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MARKETING OPPORTUNITIES OF UGANDAN NILE PERCH *(LATES NILOTICUS)* IN THE EU

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ABSTRACT

Despite, the apparent impressive export performance of the Nile perch, little information about the characteristics of the export market is available to local participants in the industry. Thus the main objective of this study is to critically analyse the external environment and internal situation of the Ugandan export fishery sector and establish sustainable marketing opportunities for the industry. Secondary data and primary data from main informants were utilised.

Demand for fishery products in the EU are expected to increase. Fish consumption trends in the EU indicate that Nile perch is a highly preferred cheaper near substitute for the popular white flesh fish species. Results indicated that it is possible for Ugandan processors to profitably add more value to their current products by packaging, glazing, and portioning to the required retail packs for EU consumers.

The SWOT analysis indicates that the Nile perch export sector is an ideal business with many opportunities and few threats. Quality and promotion are the main tools for sustainable competition in the Nile perch export market. In order to build a sustainable competitive advantage for the Nile perch in the export market, strong collaboration in strategy design is recommended for all the three East African countries. However, in the short to medium term Uganda will most likely continue to rely on importers and middlemen for the distribution of Nile perch products in Europe.

DEDICATION

I dedicate this work to my parents, who laid for me a strong foundation that can trigger off the limit-free flow of knowledge to and from my inner shelf. May God bless them with many more happy days up to the endless!

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1 INTRODUCTION

1.1 Position of the fisheries sector in Uganda's economy

The Ugandan fisheries industry is currently based on inland capture fisheries mainly from five major lakes: Victoria, Albert, Edward, George and Kyoga. Lake Victoria, which supplies about 50% of the catch, is the most important source, both in terms of commercial value and absolute quantity. In 1999 total catch from Ugandan waters was estimated at 223,800 mt (EC and USAID 2002). The fisheries sector contributes significantly to economic development in Uganda. About 136,000 people are involved in artisanal fishing and over 700,000 work in related areas such as fish processing, fish trade and boat building (MAAIF 2000). The average per capita consumption is estimated at 10 kg, accounting for over 50% of the protein intake for an average Ugandan (MAAIF 2000). However, export fisheries industry development is likely to impact negatively on fish utilisation for direct human consumption. The ecological sustainability of the Nile perch export fishery industry is also questionable (Odongkara and Okaronon 1999, Dijkstra 2001, EC and USAID 2002).

The Ugandan fisheries sector is now globalised, heavily influenced by international competition and extremely dynamic. Between 1997 and 2000, the industrial export fisheries experienced significant problems, notably in relation to its need to meet the European food quality/safety requirements (Dijstra 2001, EC and USAID 2002). Consequently, a temporary ban was imposed on fish exports from Uganda to the European Union (EU). Given the nature of the participants in this sector, the impact of periodic denial of access to export markets, undoubtedly has a significant negative socio-economic impact on the country. The temporary ban on fish exports to the EU led to an investment in quality assurance infrastructure in an attempt to satisfy the needs of the market. This paid off when the ban was lifted in late 2000. Since then, fish exports have continuously expanded and have sometimes surpassed coffee the major agricultural export.

The major commercial fish species in Uganda are Nile perch (*Lates niloticus*), Nile tilapia (*Oreochromis niloticus*) and mukene (*Rastreneobola argentea*), in order of importance. Nile perch, mainly exported to the EU constitutes up to 90% of foreign exchange earnings from fish products. The main importing countries in the EU are the Netherlands, Belgium, and the United Kingdom. Other export markets include Australia, USA, Egypt, Israel, Hong Kong, Singapore and Japan (EC and USAID 2002, UIA 2002).

