

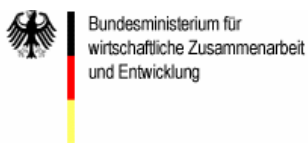
Policy Research – Implications of Liberalisation of Fish Trade for Developing Countries

A Case Study for Uganda

Boaz Blackie Keizire

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This report forms part of a wider study on “Policy Research – Implications of Liberalisation of Fish Trade for Developing Countries”, comprising five trade issues background papers and five country case studies.

The trade issues background papers are dealing with the following topics:

- Sanitary and Phyto-Sanitary (SPS) Measures and Technical Barriers to Trade (TBT)
- Ethical/Social/Eco Certification, Labelling and Guidelines
- The Impact of Subsidies on Trade in Fisheries Products
- The Impact of Dumping on Trade in Fisheries Products
- Fiscal Reforms and Trade in Fisheries Products

The case studies cover the following countries:

- Bangladesh
- Guinea
- India
- Uganda
- Vietnam

For a synthesis of the entire study including policy recommendations, see: Bostock, T., Greenhalgh, P. and Kleih, U. (2004), Policy Research – Implications of Liberalisation of Fish Trade for Developing Countries – Synthesis Report. Chatham, UK: Natural Resources Institute. ISBN 0 85954 560-1.

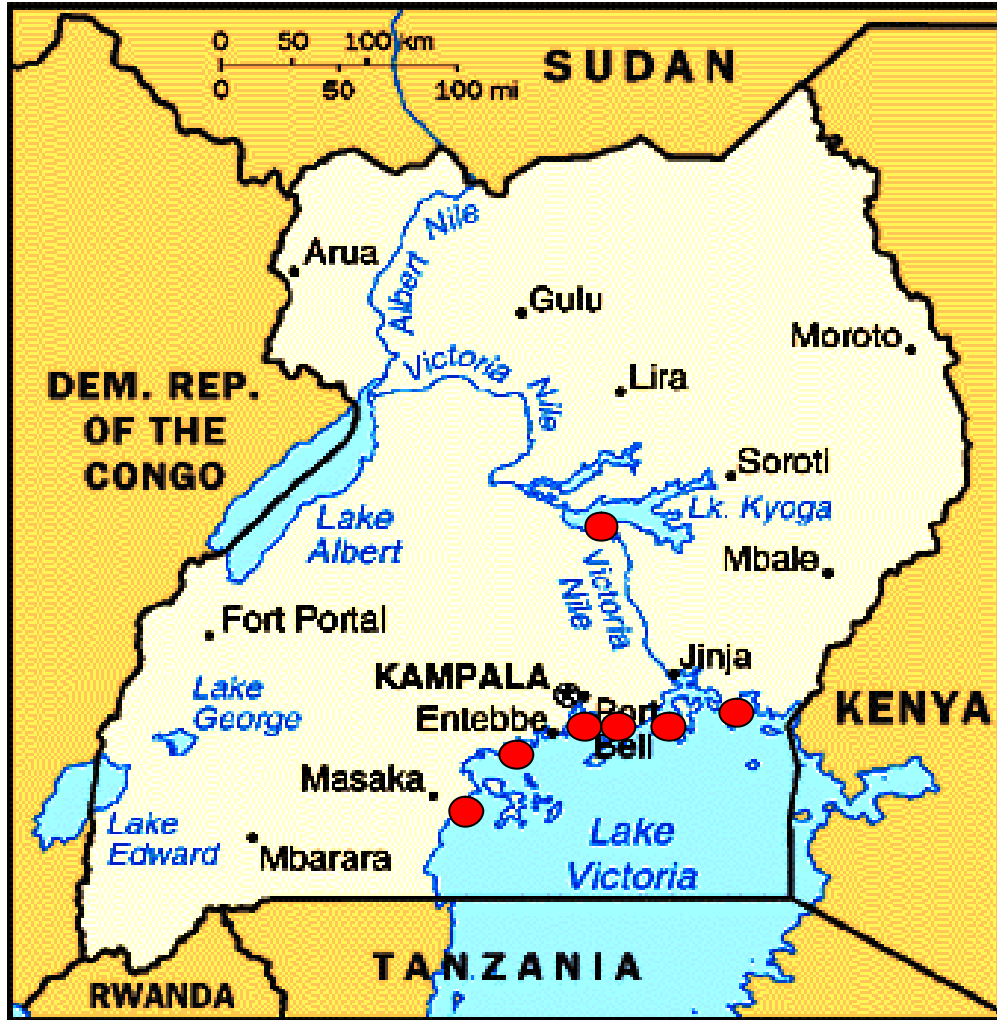
Copies of the various reports are available on the following websites:

- www.onefish.org/id/225570
- www.nri.org/projects/projects/htm

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The views expressed in this report are solely those of the author and do not necessarily represent the views of BMZ, DFID, FAO or GTZ.

Map of Uganda Showing Major Fishing Grounds and Sampling Areas for this Study



● Samples Areas for the Filed Study

Executive Summary

1. Liberalisation of fish trade started as a result of policies introduced when Uganda embraced the World Bank and IMF's Structural Adjustment Programs (SAPs) that created an enabling environment for business and enhanced domestic goods to access the international market as well as for international goods to access the domestic market.

2. Investors in industrial fish processing enjoyed duty exemptions on essential factory equipment, readily acquired low-interest loans locally and internationally and benefited from low taxes or tax holidays and reduced foreign exchange controls. Consequently, substantial quantities of fish have been exported with positive implications for the livelihoods of domestic fishers, traders, processors and consumers. The growth of fish exports in the last couple of years is closely linked to fish trade liberalisation.

3. The benefits of fish trade liberalisation were accompanied with a number of problems. A number of countries have had their fish and fishery products banned from exports as a result of these trade rules and regulations. The EU banned fish imports from Uganda as a result of "failure" to comply with certain international quality and safety standards.

4. A study was commissioned to analyse the effects of fish trade liberalisation and critically to look at effects of liberalisation and fish export ban on Uganda. The study focused at analysing the implications of international fish trade legislation on the fish trade and livelihood issues in Uganda. The Uganda case study focused on fish trade liberalisation picking from the interpretation of international trade rules to effect a fish export ban between 1998 - 2000 by the European Union and as a result how this ban affected the economy and the general livelihoods of fish-dependent communities.

5. The study (using data from the field) analysed the effect of the ban on all the fishing entities (including landing sites and fishermen, fish processing and export companies, fish traders and artisanal processors). A total of seven landing sites from 4 representative districts from each of the major water bodies were samples. Information was collected from fishermen and other fish-dependent communities, artisanal fish processors and small-scale fish business men and women. Fish factories provided supplementary information.

6. Secondary data sources were also used. The collection of information in the field was done using Participatory Rural Appraisal methods and Semi-Structured Interviews

The Fisheries Sector and its Characteristics

7. The fisheries sector is among the sectors in the economy that have benefited as a result of economic reform programs in the recent past. The sector is comprised of both capture and culture fisheries, with the former contributing most of the total production. The capture fishery is basically artisanal while aquaculture is not yet fully commercialized but primarily contributes to household food in some areas.

8. Fish production in Uganda is dominated by Nile Perch (*Lates niloticus*) which accounts for 60% of the catch by volume. Other major species harvested include; sardine or mukene (*Rastreneobola argentea*) at 20% of total catch; the Nile Tilapia (*Oreochromis niloticus*) at 10%; and other species (of the genera *Bagrus*, *Clarias*, *Protopterus*, *Barbus*, *Synodontis*, *Momyrus*, *Alestes* and *Labeo*), accounting for the remaining 10%.

9. Capture fisheries in Uganda is characterized by wooded (plank built) canoes and, to a lesser extent, fiberglass boats. Some dugout canoes are also still being used. The wooden canoes are generally 4 to 12 m in length and dugout canoes average 3.5 m.

10. The total number of vessels in all water bodies is about 17,000 and about 20% of these are motorised. Artisanal fishermen utilise various gears including gill nets, seines and hook and line. In a number of localities, traditional methods including baskets, traps and mosquito nets continue to be used.

Fish Export Marketing Chain in Uganda

11. The fish export marketing chain begins with artisanal fishers who commonly use relatively capital-intensive fishing units involving larger-sized boats and outboard engines and mainly target the Nile Perch. Some Nile Tilapia is being channelled to the export market.

12. The artisanal fishers sell fresh fish directly to factory agents normally at a price fixed by the latter. The remaining Nile Perch that does not meet factory processing standards is mainly sold to women fish processors.

13. Besides the factory agents, a group of middlemen who buy from fishers and sell to factory agents have emerged at some landing sites. They speed up the process of assembling fish, usually at an additional cost of Ugshs50-100 per kilogram.

14. The fish are stacked in refrigerated trucks by casual labourers hired by the factory agents and, thereafter, transported to industrial fish processing factories where it is filleted and exported either chilled or frozen mainly to destinations in Europe, Asia and USA. The refrigerated trucks at some beaches and boat traders deliver catches to other landing site where there are trucks for picking their fish.

15. The fish export marketing chain is linked to domestic and regional markets through the fish by-product sub-sector. Fish by-products account for nearly 60% of the whole fish, consisting of fish frames, skins, trimmings and fat that are sold in the local markets while fish maws are exported mainly to the Far East.

Impact of Fish Trade on Community Welfare

16. Fishing communities perceived wealth in terms of quality of housing and type of capital assets owned. Generally, three wealth categories were identified among fishing communities; namely the poor, middle and well-off classes.

17. The poor class include community members who rented grass-thatched mud houses and did not own any capital assets such as boats, fishing gear, smoking kilns and bicycles. They were essentially labourers engaged in activities such as fishing, spreading nets and carrying fish from boats to weighing scales. Shifts, from the well off, to the poor class were mainly attributed to the loss of fishing gear due to theft or confiscation by enforcement officers.

18. The middle class includes individuals who own small grass-thatched mud houses, sometimes roofed with iron sheets. They include women fish processors, local fish traders and owners of paddled fishing units. This class also includes operators of eating places, kiosks, bars and video halls within the fishing village. This group has the largest number of women particularly in the fish smoking business.

19. The well-off class consists of individuals who own spacious houses made of bricks and iron sheets. They include owners of motorized fishing units and factory agents who own ice boxes and lease refrigerated trucks to transport fish to the factories.

Changes and Dynamics in the Community

20. In the 1970s, there existed few fishers targetting a diversity of fish species in abundance such as *male*, *mamba*, *kisinjja*, *ningu*, *ngege*, *semutundu kasulu* and *enkejje*. Large sized Nile Perch became dominant in the catches in the 1980s. By then, Nile perch was mainly sold to bicycle traders who cut it into small pieces for sale.

21. In the early 1990s, sale of Nile Perch b in kilograms began with the introduction of scales. Early boat traders (with ice containers) came from Kenya to Ugandan beaches for Nile Perch. Trade in fish was affected by the Rwanda genocide in 1994 that prompted local consumers to reject fish consumption as result of ugly sights of decomposing human bodies floating on the lake.

22. In the mid 1990s, there was a rise in the demand for Nile Perch in overseas market. Many agents of fish processing factories established themselves at beaches. Fish prices rose to Ugshs800 per kilogram.

23. Fishing communities rememebered the flooding brought about by the El Nino rains of 1997 that caused a cholera outbreak that led to the ban of fish to the European Union markets.

24. Fishing communities readily recalled the ban in 1999 caused by widespread use of poison to fish. There was a unilateral closure of Lake Victoria fishery. This led to formation of Task Forces at beaches to eliminate fish poisoning on the lake. Incomes of people engaged in fishery activities were greatly affected.

25. Fishing communities always experienced a fall in prices as a result of bans. Some fishers invested in alternative sources of income while other shifted their labour to income activities such as farming, stone crushing and sand mining.

26. With increased fish exports the need arose for the development of the small investments and infrastructure at beaches to meet required standard for export markets. Between 2000 and 2004, a number of micro-projects such as fish banda, store and pit latrines were put in place.

27. For the purpose of sustainably exploiting the resource, limits to the size of Nile Perch (slot size) fished were introduced, in 2002. However, fishing communities complained that the fish of the recommended minimum size of 20 inches were scarce. Enforcement of the regulation by contract staff resulted in loss of gears and sometimes catches/fish products. This negatively affected livelihoods.

Impact of Trade Liberalisation on Local Livelihoods

28. Apart from factory agents, who had acquired skills relating to quality assurance, the rest of those involved in the industry had not received any special training that is relevant to the fish export trade.

29. At Bukagabo Landing Site, one of the sites sampled during the study, the community complained that although a lot of Nile Perch is landed there, the beach had not benefited from development programmes such as the construction of infrastructure necessary for export trade as witnessed at other beaches.

30. High prices of Nile Perch induced by the export trade had attracted many fishers into the industry. This has resulted into excessive fishing pressure and, consequently, the availability of large Nile Perch had decreased. Fisheries were, thus, compelled to use undersized gears.

31. Some of the fishing communities surveyed did not have access to formal credit. At Bukagabo, the Women's Finance Trust, a Micro-Finance Institution (MFI) had recently begun operating and was targeting women with viable enterprises including women fish processors. However, there were general complaints that the conditions of the MFI credit were extremely difficult to satisfy to the extent that most credit recipients had defaulted.

32. Operators in the fish export marketing chain mentioned frequent price fluctuations as a major problem that leading to financial losses. Factory agents were most affected as result of irregular prices offered by operators of factories. Delay in payments made by fish factories had also denied factory agents a sufficient reliable cash flow to finance their business.

33. Fish traders complained of the existence of various fisheries enforcement agents who extorted bribes from them. Factory agents also pointed out that occasionally they

had to bribe fish quality inspectors at the factories to avoid losses as a result of false rejects.

34. Fishing communities reported that the export market was not a stable one reflected in four instances of price falls since 1990. These include price falls following the genocide in Rwanda, cholera, poison and the December 2003 and February 2004 changes in world fish demand.

Impacts of Uganda's Fish Export Ban by the European Union.

35. The European Union fish export ban on Uganda's fish resulted in a number of problems. The industrial fish processing was affected. There was loss of foreign exchange earnings, both to the economy as well as the owners of fish processing firms. There were huge losses in terms of jobs among those who were directly employed by the industries and also those who were involved in auxiliary jobs.

36. The ban triggered owners of fish processing firms to invest in upgrading their processing facilities to acceptable European Union standards. Over time, this resulted in increases in fish exports, which have boosted the economy.

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List of Acronyms

SSI	Semi Structured Interviews
NARO	National Agricultural Research Organisation
DFO	District Fisheries Officer
ACP	Africa Caribbean and Pacific
ADB	African Development Bank
BMU	Beach Management Units
CBD	Convention on Biological Diversity
CITES	Convention on Trade in Endangered Species
DFID	Department for International Development
DFR	Department of Fisheries Resources
DRC	Democratic Republic of Congo
EPRC	Economic Policy Research Centre
EU	European Union
FAO	Food and Agricultural Organisation of United Nations
FDA	Food and Drug Administration
FIRRI	Fisheries Resources Research Institute
FSSP	Fisheries Sector Strategic Plan
FTI	Fisheries Training Institute
GATT	General Agreement of Tariffs and Trade
GDP	Gross Domestic Product
GSP	General Licensing System
HACCP	Hazard Analysis for Critical Control Point
HH	House Hold
HIPC	Highly Indebted Poor Countries
ILP	Import Licensing Procedures
IMF	International Monetary Fund
LDC	Low Developed Countries
LVFO	Lake Victoria Fisheries Organisation
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MFI	Micro Finance Institution
MFPED	Ministry of Finance Planning and Economic Development
MSY	Maximum Sustainable Yield
NFP	National Fisheries Policy
NPV	Net Present Value
OJ	Official Journal
PEAP	Poverty Eradication Action Plan
PMA	Plan for Modernisation of Agriculture
PRA	Participatory Rural Appraisal
SIFAR	Support Unit for International Fisheries and Aquatic Research
SPS	Sanitary and Phytosanitary Services
TBT	Technical Barriers to Trade
UBOS	Uganda Bureau of Statistics
UFPEA	Uganda Fish Processors and Exporters Association
UNBS	Uganda National Bureau of Standards
UNDP	United Nations Development Program
UNIDO	United Nations Industrial Organisation
UPPAP	Uganda Participatory Assessment Process
WHO	World Health Organisation
WTO	World Trade Organisation

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1. INTRODUCTION

Trade in fish and fishery products has grown rapidly all over the world in the last decade. World over, exports of fish have increased from approximately US\$ billion 12.5 in 1976 to approximately US\$ billion 25 in 1997 in the developed world. In the same period, developing countries share of exports has risen from an estimate of US\$ billion 7.5 to US\$ billion 23 (Delgado, *et al.*, 2003). The developed countries of the world mainly countries in Europe, USA and Japan are absorbing 80% of total worlds imports (Greenhalgh, 2004). Despite this positive increase in fish trade, international and national trade rules and regulations in the developed world continue to influence and affect the amount of fish exports from the developing countries. This is mainly as a result of increasingly complex requirements of food safety and quality rules set by major markets of the developed world (particularly Europe) representing a threat to existing and potential exporters from the developing world. Interestingly, such stringent quality and safety standards can create a bias in favour of countries with highly developed infrastructure, and larger suppliers with greater resources. Between 1998 and 2000, these trade rules and or regulations resulted into the EU imposing a fish ban on all the fish from Lake Victoria in general and Uganda in particular.

A number of countries have had their fish and fishery products banned from exports as a result of these trade rules and regulations. The European Union, for example, banned imports of seafood from China during part of 2002 following discovery of banned substances in samples in Chinese processing plants (Delgado *et al.* 2003). Between 1998 and 2000, Uganda, Kenya and Tanzania suffered a number of fish bans by the EU as a result of countries' "failure" to comply with certain quality and safety international standards. Delgado, *et al.* (2003) further states that the EU imposed a ban of shrimps from Bangladesh in 1997. These fish export bans that would last for a number of months to a year (on average) had massive effects in terms of foreign exchange revenues, loss of jobs and disruption of investments which rendered the plants and nations become un-competitive on the world market.

Recognising the need by developed countries' efforts to regulate fish trade, the issue of desire by some parties to invoke health regulations to limit imports for commercial reasons should not be underestimated.

The Department for International Development (DFID) and Germany's GTZ, under the co-ordination of the Support Unit for International Fisheries and Aquatic Research (SIFAR) of FAO undertook to implement a policy research study on the implications of fish trade liberalisation in Uganda. The study focused on the implication of international trade rules on fisheries industry but mainly focusing on the fish export ban by EU from Uganda. The general objective of the study was to contribute in generating a body of knowledge and understanding the achievements of sustainable development outcomes and existing provisions on international fisheries trade with regard to trade liberalisation. Uganda, picked as a case study, aimed at analysing the implications of international fish trade legislation on the fish trade and livelihood issues. The Uganda case study focused on fish trade liberalisation picking from the interpretation of international trade rules to effect a fish export ban between 1998 - 2000 by the European Union and as a result, how this ban affected the economy and the general livelihoods of fish dependent communities.

