish marketing, and process upgrading?

2. To what extent do you feel you have benefited from the inputs and support of organisations in making improvements?

3. What has been the nature of this support[financial, legal, inputs, cost reduction ,tax holiday]

4. If yes, specify.....

5. In your view, have these networks benefited your business?

6. In your view, what do you think are the factors are hindering the entry of local fishermen in meeting quality standards for export?

7. For the various fish products processing stages, what in view, are the stages were standards are required?

8. What have been the roles of different actors [Government, NGOs, Private sector and the local Institutions] in the value chain upgrading?

9. At what levels have these interventions been targeted?

10. What have been the benefits of these innovations to the local economy?

11. What have been the challenges in upgrading the fish supply chain and quality improvements?

12. How have these challenges in standards and upgrading been addressed?

The role of government in standards and value chain upgrading

1. To extent do you feel the government has contributed to value chain upgrading?
2. In the last three years (since the ban on fish exports) what do you think were the policy responses to the promotion of quality improvement in the fish marketing?

General question: Feel free to ask any questions on the areas you feel are not clear?

Now I would like to ask you what you feel are the challenges facing fish processors in upgrading and meeting quality standards?

What possible policy responses would you propose to improve on the value chain upgrading of the sector?

Thank you for response!!!!

Appendix 3: Lists of Uganda's Fish Processors and Exporters.



Name of plant	Ownership
• Byansi Fisheries co. Ltd	Private/Ugandans
• Fish ways Uganda Ltd	Private by Asians
• Fresh water Fish Industries Ltd	Private by Indian
• Gomba Fishing Industries Ltd	Private by Indian`
• Greenfields Uganda, Ltd	Private by British Co.
• Hwan Sung Ltd	Private by a Korean
• Igloo Food Industries Ltd	Private
• Marine and Agro Export Processing Ltd	Private by Indian
• Masese Fish parkers Ltd	Private by Indian
• Ngege Ltd	Private by Indian
• Tampa Fisheries Ltd	Private
• Uganda Fish packers ltd	Private
• Unifoods Ltd	Private
• Wild Catch Fisheries	Private
• Oakwood investments	Private

Source: Uganda Fish Exporters and Processors Association, 2009

Appendix 4: Top 10 International Destination of Uganda's Fish Exports in US \$000

	2004	2005	2006	2007
France	19,876	35,219	34,584	27,634
Belgium	21,698	27,263	27,197	27,319
Netherlands	13,704	19,986	16,197	18,702
Israel	846	2,343	9,699	7,424
United Arab Emirates	5,901	6,968	6,847	6,481
Spain	5,588	8,423	3,613	4,440
Hong Kong(SARC)	1,605	3,184	3,178	4,177
Egypt	1,526	3,123	4,115	2,419
Japan	2,370	658	2,161	2,223

Source: Uganda Investment Authority report on the Fish Exports performance, 2009.

DEPARTMENT OF FISHERIES RESOURCES (DFR) PROCEDURE		Rules: Uganda Gazette No. 56 Vol. XCI 11/09/1998	Copy No. 1 Page 2 of 16
Subject: PROCEDURE INSTRUCTION PROCEDURES FOR THE INSPECTION OF FRESH FISH FOR EXPORT			Document No. 002/2 Rev (Amdt) No. 0
Compiler: PRINCIPAL FISHERIES INSPECTOR QUALITY ASSURANCE UNIT	Signature:		Effective date
Approving Officer: COMMISSIONER FOR FISHERIES	Signature:		01/11/2000

0. BACKGROUND

The DFR has been nominated by the Ugandan Government as the competent body to certify fishery products (including chilled fish) for the export to inter alia countries which are members of European Union. This market is a fast growing one and also a very sensitive one. Chilled fish is a highly perishable commodity and the correct processing, packing, handling and transport procedures must be adhered to ensure that a product of good quality is received on the export market. To secure the export market for the local industries and to maintain the confidence of foreign inspection bodies in the DFR as the competent authority, the rules of this procedure should be strictly adhered to.

1. SCOPE



This procedure describes the procedures of the inspection of chilled fish, gives guidelines as to how the factories should pack, handle and transport the fish as well as factory requirements. Guidelines for the inspection, sampling and decision making are also included. Due to the subjective nature of many of the attributes of the commodities the inspector will need to make use of his own discretion and experience during inspection and decision making.

2. RULES

1. Fish must be handled, processed and packed under hygienic conditions as defined in the Fish (Quality Assurance) Rules 1998 and the Manual of Standard operating Procedures for Fish Inspection and Quality Assurance.
2. The fish must be cleaned and packed by a factory listed to export fish. A System of management of Critical Control Points must be in operation at such a factory and records kept to demonstrate conformance.
3. The fish must be of superior freshness (Grade A) and preferably not older than 3-4 days at the temperature of melting ice.