Between 1991 and 2001, Uganda's fish export revenue increased from US$ 5.3 million to US$ 78.5 million per annum (EC and USAID 2002). In 1996, fish and fish products exports were the second largest export earner in the country, only surpassed by coffee. The national vision is to triple the value of fish exports and to increase domestic consumption significantly over the next 25 years (MAAIF 2000). However, will these exports be sustained? Prevailing conditions in international trade favour lower prices, high quality goods, and increasing competition (ITC 1999, EPADU 1994). Thus competition in international marketing needs two major facets that are highly linked in operations and production management: - production and marketing efficiency (Porter 1990, Evans *et al.* 1990, Kohls and Uhl 1998).

In this connection, there exist some constraints that are likely to hamper the targeted export expansion. These include: possible over-exploitation, low technology catch boats, lack of aquaculture development, poor post-harvest handling infrastructure and poor market access (MAAIF 2000, EC and USAID 2002). Although the demand for white fish such as cod and cod like species is relatively high in Europe, very little is known about the Nile perch as a product from Uganda (EC and USAID 2002, Richardson 2002). Nile perch is ideal for preparation with sauces and condiments that are used in the increasingly popular ready meals or semi prepared fish products in Europe (EC and USAID 2002).

It has been postulated that increased market access through direct intervention with supermarket chains in Europe, in particular for first stage products, could highly improve returns for processors EC and USAID 2002). In essence added value products, which create services are a prerequisite to market penetration in Europe. Europe is a high-income market and it is well known that the income elasticity of raw food commodities is much lower than the added utilities in the marketing chain (Kohls and Uhl 1998.) Unfortunately, Ugandan fish processors have little understanding of how to penetrate the lucrative, direct supermarket chains in Europe (EC and USAID 2002). Globalisation has meant that all production must be demand oriented if it is to succeed in the long run. In this regard, availability of appropriate market information has been deemed fundamental in improving market access (Kohls and Uhl 1998, Thompson and Strickland 2001, Czinkota *et al*. 2002).

1.2 Development trends in the EU fish market

A number of EU countries, like Spain and Portugal, are among the largest per capita consumers of fish in the world. As indicated above, demand for white fish fillets such as cod, hake, halibut and hoki is relatively high in Europe. At the same time, EU member countries are reducing their fishing efforts to better conserve their fishery resources (EC and USAID 2002, Richardson 2002). This provides a market opportunity for the near substitute products like Nile perch.

Available statistics indicate that retail multiples have the highest market share (well over 50%), in the domestic European seafood market (CBI Market Survey 2001, Richardson 2002). While there may be some advantages of an assured market for some producers, there are indicators that the burgeoning size of supermarket chains has highly weakened the market power of small producers (Richardson 2002). In the long-run fish buyers in the retail sector hope to increase the proportion of farmed seafood as opposed to wild seafood products. This is based on the perceived advantage of a steady supply of fresh products, which aquaculture has over wild fish (Richardson 2002). However, wild fish provides a much wider selection compared to farmed fish. Also, the sensory characteristics and food safety aspects of farmed fish are unsatisfactory for some markets.

Results of market research indicate that the income of consumers in Europe is increasing while culinary knowledge and time are becoming very scarce. Market demand is strongly in favour of value added high quality convenience products such as ready prepared dishes and ready to cook fresh fish. Consumers in Europe are aware of the health benefits of eating white fish and retail outlets are seizing the opportunity to market the fish. Despite the high price of fresh fish consumers are ready to pay for

high quality and convenience. Partly associated with time scarcity, is the increasing trend of eating out, which is reportedly the most important barrier to the growth of fresh fish sales in Europe (Richardson 2002). Such consumption trends are characteristic of the general food demand trend projections for very high-income communities (Kohls and Uhl 1998). Income-food consumption trends are potentially useful in the determination of a firm's marketing opportunities.

1.3 Objectives and significance of the study

Availability of timely and appropriate market information is a prerequisite of sustainable competition in a global setting. Little information about the characteristics of the export market is available to local participants in the export fish industry in Uganda. It is possible that such a loophole can be used to create unnecessary overseas middlemen, resulting in lower returns to the local investors and the country as a whole.

Thus the main objective of this study is to critically analyse the external environment and internal situation of the Ugandan export fishery sector and establish sustainable marketing opportunities for the industry. Results from this study will be potentially useful in providing market information that can be utilised by market participants and policy-makers to improve the competitive advantage of the fisheries sector.