The study was conducted by generating a set of information both from secondary and primary sources focusing on the implications of fish trade liberalisation on the macro and microeconomics of different players in Uganda's fisheries sector.

This study report is arranged in eight main sections. Following this introduction, section *two* is a research methodology that provides the main tools of analysis that were used in this study. The section describes the approaches to the study using both the primary and secondary data sources.

Section *three* is a presentation of general background issues describing characteristics of Uganda's economy, the economic structure and some statistics for some sections of the economy including the relevant socio-economic and poverty indices. In the same section, the general background and characteristics of Uganda's fishing sector are described including the main fish species, main fishing gear and the sector contribution to overall country's economic growth. The section also provides the institutional context in managing fisheries describing the roles and responsibilities of various organisations and institutions. The section opens the debate of the fish export ban by providing secondary material information on fish export ban.

Section *four* provides information on the history of fish export ban specifically by the EU and the associated micro implications.

Section *five* borrows from the available literature and analyses the national and international food safety legislation that effected the fish export ban. The section analyses the institutional context of food safety legislation on the fish ban and the extent to which both the international and national food safety legislation was invoked to institute a ban on fish exports. The section analyses the extent to which these trade rules and the subsequent fish ban affected all the actors in the fish production, processing and export chain and the compliance aspects.

Section *six* uses the primary information to describe the entire fish supply chain that highlights the operators involved the functions performed by these operators. The description of the structure of fisheries exports is provided in detail under this section. The structure is used to understand the underlying macro and micro levels of poverty in the fishing industry. The section links developments in the fish export industry to livelihood improvement among fishing communities.

In section *seven*, the impact of the fish ban is analysed, in this case approaching the issue from the sustainable livelihood approach. The implications of trade liberalisation and subsequent the fish export ban on the livelihoods of the entire players in fish commodity chain is analysed. The general impact of trade liberalisation measures on household livelihood strategies and outcomes, in particular to employment, food security and income is examined. This section concludes by examining the institutional and policy aspects of trade liberalisation and the extent to which the shocks arising out of fish export ban were used to influence policy decisions.

Section *eight*, compounds all the sections and draws some conclusions, which are used to generate a set of recommendations.

2. STUDY METHODOLOGY¹

The project used a number of thematic approaches in responding to the study questions. The trade issue under the study required a number of approaches to the questions and these approaches have been used to exhaustively respond to the study objectives. The primary approaches or methods used to respond to the objectives include; sampling and stratification, mapping of the fisheries commodity chain; wealth ranking; use of trend lines; focused discussions with individuals and or other entities within the study areas and calculations of margins and incomes within the fish trade chains.

2.1 Secondary Data Sources

The review of secondary information from the existing literature was to develop an inventory status of the fisheries sector in Uganda. This inventory was to be linked with trade issues globally to understand the situation as regards trade regulation, bilateral and multilateral agreements focusing on issues of quality standards in fish trade.

Secondary information was largely obtained from national government documents including policies, government documents, regulations and other national records. Attempts were made to relate theoretical concepts in fish trade legislation with empirical cases available both in the local environment as well as the international world. Draft overview papers generated by the Natural Resources Institute of UK were largely used in putting together the literature on the existing global fish trade legislation.

2.2 Primary Data Sources

2.1.1 Sampling and Stratification

During the fish ban, all the fishing units (including landing sites and fishermen, fish processing and export companies, fish traders and artisanal processors) were affected. A sample of each of these units was picked for the purposes of this study. A total of seven landing sites from 4 representative districts were sampled from each of the major water bodies comprising of information from fishermen and other fish dependent communities, artisanal fish processors and small scale fish business men and business women. On another scale, 6 out of 15 operating fish processing firms were visited.

Based on the above selection, different groups or categories of primary stakeholders were selected for interview and participatory data collection exercises was used to ensure that all the major sub-groups were considered. In particular, given the relevancy of the study to poverty, specific marginal operators such as women were included amongst the categories for information sources. Some of the interviews and discussions took place on an individual level while others were part of participatory group exercises capturing the interest of the all categories in the fish production and supply chain with an exception of exporters who are not normally found at this level.

¹ This section is largely guided by the methodology paper produced by NRI for all the case studies of this project.

For purposes of probing and validation of the information, several interviews and discussions were made with different individuals and groups in each category. The exact number of people and groups covered depended largely on the local circumstances and was decided by the study teams as found appropriate.

2.1.2 Mapping of Fish Exports Chain.

In mapping fish export chains, the objective was to develop an understanding of the export commodity chain and the key operators involved. The exercise was done in different fish operating areas such as fish landing sites, selected major fish markets and some of the fish processing establishments. The key information needed here was *first* to identify how many different fish marketing channels exist within the fish trade and *secondly*, to identify players in the commodity chain at fish landing site level, fish market level and at fish processing and export level. The type of information generated from this exercise was an explicit map of the fish commodity chain and a matrix containing summary information for operators. The method was also used to qualify number of people involved in the sector, their social characteristics and the nature and type of fishing gear plus other types of technology being used.

2.1.3 Wealth Ranking

This approach was used to generate information for use in selecting participants across different wealth categories that exist amongst groups of operators in the commodity chain (e.g. traders, processors). The approach was used to capture the fish operator's (e.g. fisherfolk, traders, processors) category, estimated number of people involved in each wealth group, their gender and their socio-economic background. In capturing the effects of the fish ban, the wealth ranking approach helped to categorise the changes (in terms of wealth and poverty) that have taken place during and after the fish export ban.

2.1.4 Trend Lines

Trend lines give a good indication of changes and the dynamics of different settings over a long period of time. This approach also targeted groups or individuals belonging to different wealth categories of operators in the commodity chain to capture (in their view) the dynamics and changes within the fisheries sector over a long period of time.

2.1.5 Interviews with Different Operators in the Sector.

This method was used to obtain a better understanding of livelihood status of different operators in the chain and in particular the link between trade liberalisation and the fish ban. This link would help in understanding the impact of trade liberalisation on the livelihoods of different operators in fish production, marketing and processing chain. This approach helped in packaging information on the extent to which different categories in fish marketing chain to understand that specific changes are as a result of fish trade liberalisation. It helped in understanding general impact and vulnerability issues.

3. BACKGROUND TO THE ECONOMY AND UGANDA'S FISHERIES SECTOR

3.1 The Ugandan Economy.

Uganda is a landlocked country with a total surface area of 241,038 km² and with a population of about 24.7 million² growing at a rate of about 3.4% per annum (UBOS, 2003). This population growth is, on world average, considered high and the implication is that there is too much pressure on the natural resources of the country. Uganda has achieved remarkable economic growth during the last decade and a half with GDP at 7.7% in the 1998/99 financial year. During the past decade, the country has embarked on policies of economic liberalization, privatization, fiscal discipline and broad-based public sector reform programs, as reported by the Ministry of Finance Planning and Economic Development (MFPED, 2000). This is probably the reason for the favorable growth trends.

Uganda's economy suffered severe economic decline during the 1970s and in the early 1980s to the extent that by 1985, per capita GDP had fallen by 43% (compared to the 1970s) and inflation was almost 300% per annum. After a period of economic collapse and social anarchy in the years 1970-85, Uganda started implementing some of the economic reform programs proposed by the International Monetary Fund (IMF) and the World Bank (MFPED, 2000). The two Bretton Wood institutions have since described Uganda as one of a few success countries in Africa. The reform programs produced impressive results, including most notably the achievement of positive, sustained GDP growth of almost 6.6% over the past decade (MFPED, 2001). Real GNP per capita was US\$338 in 2002 compared to an average of US\$160 during the 70s and early 80s.

3.1.1 The Structure of the Economy.

The Ugandan economy is characterised by a number of production sectors, the most important of which are: Agriculture³; Mining and Quarrying; Manufacturing; Energy sector (electricity & water); Commerce⁴; Transport and Communication; Construction and Community Service.

Although the agricultural sector (where fish is considered part of) registered a lower growth rate of 2.2% in 2002/03 as compared to 4.8% in 2001/02, it remains the largest contributor to overall GDP. The growth rate is attributed to a number of factors including a slight recovery in coffee prices notwithstanding the dry season in the second half of 2002, which affected the crop and food sub-sector and overall performance. The livestock, fisheries and forestry registered constant growth rates (MFPED, 2003 and UBOS, 2003).

² Following the 2002 population and housing census.

³ The agricultural sector is composed of four main sub sectors. They include crops, fisheries, forestry and livestock. In the crop sub sector, the traditional crops that contribute to overall Gross National Product (GNP) include coffee, sugar, tobacco, tea and cotton. Other crops, such as maize, fruits, millet, flowers etc. are categorised as non-traditional crops

⁴ Commerce involves wholesale and retail trade plus hotels and restaurants.

Industrial production includes beer manufacturing, spirits, saw milling, iron and still production, food processing, soap and food manufacturing, tea processing, meat, vegetable, and oil production among others.

The construction and mining sectors are also among the sectors that contribute largely to the Ugandans economy. Construction is mainly on public roads and private buildings. In the process and as a linkage, the construction sector influences the mining sector as the former requires inputs like cement, sand and clay thereby expanding the mining and quarrying sector. There is also the service sector that includes road, rail and air transport, postal services, telecommunication, commerce and community services. The energy sector is also among the leading sectors in the economy especially the generation of hydro electric power which has lead to Uganda exporting some percentage of electricity generated to neighboring countries of Kenya, Tanzania and Rwanda. Table 1 shows GDP numbers and growth rates of major sectors of the economy for the financial years 1996/97 - 2000/2001.

Table 1: GDP at Factor Cost at Constant (1997/98) Prices: (Million Shillings and Percentage Contribution) for 1998/99-2002/03:

Period	1998/99	1999/00	2000/01	2001/02	2002/03
Agriculture	3,064,212 41.4%	3,235,343 41.3%	3,383,338 40.9%	3546702 40.4%	3624163 39.4%
Mining and Quarrying	51,134 0.7%	54,377 0.7%	59,895 0.7%	6470 0.8%	74110 0.8%
Manufacturing	715,781 9.7%	742,192 9.5%	807,610 9.8%	858110 9.8%	914615 9.9%
Electricity/water	102,540 1.4%	110,690 1.4%	119,859 1.4%	126316 1.4%	131206 1.4%
Construction	522,975 7.1%	559,508 7.1%	570,338 6.9%	612750 7.0%	668965 7.3%
Commerce	956,774 12.9%	978,888 12.5%	1041290 12.6%	1116412 12.7%	1188040 12.9%
Transport and communication	346,618 4.7%	376,336 4.8%	412,899 5.0%	454174 5.2%	498262 5.4%
Community services	1,081,055 14.6%	1,183,612 15.1%	1,254,075 15.2%	1328754 15.1%	1396984 15.2%
Owner occupied dwellings	552,823 7.48%	588,005 7.51%	625,023 7.55%	662956 7.56%	703468 7.65%
Total Gross Domestic Product	7,393,912 100.0%	7,828,951 100.0%	8,274,327 100.0%	8,772,644 100.0%	9,199,813 100.0%

Source: Uganda Bureau of Statistics (UBOS, 2003)

Ministry of Finance officials have projected the economy to grow by an average of 6% during the financial year 2004/2005. This indicates that the growth rate is expected to be higher than that recorded in the previous financial year. This is attributed to the non-coffee export sectors such as tourism, fishing, telecommunication and electricity that have displayed strong growth.

3.1.2 Some Basic Human Development Indices.

Uganda is in 147th position, of 174 countries ranked, in the United Nations Human Development Index (HDI) in the world (UNDP, 2003)⁵. Total labour force participation in 1999 was 48.5% of the total population. The urban population was 12.0% of the total population compared to an average of 37.1% for Africa and 75.8% in developed countries. In 2002 alone, approximately 38.7% of the total population lived below US\$1 per day.

Total life expectancy at birth was 44.7 years in 2001 while infant mortality rate (per 1000) was 96.7. Out of the total GDP, Uganda spent an average of 1.6% annually on health and other related services from 1993 to 1998 compared to an average of 2% for Africa and 6.3% for the developed countries. The total GDP per capita was US\$1,490⁶.

3.1.3 Overall Balance of Payments Position

For the financial year 2000/01, the balance of payments position was projected to be in surplus by US\$ 15 million, following a deficit of US\$ 93 million in the previous financial year. MFPED (2003) reported that the trade balance however, worsened from a deficit of US\$ 607 million in 2001/02 to a projected deficit of US\$ 633 million in 2002/03. This was mainly due to expenditure on imports, which increased to US\$ 1,179.6 million in 2002/03 compared to US\$ 1,083 million in 2001/02. The current account recorded a deficit of US\$ 405.3 million in 2001/02 compared to the projected deficit of US\$ 432.9 million in 2001/02. Considering all other items of the balance of payment performance, the overall balance for financial year 2002/03 was projected to a surplus of US\$ 0.1 million as compared to a surplus of US\$ 16.9 million that was registered in 2001/02 (UBOS 2003).

3.1.4 Debt Position and Servicing

As of June 2001, the ministry of finance estimated the Uganda's debt at US\$3.6 billion while debt service due was US\$145.5 million in 2000/01 (MFPED, 2001). In 1991, Uganda's request for debt relief from the Paris Club of Creditors was granted. The relief was however insufficient for Uganda to sustain its debt position. As a result, the World Bank provided funds for Uganda to buy back all its commercial credits at a discount rate of 88% in 1993. The International Monetary Fund (IMF) and the World Bank also implement the Highly Indebted Poor Countries (HIPC) initiative to enable all HIPC countries to access sufficient debt relief to reduce their debt burden to sustainable levels. Uganda was the first country to benefit from the HIPC debt relief initiative in 1998 when it was granted debt relief of US\$347 million in Net Present Value (NPV) terms (equivalent to US\$650 million in nominal terms to be spread over a period of thirty years).

The economic performance described above is attributed to a combination of Uganda's economic policies and programs that emphasize growth and efficiency. Poverty reduction

⁵ See also http://www.undp.org/hdr2003/indicators/cty_f_UGA.html 4/14/2004

⁶ (ppp) is purchasing power parity

and environmental protection are the overriding principles for Uganda's economic growth. The broader policy frameworks that is governing the country's planning and budgeting is Uganda's Poverty Reduction Strategy Paper (PRSP), which is the Poverty Eradication Action Plan (PEAP). The PEAP provides an overarching framework for guiding public actions in eradicating poverty in Uganda. Currently, the PEAP is under revision to ensure that that the current planning framework can respond to emerging evidence on poverty. The revision is also to align current planning and spending decisions with the new international commitments to poverty reduction such as the Millennium Development Goals (MDGs) and New Partnership for African Development (NEPAD).

The policy initiatives have contributed towards Uganda's development targets of increasing household income and real GDP per capita. It is also important to note that the reform programs of liberalisation, privatisation, decentralisation and civil service reform have created an enabling environment and institutional space for delivering management services.

3.2 The Fisheries Sector and its Characteristics

3.2.1 General Characteristics in the Fisheries Sector

The fisheries sector is among the sectors in the economy that have benefited as a result of economic reform programs in the recent past. The sector is comprised of both capture and aquaculture fisheries with the former contributing most of the total production. Capture fisheries is basically artisanal⁷ while aquaculture is not yet fully commercialized but primarily contributes to household food in some areas. Current efforts are working towards increasing the capacity of private sector to engage in large-scale commercial fish farming to increase fish production. None the less, there is an emergence of small scale private and commercial fish farmers.

Total annual fish production is currently lower than the Maximum Sustainable Yield (MSY) estimated at 330,000 metric tons (MAAIF, 1999). Available data on fish production indicate that in 1999, fish production reached as high as 230,000 metric tonnes, compared to 276,000 metric tons the highest total catch ever-realised in 1993 in Ugandan waters (see figure 1). What may not be clear is whether the current catch numbers are yet to reach MSY (of 330,000 tons) or if it has surpassed the MSY since catch trends indicate declining stocks⁸.

The largest and most economically significant water body in Uganda is Lake Victoria with a surface area of 68,000 km² is shared with Tanzania (49%) and Kenya (6%) leaving Uganda with the remaining 45%. Other large water bodies include, Lake Albert (5,270 km²), Lake Kyoga (2,700 km²), Lake Edward (2,300 km²), and Lake George (250 km²) along with the River Nile. There is also small scale commercial fishing in minor water bodies, wetlands and rivers.

⁷ The term artisanal in fisheries may have different connotations in different socio-economic contexts. The definition in this context therefore is the one adopted by FAO (1995)

⁸ It is possible that the catches are below MSY because of depressed stocks. The trends in catch do not seem to indicate that an increased effort can increase harvests.

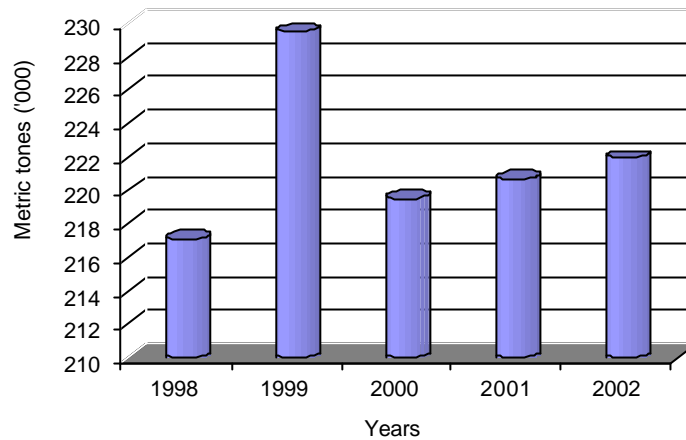


Figure 1: Fish Production 1998 – 2000 (DFR), 2003

Recent statistics indicate that artisanal fish production reached approximately 222,000 metric tones in 2002 with Lakes Victoria and Kyoga accounting for 80% of the catches. The Nile perch (*Lates niloticus*) has dominated Ugandan fisheries over the past two decades accounting for 60% of the catches by volume (MAAIF, 2003). Other major species harvested include; sardine or mukene (*Rastrineobola argentea*) at 20%; the Nile Tilapia (*Oreochromis niloticus*) at 10%; and other species (of the genera *Bagrus*, *Clarias*, *Protopterus*, *Barbus*, *Synodontis*, *Momyrus*, *Alestes* and *Labeo*) accounting for the remaining 10% (MAAIF, 2001).

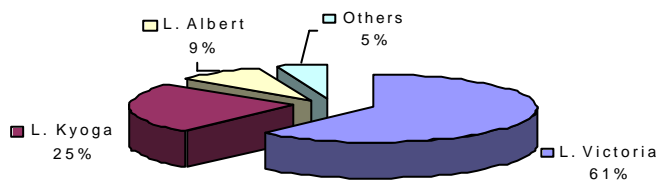


Figure 2: Fish Catch by Water Body - 2002

Capture fisheries in Uganda is characterized by plank canoes and to a lesser extent, fiberglass boats. Some dugout canoes are also still being used. The plank canoes are generally 4 to 12 m in length and dugout canoes average 3.5 m.