Document Read and Understood by Inspectors					
NAME	SIGNATURE	NAME	SIGNATURE	NAME	SIGNATURE
1.		5.		9.	
2.		6.		10.	
3.		7.		11.	
4.		8.		12.	

Appendix 6: Procedures for fish Inspection for export [MAAIF 2000]

DEPARTMENT OF FISHERIES RESOURCES (DFR) PROCEDURE		Rules: Uganda Gazette No. 56 Vol. XCI 11/09/1998	Copy No. 1 Page 3 of 16
Subject: PROCEDURE INSTRUCTION PROCEDURES FOR THE INSPECTION OF FRESH FISH FOR EXPORT			Document No. 002/3
Compiler: PRINCIPAL FISHERIES INSPECTOR QUALITY ASSURANCE UNIT		Signature: 	Rev (amdt) No. 0
Approving Officer: COMMISSIONER FOR FISHERIES		Signature: 	Effective date 01/11/2000
COMMISSIONER FOR FISHERIES P. Q. BOY & ENTERPRISES			
<p>4. The fish is inspected at the airport cold store establishment where a random sample is examined in accordance with an official sampling plan. For this purpose, the size (number of containers) of the consignment must be known. Where the factory is within a reasonable range from the airport, the fish may be inspected at the factory.</p> <p>5. The agent/factory must ensure that the off-loading area is adequately protected from the sun; that the off-loading process is executed in the quickest possible way and that the fish is stored in a cold store prior to departure.</p> <p>6. Temperature recording charts should be available for inspection.</p> <p>7. The trucks must be stacked in such a manner that damaging of the cartons is limited to a minimum and that the airflow is adequate.</p> <p>8. An inspection facility must be made available where possible.</p> <p>3. PROCEDURE</p> <p>3.1 Information required from clients for certification of fresh fish/fish products.</p> <p>The client must arrange with the DFR office nearest to the final point of departure (airport) for a suitable venue for the inspection of the product and handing over of the certificate (certificates must be typed beforehand). Example of a "Request for Certification" letter to exporters is attached (Appendix 3).</p> <p>Fish boxes must be clearly, legibly and indelibly marked as follows</p> <ul style="list-style-type: none"> • Establishment nr. XY* • Date of production * • Product of (Uganda) * • Species of fish * • Presentation (e.g. whole and gutted, headless and gutted skinless fillets, skin on fillet etc) * • Size category • Net Weight * <p>NOTE: Depicted by *, compulsory to appear on each box</p>			
Document Read and Understood by Inspectors			
NAME	SIGNATURE	NAME	SIGNATURE
1.		5.	9.
2.		6.	10.
3.		7.	11.
4.		8.	12.

Appendix 7: Certificate of compliance [MAAIF 2000].

DEPARTMENT OF FISHERIES RESOURCES (DFR) PROCEDURE		Rules: Uganda Gazette No. 56 Vol. XCI 11/09/1998	
Subject: PROCEDURE INSTRUCTION PROCEDURES FOR THE INSPECTION OF FRESH FISH FOR EXPORT		Copy No. 1 Page 13 of 16	
Compiler: PRINCIPAL FISHERIES INSEPECTOR QUALITY ASSURANCE UNIT		Document No. 002/14 Rev (Amdt) No. 0 Effective date 01/11/2000	
Approving Officer: COMMISSIONER FOR FISHERIES		Signature:	
APPENDIX 2			
INSPECTION REPORT: CHILLED FISH/FISH FILLETS DFR			
Packer/Factory Est No Inspection Date: Code/s.....			
Date of packaging Witnessed by Consignment size			
Decision Sampling size:			
SAMPLE NO. Put "D" for any sample defective or the demerit point scored			
CONTROL		REMARKS	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Tl Pnts
Fish Container	1	Condition of Container	
	2	Labeling	
Grading of fish	3		
Cooling medium	4	Cooling medium	
	5	Melted ice water in box	
Condition of fish	6	Temperature of fish fillet	
	7	Sensory examination	
	8	Foreign matter	
	9	Gutting & washing	
	10	Cuts & damages extent	
	11	Gutted species	
	12	Parasites	
Mode of Transport		Air <input type="checkbox"/> Truck <input type="checkbox"/>	Is Temp Record of Transport Available? <input type="checkbox"/> Yes <input type="checkbox"/> No
General Comments			

Document Read and Understood by Inspectors					
NAME	SIGNATURE	NAME	SIGNATURE	NAME	SIGNATURE
1.		5.		9.	
2.		6.		10.	
3.		7.		11.	
4.		8.		12.	