The specific objectives are:

1. To make a value chain analysis of the Nile perch in the European market.
2. To determine the marketing macro-environment and trends.
3. To determine the market positioning strategies used by the participants.
4. To determine the market segments.
5. To undertake a SWOT analysis of the Ugandan Nile perch export fishery industry.
6. To make recommendations to stakeholders in the fisheries sector.

Based on the specific objectives, the following research questions were formulated:

1. What are the main value addition activities, associated participants, and returns in the Nile perch market channels?
2. What is the nature of the marketing macro-environment and important trends?
3. How are the Nile perch products positioned in the EU market?
4. What are the characteristics of target market segments?
5. How is the profile of strength, weakness, opportunities and threats of the Ugandan Nile perch export fish industry relative to the market macro-environment and trends?
6. In light of the above findings, how can Uganda improve marketing opportunities for the Nile perch in the EU?

2 THEORETICAL FRAMEWORK OF THE STUDY

2.1 Analysis of industry structure

The basic unit for understanding competition is the industry. An industry is a group of competitors producing products or services that compete directly with each other (Porter 1990, Thompson and Strickland 2001). Care must be taken to avoid broad industry definition that is not strategically meaningful. In fisheries one can for instance select the white fish sector for a meaningful strategic industry analysis. Two central concerns in the choice of a competitive strategy are the industrial structure in which the firm competes and positioning within the industry (Porter 1990). Both the industrial structure and positioning are dynamic and can be affected by shifts in the inherent variables, which can be shaped by a firm itself.

According to Porter (1990), the structure analysis of an industry can be understood by looking at five competitive forces:

1) The threat of new entrants.
2) The threat of substitute products or services.
3) The bargaining power of suppliers.
4) The bargaining power of buyers.
5) The rivalry among existing competitors.

The strength of the five forces varies from industry to industry and determine overall industrial profitability. The requirements for a firm's success will depend on the nature of the industry structure it is associated with.

Structurally attractive industries usually have sustainable entry barriers in areas of technology, specialised skills, channel access and brand reputation. They often involve high labour productivity and will earn more attractive returns of capital. In the case of fish marketing, these industries can be represented by value added, high quality convenience products such as ready prepared dishes and ready to cook fresh fish (EC and USAID 2002, Richardson 2002). Porter (1990) has strongly argued that the standards of living of a country will be highly dependent on the capacity of local firms to successfully penetrate these structurally attractive industries. Regardless of what the average profitability of the industry is, some positions are more profitable than others.

2.2 Positioning

Positioning can be defined as the consumer's perception of a brand amongst other brands (Antonides and Van Raaij 1998). The other brands and products in the category are the competing ones or near substitutes. Positioning is mainly a product of marketing communication regarding brands, socio communication and personal experience. First the producer must categorise the products and then (s)he positions the brand or product within a category. A clear positioning of the brand or product helps consumers to understand its purpose provided that the positioning is honestly done (Antonides and Van Raaij 1998).

Positioning embodies the firms overall approach to competing and is basically aimed at gaining competitive advantage. There are two basic types of competitive advantage: lower cost and differentiation (Porter 1990). Lower cost is a function of the firm's efficiency while differentiation is the ability of the firm to provide unique and superior value to the buyer in terms of product quality, special features, or after sale service. Competitive advantage of either type translates to higher productivity than that of competitors and is directly linked to national income (Porter 1990).

Within these two types of competitive strategies another important variable is the competitive scope or the breadth of the firms target within the industry. The type and scope of advantage can be described by four generic strategies, which are basically the different approaches to superior performance in the industry (Porter 1990).

The four generic strategies are:

1) Differentiation: offering a wide array of high quality products at premium prices.
2) Focused differentiation: offering specialised high-tech products that command very high prices.
3) Cost leadership: offering many types of good products but not superior quality at lower prices.
4) Cost focus: offering relatively simple standard products at much lower prices.