Current estimates indicate that the total number of vessels in all water bodies is about 17,000 and about 20% of these are motorized. Artisanal fishermen utilize various gears including gillnets, seines and hook and line. In a number of localities, traditional methods including baskets, traps and mosquito nets continue to be used.

3.2.2 Fisheries and Economic Growth

The fisheries sector in Uganda is one of the main economic sectors contributing immensely to general country's economic growth. The major areas of fisheries contribution are in exports, livelihood improvement, employment household income and food security. Fish trade (both domestic and export) is one of the main drivers of economic growth in Uganda to-date. Currently, fish is competing with coffee for number one position in foreign exchange earnings. Nevertheless, fish is the largest foreign exchange earner in the non-traditional export commodities for Uganda.

These foreign exchange earnings are very important to the overall growth of the economy. In general there is a close relationship between export earnings and a country's economic growth. Export earnings from fisheries have increased tremendously over the past decade from US\$ 1.4 million in 1990 to almost US\$40 million in 1998 and to almost US\$ 90 million in 2002. Table 2 shows exports of fish and fish products and as a proportion to total exports from Uganda.

Table 2: Exports of Fish and Fish Products from Uganda 1990-2002

Year	Fish Exports vol. (mt)	Fish Exports val. US\$'000	All Exports val. US\$'000	Fish Export share (%value)
1990	1,664	1,386	177,658	0.78
1991	4,687	5,313	184,263	2.88
1992	4,851	6,498	146,767	4.43
1993	6,138	8,943	201,231	4.44
1994	6,564	10,403	459,939	2.26
1995	16,046	17,541	553,938	3.17
1996	13,100	45,030	703,993	6.40
1997	11,819	27,864	594,628	4.69
1998	14,688	39,879	536,747	7.43
1999	9,628	24,837	478,750	5.19
2000	14,894	30,818	401,645	7.67
2001	28,119	78,150	451,765	17.30
2002	27,370	87,447	475,530	18.39

Source: Original Data compiled from Statistical Abstract (UBOS, 2003) and DFR

As demonstrated by the table, the share of fish exports to overall exports has risen from 0.8% in 1990 to 18.4% in 2002.

In mapping out the contribution of export earnings to economic growth, it is important to understand the key variables of growth. These include the level of government savings, level of government investment, the amount of central bank reserves, GDP percapita growth rates and levels of exchange rates. The fish export earnings should, therefore, be seen in the light of influencing these variables.

Government has emphasized that, through PEAP, boosting economic growth will be a major challenge to drive income poverty down (Draft PEAP, 2004). Kassami (2003) notes that achieving this, GDP growth rate must be restored to a minimum of 7% per annum. This growth requires a stable and predictable macroeconomic environment. The question

here then is how will fisheries be used influence the key drivers of growth?

In attempt to link fish exports with the growth of the economy, Keizire (2003) explains that fish export earnings contribute to general supply of foreign exchange in the economy. The supply of foreign exchange influences the foreign exchange price, which

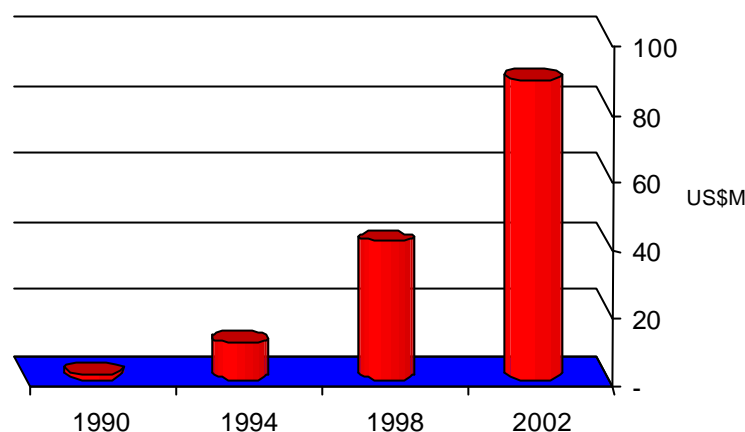


Figure 3: The Value of Uganda's Fish Exports 1990 – 2002

is the exchange rate. When the exchange rate pegged to the local currency is stable, other variables that influence the economy also stabilize. These other variables include fiscal debt position and the interest rates, which affect domestic borrowing that in turn affects private sector investment. In addition, fish export earnings contribute to reducing the trade and fiscal deficit. A lower fiscal deficit allows more private sector borrowing and also allows real exchange rate to be more depreciated, which improves the competitiveness of exports (Kassami, 2003). Fish exports are therefore important in themselves but have an added benefit of being pro-poor as export prices are translated into higher prices of fish for fishermen and those involved in fish trade as long as right policies are in place. This is more so in the Nile perch fish trade.

The increase in fish exports is also closely linked to increased household income and therefore poverty reduction and if well managed, it will contribute to driving income poverty down. Since the advent of increased demand for raw material fish for exports, prices of Nile perch at a landing site have risen from an average of Ugshs 800 (US\$0.4) per kg in 1998 to the average of Ugshs 2,200 (US\$1.2) per kg in 2002. This increase in prices is translated to increase in average income of the boat owners (who are a wealthier group amongst fisher folk) and also fishermen. The household (HH) incomes are increased and HH expenditure on other essential services such as education, health services access to cleaner water are also enhanced.

Despite these seemingly good prices, livelihoods status among fishing communities have not significantly improved. Poverty assessment studies indicate that fishing communities remain poor. This is particularly in communities where Nile perch fishery is not common.

Such communities are largely found in remote areas/landing sites of Lakes Victoria and Kyoga plus those on other lakes like Albert, George and Edward where Nile perch fishery is not prominent or not there at all. The Uganda Participatory Poverty Assessment Process (UPPAP) however, notes that some fishing HH and or communities still spend most of the money on non-productive activities such as drinking and sex as they are sure of return to the lake the next day.

3.2.2 Fisheries and Employment in Uganda

Recent estimates show that nearly 300,000 people, including the majority of poor men and women, are directly involved in fishing, fish processing and trading. In relation to income, more than 1.2 million people are directly dependent on the fisheries sector as the main source of household income, Keizire (2003).

3.2.3 Fisheries and Food Security in Uganda

Fisheries contribute immensely to food security in the country. Recent estimates on fish production average 220,000 metric tones. Out of this total production 23% of the fish landed is exported and includes what is smuggled into Kenya and other neighbouring countries and the rest 77% (170,000 metric tones) is consumed locally. Research shows that on average, 10 kgs of fish is consumed per person per year. This means that fish feeds a total of 17 million people (71% of total population) annually. In terms of food security therefore, it is abundantly clear that fish production constitutes one of the major food security commodities in Uganda.

3.3 Institutional Framework for the Fisheries Sector

Institutionally, the management and research of fisheries is under the mandate of the Ministry of Agriculture, Animal Industry and Fisheries. While the fisheries management function is under the Department of Fisheries Resources (DFR), the research arm of MAAIF undertakes the research function. The Ministry of Agriculture, Animal Industry and Fisheries is mandated to promote, guide and support the sector, but it also retains responsibility for setting and enforcing the standards and regulations for practices pertaining to fisheries. The Centre is primarily mandated to promote, support and guide (and regulate either by devolution or by direct action according to circumstances). The hands-on work of ensuring controlled access to a sustainable resource base, and for developing the socio-economic potential of the sector lies mainly with the Local Governments (LGs), the communities (Local Governments Act, 1997) and the private sector. DFR is further responsible for enforcing fisheries regulation, licensing, fishing boats as well as maintaining a national fish inspection and a quality control system. In the context of fish exports, DFR is the Uganda's Competent Authority for ensuring and ascertaining quality and safety of fish both for domestic consumption and for export.

Fisheries Resources Research Institute: Fisheries research in Uganda is under the mandate of Fisheries Resources Research Institute (FIRRI) and Makerere University. FIRRI has mainly been concentrating on capture fisheries research while its affiliate

Kajjansi Aquaculture Research Station concentrates in fish culture research or aquaculture research. In some cases students at the Fisheries Training Institute (FTI) and Makerere University have been undertaking research during their educational courses.

The Uganda Fish Processors and Exporters Association (UFPEA): In Uganda, the private sector is considered an engine for growth. Private sector participation in fisheries is key as government withdrew from doing business in the fisheries industry by divesting government owned fishing and fish processing enterprises. There is a strong private sector involvement in fish processing and export, under their umbrella institution called UFPEA which is comprised of mainly of fish processing and export firms. There are also artisanal or small scale fish processors consisting mainly of women who process fish by either sun drying, salting, and smoking of fish both for export and for local consumption.

Another strong private sector group is involved in fish transport business who is considered to be the wealthier group in fish production, is transporters or middlemen who buy from landing sites as agents and sell to fish processing firms. In terms of margins, this group takes the bigger share of marginal benefits compared to fishermen and processors⁹.

The other collaborating Quality Assurance Institutions include; the Uganda National Bureau of Standards (UNBS), the Food Science and Technology Research Institute (FOSRI) and the Ministry of Health.

3.4 Some of Issues within the Fisheries Sector in Uganda

Some of the issues within the fisheries industry have been widely documented in different pieces of literature. In the recent PEAP revision exercise, Keizire (2003) documented the following as the key issues facing the fisheries sector.

Illegal, Unrecorded and Unreported Fishing: Widespread use of illegal fishing methods is likely to lead to over-fishing and possible depletion of fish stocks. Almost all the water bodies are faced with use of illegal fishing methods that pose a threat to depletion or potential collapse of fish stocks. Coupled with this, there is rampant fish smuggling to neighboring countries that goes un-recorded, un-taxed and therefore leading to Uganda losing out in terms of taxes and other benefits and therefore efforts put in conserving such resources are lost as well. The unrecorded exports and smuggling to neighboring countries is estimated at over US\$ 80 million per year. Yaron and Moyini (2003) have emphasized the threats posed by over-fishing. A strong Monitoring Control and Surveillance together with building a strong community based fisheries management base, the Beach Management Units (BMUs) are some of the areas government is emphasizing in its priority lists for action.

Inadequate and Ineffective Fisheries Management Institutions: One of the key problems in the fisheries sector has been lack of responsive fisheries management institutions. Central fisheries management functions have been of traditional in nature and civil service-based.

⁹ See Banks (2001)

The structures can not provide an adequate response to the unique nature of fisheries irregularities. In the new policy, the Department of Fisheries Resources is to be transformed into a National Fisheries Authority. The Authority will have the flexibility of responding to emerging and unique requirements of fisheries management. The Authority will also act as a Competent Authority, for issues of fish safety and quality assurance as required by the EU. On the other hand, fisheries communities did not have powers over ownership of the resource. The sector under its newly formed Beach Management Units (BMUs) has empowered communities to own and manage the resource while the central government provides an oversight function.

The Issue of Maintaining Quality and Safety of Fish for Export: Maintaining the international standards in trade of fish and fishery products is expensive. Fish marketing for both domestic and export market requires guaranteed quality and safety standards especially if the exports markets are to be sustained. The current fish export trends largely hinges on maintaining the quality and safety of fish and other fishery products as required by international trade rules and regulations. While the private fish processing and export firms are meeting a bigger proportion of costs in complying with international trade rules, the costs of monitoring and administering all the functions of the Competent Authority is also expensive. This remains a challenge for a developing country like Uganda.

A Less Developed Fish Farming Sector: Innovative options for increasing fish production to support capture fisheries is an areas that government has shifted attention to. Aquaculture presents a potential boost for increased fish production, increasing household income, livelihoods and food security of many people in Uganda. Related to fish farming, government needs to strongly support the efforts of culturing Nile perch and probably other species through cage-culture. This is a new innovation and would require support both from stakeholders and government. Government is also to support urban fish farming and integrated aquaculture. Emphasis will also be required on production of feeds for aquaculture.

Issues of Pollution: Currently, a number of factories/industries, flower farms and other potential pollutants are located in the catchment of Uganda's' waters. While pollution is hazardous to the environment in general, it particularly threatens the safety and quality of fish in fishing waters. These polluters discharge effluents that have certain maximum levels of contaminants beyond which the safety and quality of fish is threatened. The DFR currently monitors the levels of pesticide residues and trace elements in water, sediments and fish from Lake Victoria and other waters. While a certain level of compliance has been noted, measures to strengthen this monitoring, and especially in a number of effluent discharge points, needs to be emphasized.

Degradation of Fish Breeding Sites: Fish breed from many areas but especially in water catchment areas and wetlands. In most cases, human activities have degraded these fish breeding sites and this affects the reproduction of fish populations. In collaboration with the Wetlands Inspection Division, the fisheries sector is supported to protection of fish breeding areas.

3.5 Fiscal Reforms and Trade in Fisheries

The issue of fiscal reforms in fisheries has emerged of recent as instruments for extracting wealth that exists within fisheries for sustainable management and trade. In this section, an attempt is made to link the generation of wealth from the fishing industry for sustainable management and fish trade. The argument put forward is that sustainable fisheries trade is not possible if there is no sustainable fisheries management and the wealth within fisheries should provide finances for this level of management. The key issue is how and at what level can wealth be generated or extracted from rent-rich fisheries.

For the case of Uganda, fiscal reform processes have of recent dominated debate in terms of fisheries resource sustainability for both the maintenance of export trade as well as increasing the livelihoods of the poor. The focus on fisheries has been put on sustainable fisheries management to ensure that there is guaranteed fish for domestic and international markets. The argument is that the recent surge of fish exports from Uganda will only be maintained if the fisheries resources are sustainably managed. The scope for a liberal trade regime will widen if efficient fisheries management systems are in place.

In the recent past policy makers in Uganda had not appreciated the link between sustainable fisheries management and the benefits from fish trade. Concentration has been put on ensuring that fish trade is not interrupted without knowing that the basis for trade is a well mismanaged fishery. Like with the rest of the world, Uganda fishermen are driven by the fact that fisheries rents exist and this increases the need by everybody wanting to access the fishery leading to extra fishing pressure. In a successful fiscal regime, the argument is that if properly extracted, the resource rents¹⁰ can be used to generate wealth and revenue for a number of activities including fisheries management itself. The challenge remains in policy makers to understand that the existing policy instruments are not merely taxes on fish products but are used as fisheries management tools as well as for wealth generation from fisheries. The question therefore is, does the underlying policy framework in Uganda provide for the nature and type of fiscal instruments to be used in extracting part or all of these rents for sustainable fisheries management and trade?

3.6 Fiscal Instruments within the Fisheries Policy

The Fish Act (1964) is the principal legislation for managing fisheries in Uganda. It directs the control of fishing, the conservation of fish, the purchase, sale, marketing and processing of fish. The Act is to be replaced by a new Fish Bill which is under development as a result of the newly developed National Fisheries Policy (2004). The National Fisheries Policy provides a framework for resource sustainability though rent extraction and their (rents) re-investment. While the tools and instruments for rent

¹⁰ An economic rent is the maximum economic surplus that can be extracted from the fishery while the fishing industry continues to operate efficiently. One rationale for extracting some or all of the potential rents from the fishery is based on the premise that the fish stocks represent a national resource and that society as a whole should receive a share of the benefits from their exploitation. Studies (e.g. Arnason, 1990) indicate that in well-managed fisheries economic rents typically range from 10-60% of the gross value of landings. In Uganda, the annual gross value of landings is at least US\$ 220 million. Hence, the potential rents should be at least US\$20 million and quite possibly as high as or higher than US\$100 million annually

extraction may be seen as cohesive tax instruments, they are nevertheless tools for wealth generation from a rent-rich fishery. Recent studies including Keizire (2001) show that a rent-rich fishery can finance costs of its management and will enhance trade.

One key area of trade liberalization relates to control of access to fisheries to increase the amount of fish caught and traded. However, a number of options are used both as fisheries management tools as well as tools for generating revenue for fisheries management. An example where the extraction of revenue from the fisheries also acts as fisheries management tool for access control is fishermen and vessel licensing. This area of legislative development relates to increasing taxation of fisheries vessels and fishing permits. Although the objective of the vessel licensing and issuing of permits is access control, the regulation is used for generating local revenues for fisheries management in local governments. All these management tools have been interpreted and used as fiscal processes for rent extraction.

Fiscal instruments within the fisheries sector in Uganda cover a range of areas, including instruments used as access to capture fisheries (such as vessel permits), instruments used under fish processing, marketing, monitoring and management costs. Fiscal arrangements relate to mechanisms that are "internal" within the fisheries sector such as the extraction of economic rent from fisheries as well as those that are "external", lying outside the sector but which have a significant influence on efficiencies within the sector.

4. THE FISH EXPORT BAN BY EU

4.1 The History of Fish Bans in Uganda¹¹.

In the last decade or so, fish processing and export in Uganda has boosted the overall fisheries sector. The history of fish processing and marketing can be traced way back in early 1950's when local fish processors would sun-dry and smoke fish for local consumption. Although a number of fish species were targeted, Nile perch and Nile tilapia were the main species processed and marketed. By 1980's local fish processing and export started picking up targeting neighbouring markets of Democratic Republic of Congo (DRC) and Kenya. This was mainly hot smoked sun-dried and salted Nile perch (Nsibe-Bulega *et al.* 2002).

Industrial processing and marketing of Nile perch had started way back in 1980's in Kenya and by 1991, fish processing plants in Kenya were sending insulated trucks with ice and refrigerated trucks to fish landing sites in Uganda which would be taken to Kenya for processing and export. In 1991, Nsibe-Bulega *et al.* (2002) reports that Uganda government announced a ban of exports of unprocessed whole fish to Kenya aimed at curbing the sale of unprocessed fish to foreign markets. This marked the beginning of the era of fish export bans in Uganda. The Ugandan pronouncements on the ban prompted fish processing firms in Kenya to move and start up industrial fish processing firms in Uganda. Prior to that period, some small units comprising of individuals had started filleting Nile perch and "hand-carrying" it to some markets in Europe. Since then, Nile Perch export picked up targeting mainly European Union markets. On a smaller scale, local processing¹² of Nile perch and other species continued, even to-date, targeting markets in the neighbouring countries of Kenya, DRC, Rwanda and Sudan.

In the 1990s industrial fish processing started producing frozen Nile perch fillets whose markets were mainly the Far East countries, South East Asia especially Japan and Australia. By 1992, some processing firms had started processing some amounts of chilled Nile perch fillets for the EU markets especially Italy and Spain. By 1996, almost all the operating processing plants had installed chilled fish processing facilities targeting the EU markets. In 1996, the chilled fish products accounted for almost 80% of total fish exports from Uganda excluding the unrecorded trade to the neighbouring countries (Nsime-Bulega *et al.*, 2002). The market for chilled fish have since increased to include the United States of America (USA) and the United Arab Emirates with the EU markets taking almost over 95% of the market share (Nsime-Bulega *et al.* 2002). The other main markets for frozen fish include China, Malaysia, Japan, Australia, Israel, Singapore EU and USA.

From 1996 to 2000, the European Union imposed three export bans of fish from Uganda for a number of reasons.

¹¹ The story of the fish exports and the related bans is as told by some individuals who were involved in fish processing and export as well as official government records. A number of studies have also come up to supplement these stories.