No single strategy is appropriate for any industry and different strategies can co-exist successfully in one industry.

A firm must select the type of competitive advantage it seeks to attain and the scope within which it can be attained. If a firm pursues all the above strategies simultaneously (to be stuck in the middle) it is highly likely to have below average performance (Porter 1990). Competitive scope is important because industries are segmented and firms can sometimes gain competitive advantage from breadth through competing globally or from exploiting the interrelationship by competing in related industries.

2.3 Sources of competitive advantage (the value chain)

The competitive advantage of firms is highly dependent on the way they perform their activities and create value for their buyers i.e. the value chain (Kotler 1988, Porter 1990, Wilson and Gilligan 1997, Thompson and Strickland 2001). A firm is profitable if this value exceeds the total cost of performing all the required activities. Competitive advantage is achieved if the firm can perform these activities efficiently (lower cost) or in a unique way that creates higher buyer value and commands a premium price (differentiation).

The activities in a firm's value chain are inter-dependent, connected by linkages and must be managed as a system if a firm is to achieve competitive advantage. The firm's value chain is itself embedded in a broader stream of activities that Porter refers to as a value system. This includes suppliers of inputs into the firm's value system, value chains of distribution channels (retailers) and buyers' value chains. Competitive advantage is increasingly a function of how well a firm can manage the entire system.

This could partly explain the desire of some big firms to integrate backward and forward in the industry (Thompson and Strickland 2001).

The value chain gives a holistic picture of all costs involved in creating products and services and provides a tool for understanding the sources of differentiation and cost advantage (Porter 1990). It also helps to understand the role of competitive scope in gaining competitive advantage. According to Porter, selection of a different scope from competitors is the main reason why firms gain competitive advantage. He further points out that the home nation's environment plays an important role in how these differences in scope can emerge. Selection of scope is undoubtedly associated with specific target consumers in mind, which are usually identified under market segmentation.

2.4 Market segmentation

Market segments are groups of consumers that have some common characteristics relating to their consumption behaviour. Once such segments are identified, a focused marketing plan can be appropriately designed (Wilson and Gilligan 1997, Antonides and Van Raaij 1998). Market segmentation is therefore helpful in identifying the target group. The target group is a group of consumers, decision makers or companies towards whom the marketing and information policy is directed. Information and advertising objectives are not only aimed at reaching buyers, but also influential people in the decision-making unit. Understanding of the target group is vital in the design of marketing and information policy. Target groups or market segments can be described at three levels: the general, the domain-specific, and the brand specific level (Antonides and Van Raaij 1998).

General description includes person and household characteristics, socio-economic and demographic variables such as age, gender, level of education, income, region, city, residential area, behavioural patterns and postal code. These characteristics can be determined objectively. Also included are psycho-graphic characteristics such as lifestyle, personality, and instrumental and terminal values that are subjectively determined. Objective variables under the domain specific level include user frequency, substitution, complementarities and observable behaviour. Subjective variables include interests, opinions, perception, attitude and domain-specific values. Domain specific variables are usually the most suitable for market segmentation and target group determination (Antonides and Van Raaij 1998. Brand specific variables are associated with the purchase and use of certain brands. Variables used to define a segment are called active variables and those used to further describe and characterise the segment are called passive variables (Antonides and Van Raaij 1998).

For scientific research, market and communication, Antonides and Van Raaij (1998) have pointed out four conditions of size and homogeneity that segments have to fulfil:

1) The segment should be easily identified in terms of size and composition and its variables clearly and concisely measured (typification of segments). Such objective characteristics are preferable.
2) There should be enough homogeneity within the segment, enough heterogeneity across different segments and enough stability of segment composition (homogeneity).

3) The segment should be reached using the conventional market communication methods and should be large enough to be eligible for a separate market application (usability).
4) Strategic criteria: this is concerned with the potential of the segment's purchasing power and the probability of being convinced by a marketing communication strategy so as to justify a separate strategy.