¹² Local processing involves sun drying, smoking and salting.

In 1997, Spain and Italy rejected importation of fish originating from Uganda because they detected salmonella species in the imported products. This ban reduced on the quantity of fish that was being exported but did not seriously affect the overall quantity as most of the EU continued to accept fish imports from Uganda, Moreover, most of the plants were at this time undergoing reconstruction.

In December 1997, when the EU Veterinary Inspection Mission was visiting Uganda, an outbreak of cholera was reported at some landing sites or beaches around Lake Victoria. The inspectors communicated this information to the EU and a partial ban (stopping the export of fresh-chilled fish products from Uganda) was imposed. This ban was very significant in terms of quantities and values of fish exported because 95% of the fish exported to EU is in fresh form. This, therefore, represented a big percentage of the total fish exports.

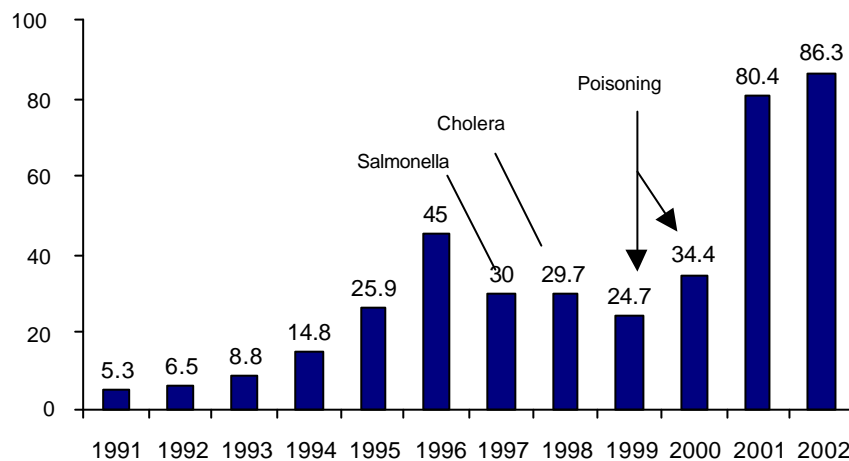


Figure 4: Development of the Nile Export of Nile perch from Uganda

Early in 1998, suspected incidences of fish poisoning were reported in Uganda on Lake Victoria. This matter was treated with serious concern and the Uganda government authorities imposed a temporary ban on fish exports and the decision was communicated to the EU. Despite efforts made by Uganda to put in place a monitoring system to ensure that no poisoned fish ended up in the market, the European Union decided to impose a ban on imports of fish originating from Lake Victoria. The European Union invoked Council Decision 99/253/EC and imposed the ban with effect from April 1999. The decision affected not only Uganda but also Kenya and Tanzania. Fish processors report that this ban came at a time when the fish processing plants were beginning to recover from the previous partial ban imposed by the EU in 1997 due to cholera outbreak. The processing firms were also just beginning to pay back the bank loans that they had taken in 1997 to enable them restructure the layout of their plants so as to comply with the EU Directive 91/493/EEC.

At the time the ban was imposed, about 250-300 metric tones of fish valued at about US\$1.2 million were being exported to the EU market weekly. After the ban, the export quantities reduced to 50-100 metric tones per week valued at US\$100,000-250,000. Prices of fish at the beaches also declined from Ughs1,000-1,500 per kg to Ughs500-600 per kg (approximately US\$70 cents-1 per kg to US\$30-40 cents per kg respectively). In addition, most of the factories reduced their workforce to less than half of the original number. Although a few alternative markets were found especially in the Far East, the prices offered were much lower than those offered in the EU markets. The impact of the fish export ban is clearly demonstrated in figure 4 by the decline in exports between 1997 and 2000.

4.2 The Fish Ban and the Socio-economic Losses

Several studies and reports including Keizire (2001), MoFPED (2001), UNIDO (2003)¹³ and DFR (2003) report that the fish export ban resulted into a loss of over US\$ 30 million. UNIDO (2003) documents a series of losses categorised in form of job losses and also loss of foreign exchange. UNIDO (2003) estimated that out of over 100,000 people who were directly employed in the fisheries sector, 32,000 people lost their jobs as a result of the ban while others earned less than one third (1/3) of their average income. It is also estimated that over 300,000 people from families directly depending on fishing as a household activity were affected. It is estimated that the ban resulted into a loss of US\$ 36.9 million. UNIDO further estimated the loss to the fishermen community in form of reduced fish prices and less fishing activity to a tune of US\$ 4.25 million.

During the whole period of the ban (1997-200-), there were 11 operating fish factories in Uganda. The fish ban resulted into the closure of 3 of the 11 factories while the remaining ones had to operate at less than 20% capacity. This also resulted into factories laying off 60% to 70% of their labour force. Other auxiliary industries like the packing, the fishnet manufactures the transport industry, the fuel industry and Uganda's economy in general were directly affected and all the people involved also suffered the direct consequences of the EU fish export ban.

Table 3: Estimates of the Economic Losses during the ban 1998 - 2000

Areas of Loss	Estimated Loss
Export Earnings	US\$ 36,900,000
Income of fishermen Community (US\$ 850,000 per months) due to reduced prices and fishing activities	US\$ 4,250,000
Factories that closed down	3 out of 11
Factories that reduced their labour force by 2/3	8 out of 11
Jobs lost in fish factories (1/3)	2,000
Jobs lost in fishing activities (1/3)	32,000
Persons that lost 2/3 of their income	68,000
Affected family members and relatives living on the same income.	300,000

Source: UNIDO (2003).

¹³ The UNIDO (2003) is a pdf text picked from <http://www.unido.org/userfiles/timminsk/LDC3uganda.pdf>

The era of the fish export ban was triggered by implementation of one or many of international fish trade laws. Although the EU Council Directive 91/493/EEC is largely the most quoted to have triggered the bans, other rules (probably indirectly) have a strong relevancy in influencing these bans.

In general, fish export ban affected the entire economy and even other sectors that depend or relate to it. It also reduced the competitive capacity of fish processing firms where by a lot of resources were injected to upgrade processing plants to international standards at a time when no or little receipts were being recorded from fish exports. Since the time, most fish factories have increased their capacity to respond to the demands of the Competent Authority as well as the demands of the importing nations. The next section looks at some of the international rules that were at play during these bans.

5. NATIONAL AND INTERNATIONAL FISH TRADE RULES.

This section brings into perspective the rules that were at play during the fish ban. The section highlights the genesis and intent of these trade rules and the extent to which they could influence the international seafood trade.

5.1. National Trade Law and Policy in Fisheries

5.1.1 The Fish Act (1964) and other Relevant Statutory Instruments.

In Uganda, the Fish Act Cap 228 of the laws of Uganda 1964 is the principal legislation governing the control, conservation, purchase, sale, marketing and processing of fish and matters connected therewith¹⁴. The Act however gives the Minister legal powers to draft subsidiary legislation for the better carrying out of the purposes of the act. This provision by the Minister was invoked, to develop a subsidiary legislation specific for fish safety and quality assurance following the concerns that led the EU slamming a ban on Uganda's fish exports. This Fish (Quality Assurance) Rules of 1998 sets out the procedures regarding fish inspectors, the fish sanitary certificates, the placing of the market, the approval of establishments and official landing sites and quality and self test¹⁵. This subsidiary legislation came into force on 11 September 1998. As noted by the European Union Inspection report,¹⁶ the Ugandan legislation provides for requirements that are equivalent to the relevant EU legislation.

5.1.2 The National Fisheries Policy (NFP)

In the past, Uganda did not have an explicit fisheries policy. Statements picked from other national documents such as budget speeches, framework papers and presidential pronouncements were used as policies to guide the management of the fisheries sector in Uganda. In 1997 a Fisheries Master Plan was developed and it started guiding policy issues in the sector. The Master Plan nonetheless did not form an explicit policy for the fisheries sector. The Fisheries Master Plan did, however, recommend that an explicit policy was needed for managing fisheries in Uganda.

Developments in the fisheries sector necessitated having a guide on the way fisheries should be managed. There were emerging concerns, for example, that the stocks of most important commercial fish species were declining. Uncontrolled access and increasing population was exerting more pressure onto the resource in the absence of effective management. Over the past decade or so, the sector was characterised by private sector investment in fish processing and exports. Some national policies such as the Poverty Eradication Action Plan (PEAP), Decentralisation, Civil Service Reform, Plan for Modernisation of Agriculture

¹⁴ Fish Act (1964)

¹⁵ Fish (Quality Assurance) Rules 1998.

¹⁶ This is contained in the European Commission report of a mission carried out in Uganda from 2nd to 6th October 2000 for assessing the conditions of fishery products and the verification of the measures of pesticides in fish. Report No. DG(SANCO)/1277/2000-MR

(PMA) and others also emerged. Although the Fisheries Act (1964) has had supplementary regulations to respond to the needs of specific emergence issues, it is also getting absolute. All these (and many others) necessitated for a need for a new and explicit fisheries policy. In March 2004, Uganda Cabinet approved the National Fisheries Policy (2004).

The policy recognises the importance of international regulations and rules outlined in the International Treaties, Conventions, Protocols and other obligations to which Uganda is a signatory. Further more, in its policy area number 10, on Post Harvest Fish Quality and Added Value, the National Fisheries Policy, explicitly states that... 'Measures will be promoted to ensure that the quality, wholesomeness, safety for human consumption and value of harvested fish and fishery products is secured and/or enhanced'. Policy area number 11 of the policy is on fish marketing and trade and government commits itself that "Measures will be taken to achieve sustainable increases in the value and volume of fish marketed for national consumption and export".

A number of policy objectives and strategies under these policy areas are outlined and clearly demonstrate government commitments in ensuring that all necessary quality and safety requirements are put in place for trade in national and international markets (NFP, 2004). As a rule, government has developed a draft Fisheries Bill¹⁷ to translate these trade policies into law. It is therefore understood that there is government commitment in ensuring that fish and fishery products must comply to the requirements of international trade rules.

5.2. The International Trade Rules¹⁸

On the international discourse, a number of trade rules, agreements, treaties and conventions have given a new dimension and direction to international fish or seafood trade world over and Uganda in particular. However, a number of developed countries have used strict rules such as those concerning health and safety regulations as a pretext while protecting their domestic producers. Some of the rules signed and ratified by countries have been considered as mere statements to shape the international trade but not enforceable and such rules can be interpreted to be trade barriers. In comparison though, rules signed at the WTO meetings, for example, are legally binding and hold to perpetuity but still countries do not enforce these rules. Let's look at some of these international rules that are at play.

5.2.1 The World Trade Organization (WTO)

The WTO was established 1st of January 1995, to provide a forum for discussing world trade rules and issues (WTO, 2003). Despite coming late of the WTO, Greenhalgh (2003) states that trade regulations had already started in 1947 under the General Agreement of Tariff and Trade (GATT).¹⁹ In the context of WTO, fish and fishery products is not covered by the

¹⁷ It remains a Bill until it has been enacted by Parliament and then it becomes a Fisheries Act.

¹⁸ Materials in this section are largely drawn from papers drafted by Peter Greenhalgh based on the work done by NRI for this study.

¹⁹ Article 20 of the General Agreement of Tariff and Trade (GATT) allows governments to Act on Trade in Order to protect human, animal or plant life or health provided they do not discriminate or use this as

agreement on Agriculture, but treated as an industrial product and therefore dealt within in the negotiations on market access for non-agricultural products. In my view, the two main important agreements related fish trade and quality, under the WTO, are the agreement on Sanitary and Phytosanitary Measures and the agreement on Technical Barriers to Trade (TBT).

The Agreement on Sanitary and Phytosanitary Measures (SPS). The SPS agreement was set up to avoid sanitary standards being used as barriers to trade by importing countries (WTO, 2003). The SPS agreement sets out the rules to ensure that a country's consumers are being supplied with food that is safe to eat - safe by the standards considered appropriate. As a result of SPS, new regulations that originate from countries or regional bodies (such as EU regulations) have since come up and have been adopted by many importing nations, except Japan (Greenhagh, 2003). Some of these regulations which include Hazard Analysis for Critical Control Point (HACCP) have been made compulsory by exporting countries in their fish processing industries (Delgado, 2003). For the case of developing countries like Uganda, such rules and regulations based on HACCP shifts the burden of responsibility to exporting processor or trader by making them fully responsible for quality of the product in terms of food safety. Such transferred burden render processing firms less competitive (Henson and Loarder, 2001) and hence it becomes a non-tariff barrier to trade. (Henson, *et al.* 2001) notes that SPS measures are potentially a significant barrier to seafood exports from developing countries to developed countries.

The Agreement on Technical Barriers to Trade (TBT): Under the TBT technical regulations and standards are used extensively for fish trade and have the potential to constitute obstacles to trade. The agreement is intended to ensure that requirements such as quality labelling and methods of analysis apply to international traded goods are not misleading to the consumer or discriminate in favour of domestic producers or goods of different origin. The agreement on TBT was intended to ensure that regulations, standards, testing and certification procedures do not create unnecessary obstacle to trade. The agreement recognises countries' rights to adopt the standards they consider appropriate but members are not prevented from taking measures necessary to ensure their standards are met (WTO, 2003). In order to prevent too much diversity, the agreement encourages countries to use international standards where they are appropriate, but it does not require them to change their levels of protection as a result²⁰.

Generalised System of Preference (GSP): Under GPS, a large number of fish and fish products are normally provided with favourable treatment by several importing nations. The GPS and other preferential trade arrangement cover over 20% of the total international fish trade (Greenhalgh, 2004). It is even stated that under GPS, Least Developed Countries (LDCs) have duty free status and can access GSP covered products including fish and fish products. It is also reported that the EU offers duty free access to African Caribbean and

disguised protectionism (Understanding the WTO 3rd Edition Previously Published as "Trading into the Future" August 2003).

²⁰ See also <http://www.wto.org/topics/goods/technical.html> > on barriers to trade

Pacific (ACP) countries under the Lome Convention²¹. In relation to this, Sunday Vision (2004)²² reports that Uganda is one of the 49th Least Developed Countries (LDC) that enjoy duty free access to the European markets for an unlimited period of time. It is further reported that this unlimited access has made the EU Uganda's largest single export destination accounting for 43% of total export revenues from 1997 to 2003. although Uganda is eligible, to benefit from these protocols, her quotas have not been utilised mainly due to insufficient supplies, lack of awareness among exporters, undeveloped links with EU-based importers, supply side constraints among others.

The Agreement on Import Licensing Procedures (ILP): This is also a WTO agreement where various types of import licenses and import quotas are included. They include licenses schemes for live, fresh, chilled and frozen fish, import control of certain species such as flying fish, import controls on fish products used as animal feed, and quantitative restrictions of smoked trout, cod, salmon, lobster and scallops.

The Committee on Regional Trade Agreements. The WTO provides for the formation of Regional Trade Agreements among the selected countries through Article XXIV of the General Agreement on Tariffs and Trade (GATT), subject to certain rules and conditions. It is noted in a number of literature that since the establishment of GATT in 1947, more than 100 regional trade agreements have been created (Greenhalgh, 2003).

5.2.2 *The FAO, other Conventions and Treaties.*

Within the framework of FAO, other conventions and treaties, a number of rules or regulatory statements on trade on fisheries exist. Provisions within these conventions, treaties are largely used as guidelines for fish trade and not enforceable provisions.

The FAO Code of Conduct for Responsible Fisheries: This code of conduct for responsible fisheries provides provisions, which are relevant to fish trade. Article 11 for example, is all about post-harvest and fish trade. The other relevant article is Article 6.7 which states "The harvesting, handling, processing and distribution of fish and fishery handling products should be carried out in a manner which will maintain the nutritional value, quality and safety of the product reduce waste and minimise negative impacts on the environment." Article 6.14 brings in the relevancy of the other international trade rules and agreements. The article states that "International trade in fish and fishery products should be conducted according to the principles, rights and obligations established in the World Trade Organisation (WTO) Agreement and other relevant international agreements. States should ensure that their policies, programmes and practices related to trade in fish and fishery products do not result into obstacles to this trade, environmental degradation or negative social, including nutritional, impacts" (FAO, 1995).

²¹ Under this Convention, in 2001, the EU formalised the Everything But Arms (EBA) regulation', granting the duty free and quota free access to impost of all products from 49 developing countries except arms and ammunitions.

²² Sunday Vision of June 27, 2004 is a local weekly Newspaper.

While all the articles mentioned in the Code of Conduct, are relevant, Article 11 on the responsible fish trade is more relevant in ensuring that countries promote fish trade in a manner and environment acceptable to hygienic, safety and quality requirements (FAO, 1995).

The *Convention on Biological Diversity (CBD)*: Related and relevant to the safe trade in fish and fish products under the CBD, is the Biosafety Protocol signed in Catagena on 29th January 2000. The Catagena Protocol on Biosafety was adopted by the Conference of Parties to the Convention on Biological Diversity as a supplementary agreement to the convention. It is under this protocol that the Convention addresses trade related aspects of fish and fish products. Although the protocol emphasises issues related risks posed by living modified organisms resulting from modern biotechnology, its provisions protect all kinds of fish safety and quality aspects of trade in fish and fish products. It is more relevant in the safety and risks associated with genetic manipulation of fish and fishery products.

The *Codex Alimentarius*²³: The Codes Alimentarius, sometimes called the food code, is a strong reference point for consumers, food processors, national food control agencies for fish trade globally. FAO and the World Health Organisation (WHO) created Codex Alimentarius in 1963, to develop food standards guidelines and related texts such as the FAO/WHO Food Standards Program. The three main purposes of this program are; *one*, protecting the health of the consumers; *two*, ensuring fair trade practices in food trade and *three*, promoting co-ordination of all food standards work undertaken by international governmental and non-governmental organisations.

The Codex Alimentarius is an important instrument and has a strong relevance to the international food trade. The WTO's Sanitary and Phytosanitary (SPS) agreement cites the Codex standards as, a guideline and recommendation and it's a preferred international measure for facilitating international trade in food (Helgaard, 2003). Since then, the Codex standards have become an integral part of the legal framework within which international trade is being facilitated through harmonisation (Delgado, *et al* 2003). Already, they have been used as the benchmark in international trade disputes. FAO (1995) indicates that the work of the Codex Alimentarius Commission goes beyond the creating means of removing barriers to trade (www.fao.org/codex/~). The Codex commission also encourages food traders to adopt voluntary ethical practices as a way of protecting consumers' health and promoting fair practices in food trade. The Code's close relevancy to fish trade and associated implications on those involved in trade is contained in its principle objective which is to stop exporting countries and exporters from dumping poor quality or unsafe food on to international markets. The Code is currently being updated to reflect the impact of the SPS, the TBT and other agreements of international trade.

Like the SPS, Delgado *et al.* (2003) reports that the Codex Alimentarius Commission recommended adoption of HACCP as a tool for food safety management in 1993 to

²³ reference of this picked from <http://www.codex/> and <http://www.fao.org/docrep/w9114e06.htm> 5/26/2004

responds to the concerns of consumers and governments in importing countries with regard to microbial and contamination of traded fish. Although the Code has no enforcement mechanism for its recommendations through international law, it has been endorsed by the 1995 agreements of the WTO of SPS and TBT (Thomas and Meyer, 1997)²⁴. Countries are increasingly including and adopting the Commission's recommendations into their national policies and laws which guarantee commitment from these governments.

Other convention that contain provisions which have a lot of relevancy to international food (to be specific fish and fish products) trade include is the Convention on International Trade in Endangered Species (CITES).

5.3 Regional Rules and Regulations Related to Fish Trade

Regional organisations and other big countries of the world (including USA and Japan for example) have regulations developed within their national laws or regional agreements that have influenced international fish trade. Individual countries within the EU are, however, relatively small in terms of global markets shares but when taken as a trading block, the EU is almost third in importance in terms of value behind USA and Japan (Greenhalgh, 2003)²⁵. There are many regional organisations and free trade arrangements in place around the world. For this report, the discussion is only centred on the big two nations -US and Japan- and EU regulations governing fish import from developing countries.

USA regulations; all imports into the United States are regulated under the Federal Regulations, normally referred to as the 21 CFR 123 (USFDA, 2001)²⁶. US regulations require that processors of fish and fishery products from all exporting countries operate preventive control systems that incorporate all the principles of HACCP. The US Food and Drugs Administration authorities emphasise and require from all the importers of fish and fishery products to present HACCP plans. In the plans emphasis is put on ensuring that producers or fish processing and export firms are using a quality assurance system that incorporates HACCP, standard sanitary operating procedures and good manufacturing practices (Greenhalgh, 2003).

The events of September 11 2001 in the United States of America also reinforced the need to enhance the security of the United States. Congress responded by passing the Public Health Security and Bio terrorism Preparedness and Response Act of 2002 (the Bio terrorism Act) which President Bush signed into law June 12, 2002. The law is divided into five titles. The two relevant titles are title II on “Enhancing Controls on Dangerous Biological Agents and Toxins” and title III is on “Protecting Safety and Security of Food and Drug Supply”. These titles contain specific provisions that protect US citizens from the importation of foodstuffs

²⁴ Thomas J. S., M. A. Meyer. 1997: The New Rules of Global Trade: A Guide to the World Trade Organisation. Scarborough, Ontario: Carswell.

²⁵ The largest importer in quantity terms is China, but large quantities of imports are low value products, and thus China is fourth in terms of value.

²⁶ See also <http://www.cfsan.fda.gov> ,

that are dangerous to human health. Section 302 of the Act, for example, is on Food Adulteration.

Since the coming into law of the Bio terrorism Act (2002)²⁷, the US has made all efforts to safeguard all the imports including fish for the safety of all the American people. The US Food and Drug Administration undertakes an inventory of all domestic import and export firms and monitors their level of compliance. It ensures that all processing and export firms are complying with internationally acceptable food safety and quality requirements such as implementation of HACCP. It is also upon the importing firms to satisfy the US authorities that the fish being imported has undergone all the food safety and quality tests acceptable to the international trade rules²⁸.

The Japanese Regulations; Standards for importation of fish and fishery products into Japan are governed by the legislation set out in the Food Sanitation Law of 1999 (Henson *et al.* 2001)²⁹ and the Quarantine Law of 1999³⁰. The law prohibits, among other things, the imports for sale of sanitary foods, foods not conforming to the prescribed specifications of composition, standards of manufacture and storage.

The EU Regulations; The EU has been at the forefront in developing food safety standards and as such, it has had a profound influence on the development of the seafood export industry in developing economies. The EU invoked some of its regulations and banned importation of fish from a number of countries including the ban in importation of Nile perch from Uganda, Kenya and Tanzania in 1998 through to 2000 (Delgado, *et al.* 2003; Henson *et al.*, 2001 and Greenhalgh, 2003), the ban of Shrimp exports from China in 2001 and Bangladesh in 1997 (Delgado, *et al.* 2003; Tripp, 2001). EU standards are enforced and regulated at the country level and thus a restriction of exports to the EU under the regulations affects all members of the export community (Greenhalgh, 2003)³¹.

The EU licenses one particular institution, referred to as the "Competent Authority"³², in the exporting country to ascertain that all exports destined for the EU are properly certified in line with all the EU requirements. Greenhalgh (2003) reports that individual export companies have to apply to the exporting country even when it has satisfied conditions required by the Competent Authority.

²⁷ see US Food and Drug Administration, Department of Health and Human Services.

<http://www.fda.gov/bioterrorism/bioact.html> 5/26/2004

²⁸ The US FDA may obtain products from a country which has an active equivalence or compliance agreement with FDA covering fish and fishery products. The second means of verification is where no agreement exists with the country of origin is that US fish and fish products importers take their own steps to ensure that their suppliers are processing in accordance with the regulations.

²⁹ Jetro, 2003: Food and Sanitation law in Japan, Standard Information Service, March 2003.

³⁰ http://www.jetro.go.jp/se/export_to_japan/files~5/26.2004

³¹ It is reported by Greenhalgh (2003) that EU exports to other countries especially Japan and USA, the food safety import regulations are generally enforced at a company basis and so a restriction on imports will only affect one particular exporter.

³² Article 2 section 13 of the EU Council Directive 91/493/EEC defines Competent Authority as the as the central Authority of a Member State competent to carry out veterinary checks or any authority to which it has delegated that competence.

The EU regulates imports from developing countries using European Union Council directives, decisions and regulations³³. The main and relevant to a series of restrictions of seafood trade under which the Competent Authority operates is the Council Directive of 22 July 1991 (91/493/EEC)³⁴. Article (1) of the directive "...lays down the health conditions for the production and placing on the market of fishery products for human consumption" while Article (2) defines all the terms used under this directive. This directive applies to all products destined for the European market and applies equally to domestic and third country products. Specific to the fish imports from third countries, Article 10 of the directive states that "Provisions applied to imports of fishery products from third countries shall be at least equivalent to those governing the production and placing on the market of community products". Article 11 (part 1) of the Directive specifically makes a distinction targeted at third countries or "a group of third countries". It states that "For each third country or group of third countries, fishery products must fulfil the specific import conditions fixed in accordance with the procedure laid down in Article 15, depending on the health situation in the third country concerned."

Apart from the main Directive -91/493/EEC- of 22 July 1991, there are a number of complementary Directives, Decisions and Regulations that expand and clarify the main Directive³⁵.

5.4 Uganda's Response to National and International Legislation on Fish Export Ban by EU

Following the rules and regulations discussed in the previous section, the EU invoked certain Council Directives and slammed a series of bans of fish export from Uganda, Kenya and Tanzania. The experience of these fish bans triggered Uganda to institute a number of measures so as to comply with the international fish trade requirements as well as national policies and laws. As documented in some pieces of literature (e.g. Henson and Loader, 2001) the decisions of such compliance with the international rules are very costly³⁶. The operating costs of fish processing plants in Uganda, for example, are estimated to have increased by 50% (UNIDO, 2003).

³³ **Regulations** have general application and direct force of law in all member states. If there is a conflict within a national law, the regulation prevails. There is no need to transpose regulations into national legislation for them to take effect. **Directives** are binding on member states as to the results to be achieved, but leaves the method of implementation to national governments. They should be transposed into national law. **Decisions** are binding on those to whom they are addressed (can be member states, companies or individuals)

<<http://worldanimal.net/eu-legis.html>>

³⁴ see Official Journal of the European Communities No L 268/15

³⁵ see Official Journal (OJ) No L 268/1

OJ No L 268/15	OJ No L 166/31	OJ No L 236/16	OJ No L 176/68
OJ No L 332/40	OJ No L 156/50	OJ No L 221/56	OJ No L 278/6
OJ No L 187/41	OJ No L 97/84	OJ No L 334/1	OJ No L 129/35
OJ No L 16/22	OJ No L 191/32	OJ No L 121/3	OJ No L 144/23
OJ No L 13/11	OJ No L 127/33	OJ No L 330/32	OJ No L 122/21
OJ No L 56/42	OJ No L 277/42	OJ No L 143/35	OJ No L 61/1

³⁶ Henson and Loader in their review international Literature on the costs of compliance indicated that Bangladesh spent over US \$17.6 million to upgrade plants alone in 1997-98 in an attempt to respond to the EU and US shrimp export requirements. The costs of the overall industrial sector to comply with HACCP are estimated to be costing Bangladesh US\$ 2.2 million per annum.

Note that before a series of fish bans outlined under section 4 above, fish processing factories in Uganda were already implementing fish quality and safety hygiene standards. These standards were, however, not satisfactory to the EU requirements as stated in the regulations discussed in the previous section. In the longest fish ban, which was imposed in March 1999 for pesticide residues, Uganda started to respond by putting in a number of measures. Uganda's response was triggered by EU's visit, which found a number of hygiene problems in the whole processing and marketing chain.

In a bid to diffuse the economic and other social losses by Uganda, EU team of veterinary inspectors carried out a series of four inspection missions to assess the health control and monitoring of production conditions to comply with the EU council Directive 91/493/EEC. The inspections that were carried out include:

- The March and December 1997 for overall hygiene standards
- The November 1998 for harmonisation of Uganda's exports (This led to Uganda being put on List II and Tanzania List I)³⁷
- The August 1999 for guarantees regarding absence of pesticide residues in fish
- The October 2000 for harmonisation and guarantees regarding pesticide residues.

The key issues that the EU inspectors identified within Uganda's fish processing and export chain, were basically on a number of areas. *First* the EU Dutch Authorities and Council of Ministers of Lake Victoria, meeting in Dar-as-Salaam in Tanzania in June 1999, found the structure of the Competent Authority problematic. Furthermore, there was lack of a clear line of command between the Ugandan national Bureau of Standards (UNBS) and fish inspection services under the Department of Fisheries Resources under the Ministry of Agriculture, Animal Industry and Fisheries. The fisheries inspectors under DFR did not have clear guidelines and standard operating practices in particular with regard to inspecting batches of fish being landed, hygiene conditions at landing sites, sampling procedure records of their own activities and documents required for traceability of origin and transportation of fish (UNIDO, 2003). *Secondly* there were no existing suitable laboratory facilities for pesticide residue analysis. *Thirdly*, the existing legislation, the Fish Act (1964), had not been updated to meet the EU quality, safety and hygiene requirements. *Fourthly*, the fisheries officers within the decentralised units i.e. districts and at landing sites were not effectively answerable to DFR and hence were not following the instructions regarding hygiene and handling of fish as required by EU regulations. *Fifthly* most landing sites were not upgraded and were not meeting minimum EU requirements and in general, fish was un-hygienically handled throughout the chain. .

³⁷ List one is a categorisation by the EU that any exporting country, having met the EU requirements and satisfied all the inspection teams, can export to any country of EU without restriction. If the importing country needs to reject particular consignments from an exporting country, it will have to do by passing through the EU Commission. Being on list II means that exporting country can enter into a bilateral relationship with an importing country. Can either refuse the products from the importing country?

As a first step, the EU demanded for a comprehensive monitoring program, which would determine the level of organochlorine pesticides, organophosphate pesticides and trace elements in fish, water and sediments from the lake. As a process the Uganda government, together and with the major financial and technical support from UNIDO, and Global Environmental Facility (GEF) and the World Bank funded projects, the Competent Authority was able to put a number of measures for compliance.

The UNIDO financial and technical support was initially focused on the overall fisheries sub-sector to address the issues of the fish export ban by EU and associated economic and social implications. UNIDO's support contributed greatly to the lifting of the EU ban. UNIDO provided technical assistance in preparing responses to the EU Commission regarding guarantees put in place by Uganda to meet the EU requirements.

Strengthening the Institutional Capacity (UNIDO, 2003): The capacity of the Department of Fisheries Resources as a regulatory and inspection authority was reinforced. The Uganda government put in effort to streamline the fish inspection services and the capacity of the DFR as a "Competent Authority". This was strengthened through training of inspectors, provision of equipment and introduction of fish inspection manual. The achievements within the sub-sector have been used as models for other sub-sectors sensitive to the public health of the consumers and with export potential. This also resulted into Uganda's fish accessing the US market, which only demanded for an approval of a HACCP system from fish factories. The EU requirements had already put this into place. Fish inspection services were streamlined and the competent authority was strengthened through;

- Training of fisheries inspectors in fisheries inspection, HACCP auditing and documentation and provision of fish inspection equipment;
- Preparation of inspection tools such as fish inspection manual, inspection guides and records
- Establishment of a documentation system at the central, district and landing site level for traceability and;
- Introduction of Information Technology (IT) software for fish inspection benchmarking and monitoring.

In response to the EU requirements, technical support to other institutions was also provided especially in Good Hygiene Practices (GHP) and HACCP to specialists from the private sector, DFR, UNBS, Makerere University and Industrial Research Institute. This was aimed at developing a critical mass of national HACCP specialists or auditors who are now operational.

In terms of complying with the international laboratory standards, Uganda was supported to develop a Microbiology Laboratory at the Uganda National Bureau of Standards (UNBS), fully equipped and with an introduction of a Quality Management System. The laboratory got an international accreditation by SANAS³⁸ in April 2001. UNIDO also supported

³⁸ SANAS is a South African based internationally known and an accredited laboratory for testing a variety of samples.

Chemiphar (Uganda) Ltd, a privately owned laboratory which was approved by the EU inspectors for pesticide residue analysis, a function that it still does to-date. The government is also developing and upgrading the Chemist Analytical Laboratory. DFR has also put up an analytical laboratory with the support from the IDA and GEF funded Lake Victoria Environmental Management Project. In general, government is emphasising developing internationally accredited and acceptable laboratory services in Uganda to facilitate exports of products and also to reduce the costs of lab analysis abroad.

Strengthening the Capacity of the Private Sector. It should be mentioned here that, despite the increased costs and losses arising from the fish export ban, the EU Directives and regulations triggered the development of the private sector capacity. Requirements for fish and fish transport boats were, for example, identified and two pilot boats constructed. The Uganda Fish processors and Exporters Association (UFPEA) is using the pilot boats to conduct trials for assessment of the socio-economic and technical impact.³⁹ Hundreds of fish handlers have been trained in tailor-made Good Hygiene fish handling practices on the Lakes and at the landing sites in conformity with EU quality/safety requirements. Fish inspection services at the landing sites were strengthened through training of inspectors in fish inspection, fish sampling, records keeping and documentation for appropriate traceability.

The capacity of fish processing enterprises was strengthened through preparation of Code of Practice adaptable to the situation in Uganda approved by UFPEA and put in practice, training of plant staff in GHPs and HACCP.

In general, the fish safety and quality assurance system in Uganda has undergone major steps towards becoming reliable. Solid foundations have been established and are being made operational at all levels of the production chain. The regulations are updated in conformity with the international requirements and are being enforced by more competent, and better-organised, fish inspection services.

Pursuant to Article 11(4)(b) of Directive 91/493/EEC, government drew up a list of approved factory establishments or processing factories, factory vessels and cold stores. Fish processing factories also have implemented ISO 9001:2000 Quality Management Systems and the principles of HACCP. As a result of all these costly efforts to comply with EU export requirements, the EU Commission, on 16th August 2001, issued a Commission Decision "laying down special conditions governing imports of fishery products originating in Uganda (*notified under document number C(2001)2524*)"⁴⁰. Article 4 of Commission Decision 2001/63/EC repealed Commission Decision 2000/493/EC, which had imposed the ban on fish exports from Uganda. Annex A of Decision 2001/63/EC provided a Health Certificate *for fishery and aquaculture products originating in Uganda and intended for export to the European Community, excluding bivalve molluscs, echinoderms, tunicates and*

³⁹ Based on the results, the most suitable designs are to be disseminated to the 20 local boat builders already trained in boat building and design, the whole fishing fleet and the regulatory authorities to facilitate the adoption.

⁴⁰ Official Journal of the European Communities No L221/45.

marine gastropods in whatever form". Annex B of the same Decision provided the list of approved establishments or processing plants and freezer vessels for carrying fish. Six factories were approved for export to the EU with an approval number, name and the category of each establishment.

The biggest challenge of these international, and nationally accepted, trade rules is that it is costly to put in place all the necessary requirements. There is no doubt that since these rules were made mandatory to factory establishments, the operating costs of processing plants went up and this affected overall profit margins of the firms. The NRI Transaction Costs Analysis Report of (2002) and Nsimbe-Bulega *et al.* (2002) demonstrate that transaction costs increased as a result of implementing the trade rules. The increase in operating costs of a number of processing firms concurs with the experience of Bangladesh in trying to comply with the HACCP requirements since the ban of shrimp exports (see also Henson *et al.*, 2001).

The other, but rather positive, challenge is that the country developed a plan of investing in fisheries infrastructure facilities, as form of subsidy, to improve fish handling facilities across main and gazetted landing sites. Fisheries infrastructure development was not seen as government priority area under the poverty reduction strategies. Since the lifting of fish export ban, the fish exports have increased significantly. Government has since linked foreign exchange earnings to growth, which is one main pillar of Uganda's Poverty Reduction Strategy Paper, the Poverty Eradication Action Plan. Fish exports are important in themselves but have an added benefit of being pro-poor as export prices are translated into higher prices of fish for fishermen and those involved in fish trade as long as right policies are in place (Keizire, 2003). This is more so in the Nile perch fish trade in Uganda⁴¹

Despite increase in costs of establishing hygienic facilities, the processing firms embraced the EU Council Directives because compliance made processing firms move to category or List number 1 in exporting to EU meaning that Uganda can export to any member country of the EU without restriction. This has made Ugandan processing firms penetrated other markets such as USA, Japan, Singapore and the Middle East. The Competent Authority also embraced the EU trade legislation because the quality control system in place does not pose a danger and threaten another or rather immediate fish ban. Approved fish processing firms have the capacity to contain legislative provisions especially if they are to remain in a highly competitive trade area.

5.5 Government's Efforts in Responding to EU Trade Regulations ?

As stated above, the major objective of government responding to the regulation was an attempt to rescue fish exports from collapsing since the evidence of increase in fish exports was clear. Since the fish export ban era, government has put in a lot of public resources to protect the interests of private exploiters. Through the on-going strategic export initiative,

⁴¹ Other reports indicate that the increase in fish exports have raised the average price of Nile perch at landing site level from an average of Ugshs 800 to an average of Ugshs 2000 a kilo (US\$ 0.5 - 1.3) in 1998/99 and 2002/02 respectively

government has been providing funds for monitoring fish factory establishments as well as carrying out water quality tests.

The government has responded to the EU and other international food safety and quality requirements by developing and construction a number of modern fish landing sites in strategic selected areas in all the major water bodies in Uganda. With the support from the African Development Bank, the Chinese and Japanese governments, a number of landing sites have been earmarked for development to boost the private fish processing industry in modernising the fish sector. In relation to this, fish markets in different strategic regions have been targeted for construction. While this may be seen as government response to subsidise fish processing and export industry, the interventions are also beneficial to government in its efforts to meet macroeconomic targets of increasing export led growth.

6. THE SUPPLY CHAIN OF THE NILE PERCH FISHERY IN UGANDA

This section presents fieldwork details and identifies the entire chain of the exportable fish commodity especially the Nile perch. Basing on the field reports and findings, the section maps out the entire fisheries sub-sector fish supply chain.

The field study was carried out at 7 landing sites in 4 zones represented by a across-section of districts neighbouring the Ugandan part of Lake Victoria Lake Kyoga which are the major water bodies and with the production of Nile perch for processing and export. The eleven riparian districts of Lake Victoria and were stratified into four zones (*see map of Uganda*) to ensure that the study is uniformly spread throughout the lakes' region; and enabling selection of respondents from both 'rural' and 'urban' beaches or landing sites. The districts were grouped on the basis of spatial location. One district from Lake Kyoga was selected since Nile perch fishery in Lake Kyoga is not as developed as that of L. Victoria. Below are the zones with their corresponding grouped districts:

Zone 1 – Rakai, Masaka, Kalangala, Mpigi - Lake Victoria

Zone 2 - Wakiso, Kampala, Mukono, Jinja -Lake Victoria

Zone 3 - Mayuge, Bugiri, Busia - Lake Victoria

Zone 4 - Lake Kyoga districts

Table 4: Selected Districts and Beaches in each Zone

Zone	District	Landing sites
Zone 1	Masaka	Namirembe and Lambu
Zone 2	Wakiso	Gerenge and Gaba
Zone 3	Mayuge	Bukagabo and Bugoto
Zone 4	Kamuli	Lwampanga

Data collection involved the following activities; key informant interviews were carried out with Fisheries Officers based at sub-countries, from Masaka, Wakiso, Mayuge and Kamuli. General beach information such as population of beaches and number of fishers, traders and processors was gathered from beach leaders.

A community meeting was held at each landing site during which the team made introduction and explained its study objectives. Using Chambers (1983) approaches, Participatory Rural Appraisal (PRA) tools, notably focus group discussions involving the use of semi-structured interviews and use of visual tools such as matrices and wealth ranking were used to obtain information related to mapping of fish commodity chain, trend lines and community welfare. A total of 7 focus group discussions were held with approximately 10-15 people with representation from fishers (boat owners, renters and crew), fish traders (factory agents, bicycle/motor cycle traders etc), local processors (sun drying, smoking and deep-frying) and local leaders. The discussions usually lasted not more than 45 minutes and discussants were carefully chosen to represent elders, men, women and youth.

At the end of each field day, the team undertook meetings to take notes of the important points and issues raised by discussants in each group. Data from the selected beaches was synthesised in relation to mapping of fish commodity chain, trend lines and community welfare.

6.1 Fish Export Marketing Chain

The Focus Group Discussions revealed that the fish export marketing chain begun with artisanal fishers whose operations are comparatively capital-intensive involving larger-sized motorized/paddled boats and fishing gears targeting mainly the Nile perch. After a typical fishing trip, the fishing crews together with fishing unit owners deliver the catch to a fish clean space for grading and weighing by factory agents. After the required size and quality has been sorted out, the fishing unit owner receives payment for the fish normally at a price fixed by the factory agent. The remaining Nile perch that falls short of the size and quality requirements of the factory agents is mainly sold to women local fish processors who either smoke or salt it and sometimes local fish traders. After receiving payment for both accepted and rejected fish, the fishing unit owner pays the fishing crews normally 40-45% of the revenues from the fish sales after specified costs particularly fuel have been deducted.

The fish is properly stacked in refrigerated trucks by casual labourers hired by the factory agents and then transported to industrial fish processing factories. However, no refrigerated trucks operated at Gerenge landing site because it was more cost effective to transport fish by boat to Kasenyi landing site where refrigerated trucks operated as compared to taking it directly to the factory by trucks. A group of middlemen who buy from the fishers and sell to factory agents, locally called Kakyanga/Bawuzi, had emerged at some landing sites such as Gerenge and Namirembe. These middlemen quickened the process of assembling fish normally at an additional cost of US\$ 30 -70 cents (50 - 100) Ugs per kilogram of Nile perch.

At the fish processing factories, the fish is filleted and exported either chilled or frozen mainly to destinations in Europe, Asia and USA. The fish export marketing chain is linked to domestic and regional markets through the by-product sub-sector. Fish by-products account for nearly 60% of the whole fish, consisting of fish frames, skins, trimmings, fats, fish maws and guts. Of these, only fish guts, which constitute 2% of the whole fish, are discarded. The fish frames, skins, trimmings and fats are sold in local and regional (mainly DRC) markets whereas the fish maws are exported to overseas markets, mainly in the Far East. An extensive network consisting of wholesale pick-up traders buying from factories and supplying numerous local traders and processors at various urban, rural and roadside markets constitute the by-product marketing chain. Fish frames and skins are mainly consumed in smoked form whereas trimmings are mainly deep-fried and consumed as snacks.

Figure 5: A simplified Fish (esp. Nile perch) Commodity Chain Map

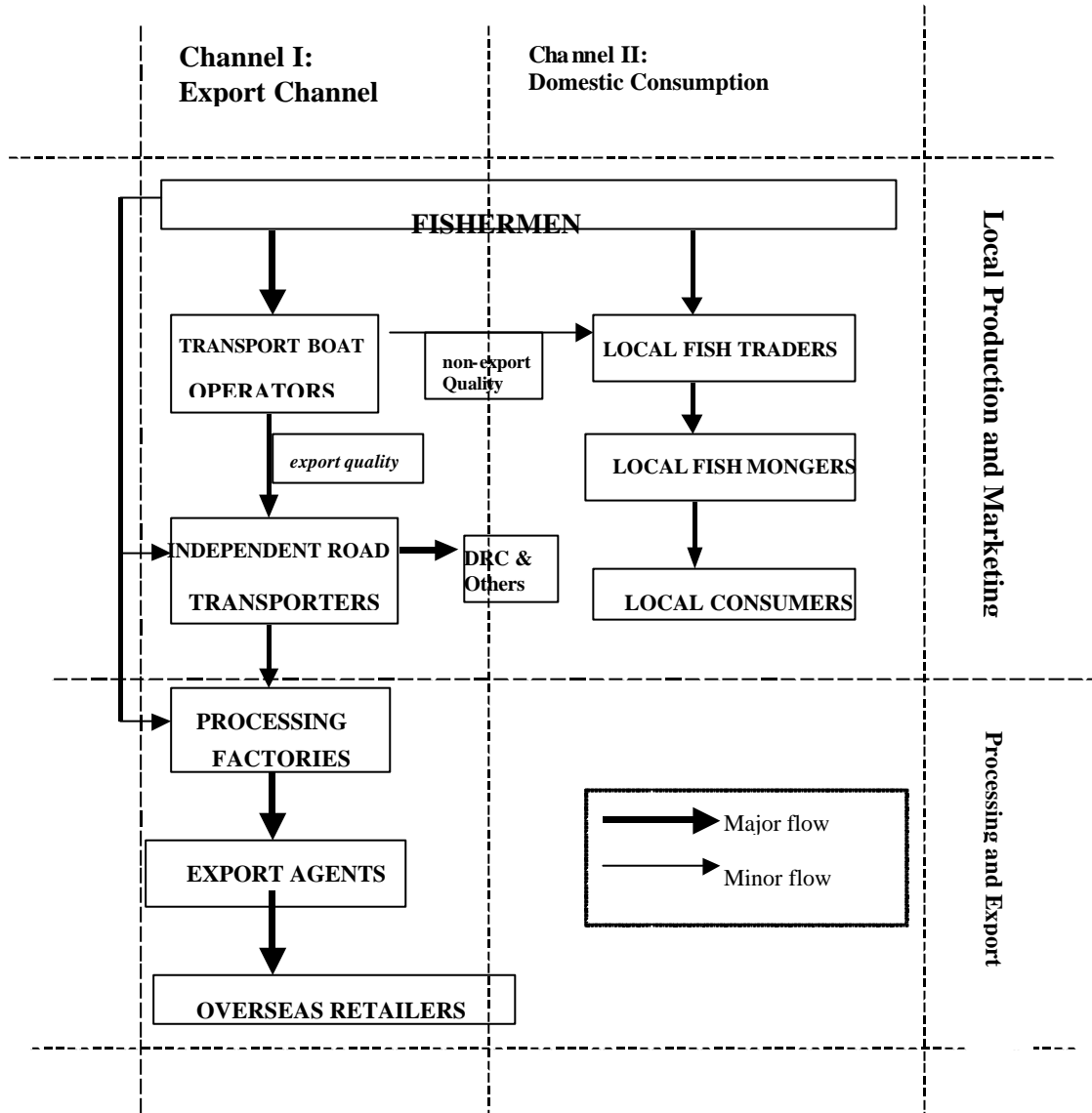


Figure 5, which is a simplified fish commodity chain map, is divided into four main sections, local production and marketing for domestic consumption, local production and marketing for export, local production and marketing for processing and export and processing for export.

Table 5: Summary of Commodity Chain Matrix

Operator category in the marketing chain	Number of operators involved	Background of operators	Technology used
Fishing sector	Although no explicit numbers are given, there has been an influx of small-scale traditional fishers to the lake	Male; Youths of average age of 31 years, Major riparian tribes such as Baganda, Basoga and Samia on L. Victoria and mixed tribe on L. Kyoga	<ul style="list-style-type: none"> Paddled boats called parachutes, nets of 5" and less, longlines, Illegal methods/gears such as beach seining, tycoonning, no use of ice on the lake
	The number of large-scale modern fisher are few due to prohibitive regulations		Large motorise Ssesse boats, nets of 5" and above, longlines with hooks, no use of ice on the lake
Traders	The numbers of factory agents has been steadily increasing	Mainly male youths of average age 35 years; major tribes are Baganda, Basoga and Banyankole. On Lake Kyoga, there is a mixture of all tribe including Baganda and people from Apac and Basongora	Refrigerated trucks, ice boxes, use of cell phones, media (radio), roads, receive credit from factory processors
	The number of Motor cycle/Bicycle traders has reduced due to increase in middle operators		Own or hire motor cycle/bicycle, limited use of ice, some smoke/sundry for preservation to deliver to long distances, use baskets
	The number of pick –up traders has reduced.		Own or hire pick –up, mainly deal in fresh form, cover with papyrus mats, limited use of ice, deliver to long distances, use baskets
	Boat traders have increased in number because there is available market.		Own or hire motor Boats, use of ice in containers mounted on the boat, deal in fresh form, deliver from inaccessible beaches and islands to factory/gazetted beaches
Processors	The number of small scale or traditional processors have increased especially processing bye-products from industrial processing	Mainly middle aged women and men, Baganda, Basoga and Banyankole	Smoking/salting of tilapia and juvenile and rejected Nile perch, use of smoking kilns/pits, drying racks/ground, storage is within place of residence, marketing information is shared among traders.
	Large -scale or modern processors have increased in number. But regulated due to limited stocks	Various nationalities, include Ugandans, Asians and Europeans	Own factory hire trucks, deal in processed (chilled/frozen) form of fish. Own processing factories, Store in cold rooms and use cell phones, media and internet for communication
Exporters	The number of small-scale exporters is still small. A few have concentrated on smoking and export to neighboring countries	Various nationalities that include Ugandans, Rwandase, Congolese, Kenyans and Sudanese	Own or hire trucks, deal in processed form of fish Tilapia to Rwanda Market, smoke/sundry for DRC, Kenya, Sudan-use cell phones for communication.
	The number of large-scale exporters has increased to currently 14.	Various nationalities, include Ugandans, Asians and Europeans	Own processing factories, Store in cold rooms and use cell phones for communication Buy in bulk
Transporters	Small-scale/traditional has reduced	Male, above 35 years of age, Baganda, Basoga	Own or hire collector boats or trucks. Use polythene bags for packaging, preserved in smoked or sun dried form.
	Large -scale / modern have increased		
Other auxiliary activities - ice suppliers, fuel suppliers	Number has generally increased as a result of the sector booming	Male/female	Own ice boxes, ice processing factories, established fuel stations at some beaches
Fish consumers	Many more consumers have emerged internally and externally as more tribes have changed cultures.	Both male and female of various ages and tribes but dominated by those in the lake basin.	

6.2 Wealth Status of Stakeholders in the Supply Chain

Fishing communities perceive wealth in terms of the nature of housing and capital assets owned. Generally, three wealth categories were identified, namely poor, middle and well-off class.

Discussions classified community members belonging to the poor class as those who rented houses and did not own any capital asset such as boats, fishing gear, smoking kilns and bicycles. They provided their labor to earn an income through fishing, spreading and mending nets and carrying fish from the boats to the weighing shades. Extreme cases of individuals belonging to this class are housed and fed by their employers (fishing unit owners). They were described as unmarried youths with no formal education. They earned the least incomes, which was spent on alcohol and prostitutes and usually returned to work after they have exhausted their incomes. Their employment was not regular and sometimes depended on fishing seasons. Some people who lost their fishing gears through theft and confiscation by fisheries regulatory agencies also found themselves falling from the well off/middle class to the poor class.

It was reported that middle class members typically owned small mud houses thatched with grass and sometimes roofed with iron sheets. They included local fish traders, non-motorized fishing unit owners, and operators of food kiosks, bars and video. This group has the largest number of women particularly involved in fish smoking. They own or hire smoking kilns and mainly dealt in juveniles or rejected Nile perch fish. The majorities of this class is people with families (married) and have attained some formal education. They were described as hard working people who saved and invested their earnings. It was reported that some inherited their fishing capital.

The well off class owned spacious houses made of bricks and iron sheets. They included fishing unit owners with motorized boats mainly targeting Nile perch, factory agents owning iceboxes and hiring trucks to transport fish to the factories. This group also included fish traders/processors who buy large quantities of Nile tilapia and sell to regional markets in the DRC, Kenya and Rwanda. Some of them had inherited their capital whereas some had obtained it through informal credit from friends and savings from fishing and other income sources. Within this class the factory agents were considered to be better off than the fishers.

The other well off class is the owners of fish processing companies. Despite their small number in fish processing and export, they have a relatively bigger share of profit margins compared to fishermen. The middle men and independent road transporters are almost doing the business unrecorded but have the biggest percentage share of margins compared to export processors and fishermen (See also Banks, 2001 and NRI, 2002) reports.

Table 6: Wealth Ranking with Mixed Cross-Section of Fisherfolk, Traders and Processors.

Wealth Category	Wealth /poverty creteria	Category of operator	Number of people in a sample	Changes that have taken place in the last 3 decades
Poor Class	Rent small grass thatched houses. Sometimes housed by employers.	<ul style="list-style-type: none"> • Casual labourers • Fishing crews Labourers who spread the nets	195	<p>Their numbers have increased alongside increase in fishing activities influenced by the fish export trade.</p> <p>The lack of alternative livelihood opportunities has also confined them to the fisheries.</p>
Middle class	Own small mud houses, either thatched or roofed with iron sheets.	<ul style="list-style-type: none"> • Local fish processors • Local fish traders • Operators of retail shops and kiosks • Small-scale fishing unit owners targeting Tilapia • Non-motorised fishing unit owners targeting Nile perch 	109	<p>Number of local fish processors and traders have declined due to competition by factory agents.</p> <p>Number of providers of auxilliary services such as retail shops, food kiosks, bars, video halls e.t.c have increased due to increased cashflows from the fish export business.</p> <p>Number of fishing unit owners targeting Nile tilapia has increased. Tilapia fishery has attracted individuals both within and outside the fisheries who lack Nile perch investment requirement.</p> <p>Increased use of non-motorised fishing units to tragets Nile perch such as trolling and longlining.</p>
Well off	<p>Own spacious houses made from bricks and iron sheets</p> <p>Own motorized fishing units targeting mainly the Nile perch and employ 2-3 fishing crews per boat</p> <p>Own iceboxes for assembling fish. Hire refrigerated trucks to transport fish to factories</p>	Fishing unit owners Factory agents Factory owners	103	<p>The number of motorized fishing units owners and factory agents has increased over the years due to the growing fish export demand.</p>

The distribution of community sample by wealth category for the selected beaches is presented in Table 7.

Table 7: Distribution of Fishing Community Sample by Wealth Category

Beach	Wealth Category			Total
	Well-off class	Middle class	Poor class	
Bukagabo	24	16	21	61
Gerenge	13	26	15	54
Namirembe	9	16	40	65
Lambu	18	14	38	70
Gaba	15	12	34	61
Lwampanga	11	11	23	45
Bugoto	13	14	24	51
Total	103	109	195	407

6.3 Changes and Dynamics in the Community.

In Uganda, average life expectancy is 45 for men and 56 for women (UBOS, 2003). For the changes and dynamics of fishing communities, the research team managed to capture information on changes in community from the 1970s because the age brackets for the last three decades have either died or are too old to engage in productive society activities. In attempt to capture the history of Nile perch fishery and other species, village groups at landing sites indicated that during the 1970s, the main fish species caught were *male*, *mamba*, *kisinjja*, *ningu*, *Ngege*, *semutundu* in Lake Victoria (*all local names*). There existed a diversity of fish species in abundance in both Lake Victoria and Lake Kyoga. This was experienced during heavy rains as it would flood and the community could walk on the banks or shores to pick fish. They reported that in the early 1970s, fishers were few as compare to the present case. Fishing erants took just a short time and fishers had enough fish for themselves. It was noted that the fish was mainly sold to the domestic market to bicycle traders who would later transport to deeper rural markets. Sometimes fish was even bartered for other household food stuffs. In the 1980s, Nile perch(*mputa*) became dominant in the catches and that marked a decline in catch of the indegnous fish species⁴². Fishermen caught large sized Nile perch using longlines and *kisinjja* fish was used as bait. The *mputa* was mainly sold to bicycle traders who cut in small pieces and sold by auctioning. Flesh fish of about one kilogram was sold at Uganda shillings 100 only (US\$ 0.5 equivalent at the time).

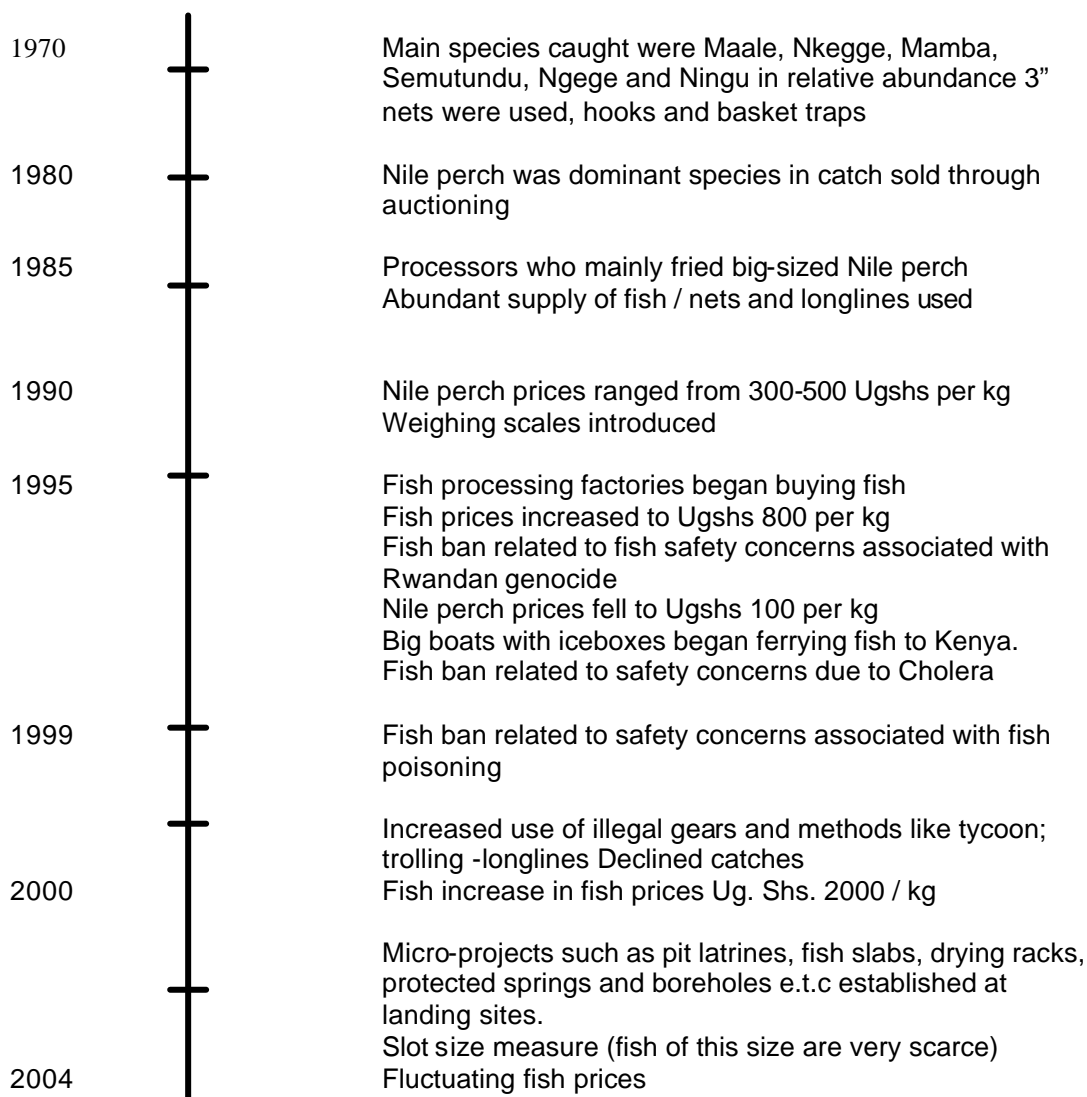
By the 1990s, Nile perch (*mputa*) gained popularity, a weighing scale was introduced and price ranged between Ugshs300-500 sold mainly in domestic markets. Between 1992 - 1995, some traders came with boat containers and transported Nile perch fish to Kenya market when the over seas markets started picking up. Arround this period, there was Rwanda genocide which affected trade as local consumers neglected fish consumption as bodies were dumped into the lake. The issues of Cholera were also reported and this prohibited people from consuming fish.

⁴² This is the period when Nile perch was introduced in Lake Victoria (see Ogutu-Ohwayo, 1988) and Nile perch was feeding on other small species such as the sadine-like mukene (*Rastreneobola argenteae*)

In 1995 the demand for *mputa* in overseas market increased and marked the emergence of fish processing factories such as Gomba, Masese and Uganda Fish Parkers. This triggered fish prices to increase to Ugshs 800 per kilogram (US\$0.7). Around 1996, fishers got excited of the good prices and used all types of simple technologies and methods to be able to meet increased demand by fish processing factories. The use of these bad fishing practices culminated into bad catching such as fish poisoning and the like. The use of poisoning as a fishing method resulted into export ban as reported in section 4. Communities and fishermen reported that the ban affected fishing community so much to the extent that some started to engage in other business and their capital perished; others resorted to farming, the crew started mining sand and crushing stones. The most affected category were factory traders and fishermen. Other businesses like fuel operators, kiosks operators and others were largely affected by the fish ban.

Fish prices declined to Ugshs150 per kilogram of fish from Ugshs1200 per kilogram. When the ban was lifted after 3 months, prices picked to Ugshs600 per kg of fish. Around this period Byansi fish factory started exporting Nile tilapia (Ngege fish) to some markets in the Far East. Since the total lifting of the fish ban, between 2000 –2004, fish prices have been fluctuating between Ugshs1400–2400 per kilogram(US\$0.8 – 1.5) at a landing site. This also marked the period for development for some beaches like Gerenge where micro projects were set up to improve hygiene and promote standards of living. These include fish banda, fish stores, pit latrines, and roads. A number of prime landing sites or beaches that did not have microproject support, some fish processing plants started constructing their own shades for fish handling to meet the requirements of fish export markets.

Figure 6: Changes and the dynamics in community over a long period of time



6.4 Costs and Margins in the Supply Chain

Estimation of costs and margins in the fish supply chain largely depended on secondary data for transport boats and fish processing firms while primary data is used for margins on fishermen. The secondary data is based on the report done by NRI for the Plan for Modernisation of Agriculture on the Transaction Costs Analysis in 2002.

Table 8: Transport boat operator's costs and margins⁴³

Cost Area	Ugsh per year	Ugshs per kg of fish	US\$ per kg of fish	% of costs
Operating costs - variable:				
Raw material	448,695,000	1,500	0.87	94%
Sub-total variable costs	448,695,000	1,500	0.87	94%
Operating costs - fixed:				
Labor	8,190,000	27	0.02	2%
Fuel and oil	12,909,000	43	0.02	3%
Repair and maintenance	500,000	2	0	0%
License	500,000	2	0	0%
Sub-total fixed costs	22,099,000	74	0.04	5%
Capital costs	3,124,805	10	0.01	1%
Total costs	473,918,805	1,584	0.92	100%
Revenue	533,962,007	1,785	1.03	
Profit (loss)	60,043,202	201	0.12	

Source: PMA NRI Report (2002)

In table 8, the costs and margins for a typical transport boat owner who operates a boat of average 6 tonnes of fish capacity is presented. On average, such a boat will gather approximately 3,800kg of fish per trip.

The most striking feature of table 5 is the profit that the transport boat operators make. This category is considered the wealthy category in the chain. The annual profit of Ugshs60 million (US\$33,000) is just under four times the total fixed and working capital investment that the operator has to make. This represents an extraordinary rate of return on investment. Against this however, one has to consider the risk that the ice boat operator takes. Piracy, foul weather and spoilage all play their part in making the trade more risky than many land based operations. Put in terms of potential monetary loss, there is perhaps a 1% chance of losing an entire cargo, which translates into an average of about once every year and four months. In such cases, the entire sum of the operator's working capital will be lost – a sum of about US\$3,500. Of course, worse things could happen. In the case of a pirate attack, not only could the working capital be lost but also outboard engines and, in extreme cases, people's lives.

Even if working capital and an outboard engine are lost (a combined value of approximately Ugshs12 million), annual profits would appear to be easily capable of absorbing the loss.

⁴³ This table is from the PMA-NRI Report on Transaction Costs Analysis

Table 9: Fish Processing Factory Costs and Margins

Cost Area	USh per annum	USh per kg of fillet	US\$ per annum	US\$ per kg of fillet	% of total costs
Operating costs - variable:					
Raw material	8,810,100,000	4,500	5,107,304	2.61	76%
Packaging	506,580,750	259	293,670	0.15	4%
Energy	360,000,000	184	208,696	0.11	3%
Direct labour	289,314,600	148	167,719	0.09	2%
Fuel	44,201,028	23	25,624	0.01	0%
Sub-total variable costs	10,010,196,378	5,113	5,803,012	2.96	86%
Operating costs - fixed:					
Management	276,000,000	141	160,000	0.08	2%
Lab expenses	139,200,000	71	80,696	0.04	1%
Admin expenses	177,600,000	91	102,957	0.05	2%
Fixed asset maintenance	67,200,000	34	38,957	0.02	1%
Capital costs (interest & depreciation)	549,600,000	281	318,609	0.16	5%
Sub-total fixed costs	1,232,400,000	629	714,435	0.36	11%
Sub-total operating costs	11,242,596,378	5,742	6,517,447	3.33	97%
Miscellaneous	416,290,873	212	240,865	0.12	3%
Total operating costs	11,636,087,251	5,943	6,745,558	3.45	100%
Annual revenue*	12,783,147,447	6,529*	7,410,520	3.79*	
Profit (loss) before tax	1,147,060,196	586	664,962	0.34	

Source: PMA NRI Report (2002)

NRI Report (2002) indicates that the information in Table 9 was compiled from data given by several fish processing factories. The compilers of this data therefore believe that it gives a reasonably accurate financial picture of an average processing factory in an average year. The key assumptions are that the factory is working at 70% of full capacity, has an average landing site buying price of Ugshs1,800 per kilogram (US\$1.04) of fish, has a fillet yield of 40% and receives a weighted average price for fillets (chilled:frozen) of US\$3.48 per kg (Ugshs6,020).

Under these assumptions, the processing factory is making fairly respectable profits, although with a total cost of US\$3.45 per kilogram of fillet and revenue of US\$3.48 per kilogram. It is clear that profitability depends on sales of “bye-products” such as swim-bladders and fish frames (the bones, head and tail, which are sold in the local market).

Another feature of fish processing profitability, is its sensitiveness to factory throughput, and, unsurprisingly, to the cost of raw material and the export price of fillets. While the export price remains fairly static, raw material prices (the price paid for fish at the landing sites) is highly variable. If there was a structural shift in the price of fresh fish that increased the average price from Ugshs1,800 per kilogram to Ugshs2,030 per kilogram, the factory would make a long term loss if overhead costs could not be reduced.

Despite the benefits that accrue to the overall fish supply chain, the margins at industrial processing and marketing firm are largely affected by a number of factors. These factors

make such firms un-competitive compared to similar firms in say Kenya and Tanzania operating under different cost environment. The PMA transaction costs analysis report done by NRI (2002) documents some of the areas that affect profitability levels of fish processing firms. Although the analysis does not include the costs of upgrading the quality safety systems of the processing firm, an indication is provided on how likely the Ugandan firms are edged out by competing firms in Kenya and Tanzania.

Costs of Air-freight: At US\$1.40 to 1.50 per kilogram of fish, the cost of air-freighting fish from Entebbe is considerably more expensive than from Nairobi, where rates range from US\$1.00 to 1.10 (NRI (2002)). Uganda's Civil Aviation Authority (CAA) believes that there is no reason why freight rates from Entebbe can not be at least as competitive as those in other parts of the region. This is brought by the competition between airlines which is a key factor.

The CAA has been working hard to reduce the costs of using Entebbe airport for freight. As a measure, runway lighting fees were removed, and landing and air-navigation fees were rationalised to make overall aeronautical charges significantly cheaper than in both Nairobi and Dar as Salaam.

The high cost of fuel: Aviation fuel currently is piped from Mombasa to Kisumu and Eldoret in Kenya and then transported by road tankers to Entebbe in Uganda. The CAA believes that fuel costs can be reduced by up to 36% if Uganda can negotiate concessionary rates with the Kenya Pipeline Company⁴⁴ and the fuel can be ferried on Lake Victoria directly to Entebbe. Government is still negotiating these options.

The high cost of airport handling: Although the CAA has forced Entebbe's principal handling agent, ENHAS, to reduce its handling charges, the rates are still uncompetitive with those in Nairobi. Two freight consolidation companies currently hold licenses from the CAA to handle their own cargo, but only ENHAS has a general freight handling licence. This monopoly on general freight handling compares unfavorably with the situation in Nairobi, where six companies compete for business and handling charges are substantially lower.

Empty space on inbound flights: Air-freight operators nearly always have empty space on inbound flights. To cover costs and maintain profits, airlines have to compensate for this by charging higher rates for outbound freight. The CAA believes that this situation can be turned around if it can promote Entebbe as a regional freight hub for Central and Eastern Africa. In part, this can be done through upgrading the second runway at Entebbe and encouraging the private sector to invest in new handling and storage facilities. A reduction in imported freight handling charges would also help.

It is true that the valuable foreign exchange earnings are being lost to the country through inaction on reducing air-freight rates. The CAA estimates that rates can come down by as much as 40%. Because of strong demand for Nile perch in Europe, there is genuine reason to believe that a large proportion of the savings would remain in Uganda.

⁴⁴ Currently, each oil company negotiates on an individual basis.

Reducing international freight rates is, therefore, a key element in enhancing Uganda's export competitiveness.

Margins and Income as per the Primary Sources

The costs and prices per kilogram of fish are presented in the (Table 10) by type of fish trader/processor. However, the marketing margins of the different intermediaries operating along the fish export chain are not given because the data was not available. Generally operators at the beginning of fish marketing chain enjoy high marketing margins while at the end; the operators enjoy large quantities and low marketing margins.

Table 10: *Marketing Margins.*

Selling Prices and Marketing Costs	Price/ kg	%
<i>Selling Price: Fishermen to 'Middlemen' at landing site</i>	1,960	
Labour	47.1	
Net income for middlemen	127.9	
Selling price: Middlemen to Factory Agents	2,135	
<i>Selling Price: Fishermen to Bicycle traders</i>	1,033	76.1%
Labour	87.6	
Net income for Bicycle Traders	237.4	
<i>Selling price: Bicycle trader to consumers</i>	1,358	100%
<i>Selling price: Fishermen to Motorcycle traders</i>	875	60.0%
Labour	18.2	
Fuel	43.9	
Net income for Motor cycle traders	212.9	
<i>Selling price: Motorcycle traders to retailers</i>	1,150	78.8%
Hire of stall	5.4	
Transport	88.8	
Labour	29.9	
Market dues	14.3	
Net income of retailer	170.6	
<i>Selling price: Retailer to consumer</i>	1,459	100%
<i>Selling price: Fishermen to Pick-up traders</i>	900	61.7%
Labour	24.0	
Hire of pick-up	159.4	
Net income of pick-up trader	97.6	
<i>Selling price: Pick-up traders to retailers</i>	1,181	80.9%
Hire of stall	5.4	
Transport	88.8	
Labour	29.9	
Market dues	14.3	
Net income of retailers	351.6	
<i>Selling price: Retailers to consumers</i>	1,459	100%
<i>Selling price: Fishermen to Artisanal Fish smokers</i>	717.6	45%
Firewood	192.7	
Labour	307.8	
Net Income of Fish smokers	22.9	
<i>Selling price: Fish smokers to retailers</i>	1,241	77.9%
Transport	116.0	
Market dues	10.8	
Labour	41	
Net income for retailers	184.2	
<i>Selling price: Retailers to consumers</i>	1,593	100%

7. IMPACT OF TRADE LIBERALISATION ON LOCAL LIVELIHOODS

7.1 Issues of Poverty and Fisheries - a Synopsis

There has been no disaggregated data on the poverty trends specifically on fisheries in Uganda. However, some data on poverty trends in fisheries can be teased out of household surveys the Uganda Bureau of Statistics (UBOS) has been carrying out. UBOS in 2002 carried out a detailed household survey countrywide and the data collected was picked and analyzed by the Economic Policy Research Centre (EPRC) of Makerere University. Preliminary estimates of this analysis revealed that poverty overall in the country increased from 34% to 38% in years 1990 and 2003 respectively. These results also reveal that poverty has increased in the agricultural farm households and slightly reduced in non-agricultural households (see Okidi and Ssewanyana, 2003)⁴⁵. It is not clear whether fisheries-dependent communities were included in the non-agricultural household variables during the analysis to ascertain if poverty in fishing communities and households had increased as well. Nevertheless, other non-quantitative participatory poverty assessment exercises revealed prevalent indications of in most fishing communities countrywide.

The Uganda Participatory Poverty Assessment Process (UPPAP) has documented qualitative information on poverty and fisheries in Uganda. The second Participatory Poverty Assessment (UPPAP2) indicates that in most fishing communities, boat owners constitute the wealthiest group and these groups are largely (96%) men. In terms of income distribution by gender, it is apparent that the wealthiest group within the poor categories of those depending on the fisheries sector is men. UPPAP2 recommends that involving poor fishermen and women in decision making at landing sites can reduce this income disparity. There are some indicators that there are positive changes in poverty levels amongst fishing communities. UPPAP2 indicates that in most major landing sites (especially on Lakes Victoria and Kyoga), fishermen and boat owners, who sell mainly Nile perch, have invested in shops, video halls, restaurants, and lodges at landing sites and as a result, some have become local leaders and/or opinion leaders.

UPPAP2 analysed fisheries and poverty from a number of issues. For example, it examined the extent to which boat ownership and being a fisherman can influence poverty status of an individual. Similar analysis was also done looking at gender issues and it was discovered that in most fishing communities, few women own boats and almost none go fishing. However, a large number of women were identified to be involved in fish processing and marketing and substantial value was added to the fish production chain by these fishmongers. The study also analyzed issues of fisheries infrastructure, processing and marketing as they relate to poverty of fishing communities. An attempt was also made to link trade liberalisation policies and institutional development to poverty in fishing communities. The underlying question here was whether policy changes, such as trade liberalisation processes had implications on

⁴⁵ Kampala.. Okidi J. and Ssewanyana S, (2003) Income and Poverty in Uganda, 1992 - 2003. Economic Policy Research Centre. Paper presented at National Stakeholder Conference on PEAP Revision 28th October 2003, International Conference Centre

poverty status of fish dependent communities. Nyeko and Keizire (2003) revealed that community-based institutions, which came as a result of trade liberalisation, are key entry points for service delivery in fisheries. The delivery of such services would reduce incidence of poverty amongst fishing communities.

7.2 Communities' Response to Liberalisation and Livelihood Status

During the study, communities were asked on how they perceived trade policies of liberalisation and globalisation and livelihood status. Questions were made simple to explain in real terms what trade liberalisation really meant. Responses were classified as issues of human capital, social capital or vulnerability.

Human Capital: Communities responded that trade liberalisation policies have not extended human capacity development to the grass root levels. Communities, however, felt that the demand for quality fish at landing sites has necessitated them improving their fish handling practices and some individuals have also attended quality assurance workshops organised at village level. There is a general appreciation that demand for quality fish by foreign markets has also improved the hygiene status of locally consumed fish. Others reported that apart from the factory agents, who had acquired skills relevant to quality assurance, the rest of the fisherfolk had not received any special training. In general, there is considerable improvement in terms of communities' understanding of quality issues and how they can enhance their poverty status.

Social Capital: At one landing site, a case was made that an association of fish suppliers was formed to address the needs of factory agents. This was meant to enhance their social cohesion. However, concerns were raised that the benefits of the organisation were limited to the executive members and did not trickle down to the grass root fishers. Community members were of the view that the Department of Fisheries had done nothing for them for the reason that the landing site had not been gazetted as a fish export-landing site. They contended that despite their landing site not being gazetted for handling fish for export, they were benefiting from a relatively higher price compared to prices before fish trade liberalisation and before the fish ban.

Natural Capital: The respondents were of the view that the high prices of Nile perch induced by fish exports had attracted many fishermen into the lake resulting into excessive fishing pressure. Consequently, the availability of big-sized Nile perch had decreased compelling them to use undersized gears in order to survive.

Financial Capital: Generally, the fishing communities at the landing sites visited did not have access to formal credit. At Bukagabo, the Women's Finance Trust, a micro-finance institution had begun operating and was targeting women with viable enterprises including women fish processors. However, there were general complaints that the conditions of the credit were extremely difficult to satisfy to the extent that most credit recipients had defaulted and subsequently lost their household assets such as radios and sewing machines. For example, community members at Namirembe were aware of credit services provided by FINCA in Masaka district. However, loan recipients were required to report to the district headquarters twice a week, a condition that was very costly. Thus,

the fishing community members mainly obtained informal credit from close relatives and friends to finance their fisheries enterprises. Some members, especially the independent factory agents, were able to obtain credit from fish processing factories but considered it to be an insignificant source. Trade liberalization has however led to improved livelihoods as a result of better prices for fish products.

On issues of returns to fishermen, fishing communities report that before the increase in Nile Perch export, returns at the time were low. After the increase in Nile Perch exports, fishermen reported an increase in terms of their returns from sales.

Physical infrastructure: Since the advent of Nile perch for export, a number of access roads to landing sites have been either developed by government or a number of infrastructure facilities have been built by private groups. Community members regularly maintained the road to the landing site to ensure access of refrigerated trucks. Fishing communities generally believe that global fish trade has brought benefits as well as problems. From the benefits side, most fishing communities believe that fish exports have generated more money for boat owners and fishermen. In most of the landing sites where Nile perch fishery is common, there is an evidence of infrastructure development in the form of shops, bigger boats and fish processing facilities.

Publicly owned pit latrines were also constructed to improve the levels of sanitation and hygiene, thus addressing the safety concerns of the fish exports industry. Fish weighing shades have also been constructed to improve fish handling and iceboxes installed to facilitate assembling of fish from boats to trucks. The operators in the fish export marketing chain, however, have encountered a number of problems: -

The frequent price fluctuations characterize the fish export business and caused financial losses. Independent factory agents buy Nile perch from fishers with the expectation that fish factories will pay the previous day's price. However, most times the actual price they are paid is lower than the previous days price. Moreover, the fishers cannot know the prevailing factory price due to lack of regular communication between the fish factories and landing sites.

Corruption during transit and sometimes at the fish factory was cited as a major constraint to the independent factory agents. They complained of the existence of many enforcement agents including military operatives during transit to fish processing factories who extort bribes from them. Delays in payments by fish factories had also denied factory agents a sufficient and reliable cash flow to finance their business.

The recent introduction of slot size regulation which requires operators in the chain to catch, process and trade Nile perch of at least 20 inch had limited the supply of Nile perch.

Vulnerability: Fishing communities have experienced four sudden drops in Nile perch prices since 1990; an indication that the fish export market is highly volatile. In 1994, the Nile prices dropped to Ushs 150 per kilogram, following the Rwandan Genocide. While

these changes affected the fisheries in general, the effect was more pronounced in the Nile perch fisheries. The second drastic decline in Nile perch prices occurred in 1997 following the El-Nino rains and the subsequent cholera outbreaks. In 1999, Nile perch prices dropped to Ushs600 per kilo from Ushs1,200 a kilogram. More recently between December 2003 and February 2004, fish prices dropped to Ushs600 a kg from Ushs2,400 a kilo due to reasons related to changes in world fish demand.

During the sudden price declines, the fishers simply abandoned fishing because prices did not earn a sufficient income to cover the operating costs especially fuel. Consequently, the factory agents experienced shortages in Nile perch supplies and also abandoned their activities. Overall, providers of auxiliary services such as fuel dealers, operators of restaurants, retail shops and kiosks and prostitutes experienced economic difficulties. Some fishers and fish traders especially those operating on the eastern part of Lake Victoria responded by smuggling fish to Kenya where better fish prices were being offered. Other fishers resorted to alternative activities such as smallholder farming, stone crushing and sand mining. It was also mentioned that the level of crime particularly theft increased during these periods.

On the positive side, most communities generally agree that fish export trade increased the fishers income through increased fish prices. The comparisons were made based on the period before increase in the fish exports. As regards to fish catches, communities report that before liberalization, fish catches were high and the number of fishermen were relatively fewer than the present number. However, communities believe that the export boom and the resultant increase in fish prices acted as an incentive to other communities and the number of people accessing fishing licenses and fishing permits increased. The universal biological laws applied and this has, on average, resulted in decreases in fish catches.

On a negative side, people in the marketing chain believe that before fish export boom, local markets were not fully supplied with fish and there was generally low demand for fish. The international fish trade led to expansion of local and regional markets. In fact, the concern, which is still an issue, is that exports of Nile perch and even other fish has left low income communities with no fish to eat and are left with bones and other by-products. At the same time, the average increase in price of fish discriminates against the poor. Some communities claim that certain species of fish are too expensive and cannot even be found on the market. At Bugoto landing site in Mayuge district, for example, one fisherman claimed that he can go fishing but will hardly eat fish because it can fetch better prices and can bring cash. This argument is however not valid. There are many species that produced within the Uganda waters. It is therefore not true that there is no fish to eat by Ugandans since all is exported. The key lesson learnt from such revelations is that issues such as the above need to be given attention while trying to maximize benefits from export trade as well as improving the livelihoods of the poor.

Employment: Communities also note that the change within the fisheries sector have seen more people migrating to fishing communities, especially at fish landing sites, and also increasing the number of fishermen and boat owners. In general welfare levels have

increased. There are more activities at landing sites such as fish processing, fish trade and boat building, thereby increasing the total employment numbers. While this may be good in terms of employment, the extra people in the fishing sector and especially at landing site, means that there will be extra fishing pressure to satisfy their needs. However, with time, the increased fishing pressure may lead to the collapse of the stocks unless the resources are well managed.

Fishing communities also reported that the fish export trade has boosted other forms of business. This includes transport of fish from landing sites to fish markets and to fish processing factories. The transport of people to, and from, fish landing sites and islands has also increased. Another form of transport that have boosted as reported by communities in other districts, is the motorcycle.

Communities indicated that they have already embraced the concept of Beach Management Units (BMUs) initiated by government. Communities believe a lot in the formation of marketing associations but indicated that they would first learn from the experiences of BMUs once they are fully operational.

Table 11: Matrix Summarizing Impacts of Trade Liberalization

Operator category in the marketing chain	Impact on livelihoods assets - Environment - Physical assets - Skills - Financial assets - Social capital	Impact on vulnerability context - Shocks - Trends	Livelihoods strategies - Employment - Income - Food security
Fishing sector	<ul style="list-style-type: none"> • Attracted large numbers of fishermen in the lake hence excessive pressure on the fisheries resource • Recommended Nile perch is scarce hence fishermen are forced to use illegal gears to catch juvenile Perch • Overseas markets prefer white flesh thus they encourage juvenile fishing since factories pay high prices for them. • A number of infrastructures have been constructed to improve on the levels of hygiene. • A part from factory agents who had acquired skills relevant to quality assurance the fisher folk had not received any special training. • An Association of fish suppliers was formed to address the needs of the factory agents however concerns were raised that the benefits were limited to executive members only. • DFR has done nothing to some landing like Bukagabo- no fisheries development projects in the site. 	<ul style="list-style-type: none"> • Highly volatile market that leads to fish price fluctuations • Fish bans. • Slot size regulation • Delays in payment by traders. • Wide geographical variations lead to serious price differences. 	<ul style="list-style-type: none"> • Increased employment opportunities • Improved incomes • Once a fisher has earned an income, he can secure any type of food. However, food security in terms of fisheries resources is being degraded.
Traders (Including Middlemen Wholesalers Retailers)	<ul style="list-style-type: none"> • Emergency of a number of traders i.e middlemen, factory agents, local traders, regional traders, retailers/wholesalers. • Provided market for juvenile Nile perch • Buy fish rejected by factory agents. • Local retailers and whole sellers main deal in Nile tilapia. • Those who deal in fresh fish use refrigerated trucks for pre • Have benefited from infrastructures constructed to improve on the levels of hygiene. • A part from factory agents who had acquired skills relevant to quality assurance the local traders had not received any special training. • An Association of fish suppliers was formed to address the needs of the factory agents however concerns were 	<ul style="list-style-type: none"> • Highly volatile market that lead to fish price fluctuations • Fish bans. • Slot size regulation • Delays in payment by Factory agents. • Too many enforcement officers who extort bribe during transit • Smuggling of fish to regional markets e.g Kenya.(1994) • Loss of employment -middlemen. • Artisanal traders continue in business 	<ul style="list-style-type: none"> • All categories of Nile perch traders are employed at their various levels depending on individual capital; however, artisanal traders have reduced in number. • The level of income varies from one individual to another depending on capital employed. • Large scale traders do not experience food shortages but small scale traders experience food insecurity.

	raised that the benefits were limited to executive members only.		
Processors; (Including processors who lost out as a result of fish exports)	<ul style="list-style-type: none"> Decline in fisheries resources. Constructed large processing factories. Increased Pollution levels environment Reduction in number artisanal processors. Purchase and sale fish rejected by factory agents. juvenile Nile perch Local retailers and whole sellers to mainly deal in Nile tilapia. Those who deal in fresh fish use refrigerated trucks for preservation Have benefited from infrastructures have been constructed to improve on the levels of hygiene. A part from factory agents who had acquired skills relevant to quality assurance the local traders had not received any special training. Some landings like Bukagabo have not benefited from fisheries development projects. 	<ul style="list-style-type: none"> Processing factories close down when they can no longer cover their operating costs. Set prices according to prevailing volatile market opportunities. Cannot operate to normal capacity when they abide by the slot size regulation Resort to alternative investments Local artisanal processors/whole sellers dominate business. Stiff competition among local processors and traders. Too many enforcement officers who extort bribe from processors Smuggling of fish to regional markets e.g Kenya.(1994). 	<ul style="list-style-type: none"> Factory processors are employed Earn foreign exchange for government Secure food for the western world. Local processors have lost employment Exerted a lot of pressure on the fisheries resource hence-food shortage.
Exporters (this includes both owners of businesses as well as workers)	<ul style="list-style-type: none"> Emergency of a number of traders ie middlemen, factory agents, local traders, regional traders, retailers/wholesalers. Provided market for juvenile Nile perch Buy fish rejected by factory agents. Local retailers and whole sellers main deal in Nile tilapia. Those who deal in fresh fish use refrigerated trucks for pre Have benefited from infrastructures like roads. 	<ul style="list-style-type: none"> Volatile market situation. Invest in other business during unstable seasons/fish bans. Cannot meet the required tonnages due slot size regulation Delays in supplies by agents. Too many enforcement officers who extort bribe during transit Smuggling of fish to regional markets e.g Kenya.(1994) Loss of employment. 	<ul style="list-style-type: none"> Increased employment to exporters. Increased incomes Food insecurity
Transporters	<ul style="list-style-type: none"> Emergency of a number of transporters. Vehicle pollution Increased number of trucks and planes. Local transporters take fish to rural, urban and regional markets. Those who deal in fresh fish use refrigerated trucks during transit. 	<ul style="list-style-type: none"> Invest in other profitable areas Unemployment Delays to get assignments Too many enforcement officers who extort bribe during transit Smuggling of fish to regional markets e.g Kenya.(1994) 	<ul style="list-style-type: none"> Increased employment to transporters. Increased incomes Promote food insecurity

	<ul style="list-style-type: none"> • Have benefited from infrastructures like roads. • Acquired skills in driving. 	<ul style="list-style-type: none"> • Artisanal traders continue in business (pick up/bicycles). 	
Other ancillary sectors (e.g. ice suppliers, suppliers of packaging material)	<ul style="list-style-type: none"> • Ice suppliers have high demand for ice. • Producers of polythene bags have market for their produce. • Improved preservation methods. • Have acquired skills relevant to quality assurance. 	<ul style="list-style-type: none"> • Highly volatile market that lead to fish price fluctuations • Forced out of business • Small-scale suppliers emerge. 	<ul style="list-style-type: none"> • Increased employment to ancillary sectors. • Increased incomes • Food insecurity
Other stakeholders that are indirectly affected by fish exports: e.g. consumers	<ul style="list-style-type: none"> • Fish scarcity • Cannot afford fish when the prices are high • Resort to alternative foods. 	<ul style="list-style-type: none"> • Compelled to eat rejects and juvenile fish • Able to afford fish during fall in prices. 	<ul style="list-style-type: none"> • Food insecurity

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

The report demonstrates that the fisheries sector in Uganda is important for the economy. The sector contributed approximately US\$1.4 million in export earnings in 1990 increasing to approximately US\$87 million in 2002. This means that fish now competes with coffee as number one foreign exchange earner for the economy. Fish is nevertheless number one foreign exchange earner in the whole non-traditional export commodities in Uganda. The Fisheries sector also makes an important contribution in terms of employment. Over 300,000 people are directly employed in the fisheries sector while a further 1.2 million are directly dependent on the sector as the main source of livelihood. In terms of food security, it is estimated that fish feeds up to 17 million people per year, contributing its rich protein to the health of Ugandans.

Trade liberalisation in Uganda has made a contribution in transforming the fisheries sector. It is evident that liberalisation policies both at national level and also at international level have dictated a new trade agenda for fish exports in a bid to respond to international food safety requirements. While its acknowledged that the world trade rules have influenced the flow of fish exports from developing countries to the developed world, the food safety requirements have also acted as non-tariff barriers to trade.

The issue of responding to the food safety and hygienic standards demanded by fish importing nations has contributed to an increase in the costs of fish processing and export plants affecting the plants' competitive capacity. While this may be seen as barrier to trade, it has increased the capacity of fish processing plants in terms of better quality standards.

In Uganda, the EU ban of fish exports for hygienic reasons had negative effects in both the short run while in the long run it has rendered the country to be able to provide uninterrupted flow of fish to the international market.

Fish trade liberalisation has attracted investors in industrial fish processing who have exerted pressure on the fisheries resource, seen in the number of fishers and level of technology development required to satisfy the expanding fish market. Nevertheless, there has been improvement in the livelihoods of fishing communities particularly of boat owners and crewmembers targeting Nile perch as reflected in their higher incomes. On the other hand, the export trade has displaced local processors and traders and considerably reduced their incomes. Community members also classified the poor as those who did not own capital assets. The crew and fisher who lost fishing gears/catches as a result of theft and confiscation belonged (though not necessarily) to the poor class. The trade has also reduced the consumption levels of Nile perch switching to other species at beach level.

While trade liberalisation and the subsequent increase in fish trade has had a positive impacts on both the macro-economy and on livelihoods, there is a strong indication that fish-dependent communities, who are regarded the poor in the fisheries sector, have not benefited from an increase in international fish trade. Fishing communities have not taken advantage and used the reported increase in prices to increase their livelihood status. The poverty levels prevalent in fishing communities are a result of lack of initiative and commitment to invest in poverty reducing activities. While it has been reported that some communities have invested in facilities to improve their livelihoods (such as shops, schools, toilets, safe water etc), some communities continue to remain poor and without improving on the livelihood indicators.

It would appear that fishing communities have taken the fishing business for granted and have not invested the money obtained from fishing business. They are sure that the fish exist in the lake and are sure of returning to the lake the next day for more fish. At the end of the business day, fishers, boat owners and others will spend the returns from a day's sale on drinking and sex as they are sure of returning to the lake for more fish. Some studies including UPPAP (2003) indicated that HIV/AIDS is more prevalent in fishing communities because a fisher's day's catch will earn him enough for buying alcohol and sex as he returns to the lake the next day.

8.2 Recommendations

Uganda's fish processing industries (and their marketing business) are less competitive than both regional and international ones. The factors that contribute to this competitiveness include the high costs of aviation fuel, high costs of airfreight charges and costs of airport handling, which are higher than those paid by competing countries. There are also recurrent costs, which include costs of power, water and raw material. This, therefore, requires the Uganda government to put in policy incentives for reduction of airfreight charges as well as reducing of aviation fuel.

Although the issue of subsidies in fisheries sector has been widely debated, government needs to put in a policy of subsidising certain areas which increase the operational costs of fishermen and fish processing plants so as to raise their level of competitiveness. In a way, this will reduce the costs of fishing and processing which will thereby raise the margins of fishermen as well as those of fish processing plants. Such subsidy schemes may include the extension of electricity power facilities to processing plants that are located in landing sites where there is no power and where costs are high due to operations of alternative power schemes such as a generator.

It is recommended that government invests in fish landing and processing infrastructure for quality assurance. Ice making plants need to be constructed and ensuring that fishing boats carry ice needs to be made compulsory. This will not only reduce post harvest losses but will also increase the fisher's bargaining power for a better price thereby improving income levels. The road infrastructure connecting to major fish landing centres

and to fish processing plants needs to be developed to reduce on the time and, therefore, costs of fish transport.

It is further recommended that the financial and technical capacities of both public and private sector institutions be improved to engage in setting fish trade standards and other forms of negotiations. In addition, it is recommended that support is devoted to ensuring practical training and awareness building initiatives amongst a wide choice of stakeholders.

For fish trade to prosper, the issues of resource sustainability must not be ignored. Institutional reforms are required to ensure that fisheries resource management are established as well as mechanisms for financial sustainability. The issues of fiscal arrangements therefore need to be understood for ensuring that financial resources are available for sustainability of fisheries resource management and guarantee of fisheries resource for trade. The private sector, as well as public sector institutions, need to form partnership in appreciating the benefits of the fish trade and must be therefore prepared to pay for costs of management.

Government needs to ensure that poverty reduction strategies are focused on fishing communities. Poverty reduction strategies for fishing communities need to emphasise the issue of developing a culture of saving and investment. Fishermen must start a culture of using the money obtained for investing in alternative areas of revenue generation. There is need for government to allocate some of its resources in community sensitisation programs.

The government can also endeavour to address the issue of widespread poverty by encouraging poor fisherfolk to engage in alternative income generating activities. This will also reduce the pressure in the fisheries resources.

At the international level, it is important to bring the understanding of stakeholders in the fish trade business on the international trade rules and to ensure that their interests are taken care of when international trade negotiations are taking place. This is aimed at bringing Uganda on board to be at the level of international negotiations and standard setting.

For any trade measure to be instituted there is need for a national analysis of the likely impact of a trade measure on areas such as livelihoods and poverty of those communities likely to be affected by the trade measure. As a result “shock absorbers” or safety nets could be mobilised to ensure that the implications of the trade measure does not adversely affect the poor and the vulnerable.

Country directives and decisions that affect developing countries’ fish trade need to be first to be presented and subjected to discussions by international trade organisations such as the WTO and UNACTAD (where some developing countries like Uganda are parties).

This would ensure that trade rules are not used as non-tariff trade barrier. This would also help to ensure that trade measures being instituted by the developed countries d not come as a shock - like the ban on fish exports did.

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