2.5 Strategic and marketing analysis

The above information in sections 2.1 – 2.4 can be used in strategic and marketing analysis to chart the most sustainable and profitable business strategy for the firm (Thompson and Strickland 2001). The starting point of the process of strategic and marketing analysis involves a detailed marketing audit and a review of marketing effectiveness. This provides the marketing strategist with a clear understanding of the following (McDonald 1995, Wilson and Gilligan 1997):

1) The organisation's current market position.
2) The nature of environmental opportunities and threats.
3) The organisation's ability to cope with the demands of this environment.

A full marketing audit is highly specific and potentially time consuming. A review of marketing effectiveness coupled with the SWOT analysis is usually used in normal firm operations (Wilson and Gilligan 1997). The current study has also utilised this approach in the determination of marketing opportunities for Nile perch in Europe. Marketing effectiveness can be determined by the extent to which an organisation reflects the following five major attributes:

1) A customer oriented philosophy.
2) An integrated marketing organisation.
3) Adequate marketing information.
4) A strategic orientation.
5) Operational efficiency.

A checklist can be used to measure each of the above attributes and an overall rating can then be computed.

It is now well known that the design of an effective marketing strategy depends on an in-depth understanding of the external environment, the firm's internal situation and customers' potential response profiles (Kotler 1988, Porter 1990; Wilson and Gilligan 1997, Antonides and Van Raaij 1998, Thompson and Strickland 2001). The two most important situational considerations that have been recommended for such analysis are (Kotler 1988, Wilson and Gilligan 1997, Thompson and Strickland 2001):

(1) Industry and competitive conditions.
(2) A business's own competitive capabilities, resources and weakness.

Thompson and Strickland (2001) have pointed out seven questions for industry and competitive analysis.

(1) What are the industry's dominant economic features?

(2) What is competition like and how strong is each of the competitive forces?
(3) What is causing the industry's competitive structure and business environment to change?
(4) Which firms are in the strongest/weakest positions?
(5) What strategic moves are rivals likely to make next?
(6) What are the key factors for competitive success?
(7) Is the industry attractive and what are the prospects of above average profitability?

In evaluating a company's resources and competitive capabilities Thompson and Strickland (2001) point out five main questions:

(1) How well is the firm's present strategy working?
(2) What are the firm's resource strength and weakness and its external opportunities and threats?
(3) Are the firm's prices and costs competitive?
(4) How strong is the firm's competitive position relative to its rivals?
(5) What strategic issues does the company face?

After responding to all of the questions above, the strength, weakness, opportunities and threat (SWOT) framework can then be applied to define the firm's marketing/business strategy (Kotler 1988, Wilson and Gilligan 1997, Thompson and Strickland 2001). Assuming that the whole fishery export industry in Uganda is one big firm, the analysis of its external environment and internal situation can be used to define its business strategy or marketing opportunities. This assumption is valid given the fact that firms in Uganda have such low bargaining power that they never directly compete with each other in the export market later alone being known (EC and USAID 2002).

The SWOT analysis has been pointed out as a simple and potentially useful tool in the strategic marketing planning process (Kotler 1988, Wilson and Gilligan 1997, Thompson and Strickland 2001). Opportunities can be seen as those developments in the market or the external environment in which the firm enjoys competitive advantage while threats are those developments, which weaken the firm's market position if not countered (Wilson and Gilligan 1997). Opportunities can be assessed according to their attractiveness and the organisations' probability of success in this area. Threats can be assessed on the basis of their seriousness and the probability of their occurrence.

A picture of the major threats and opportunities gives an overall impression of the attractiveness of the industry. Four possibilities can be deduced (Wilson and Gilligan 1997):

1) An ideal business that is characterised by numerous opportunities but few if any threats.
2) A speculative business that is high in both opportunities and threats.
3) A mature business that is low in both opportunities and threats.
4) A troubled business that is low in opportunities but high in threats.

Each factor in the marketing environment is rated according to whether it is a fundamental strength, a marginal strength, a neutral factor, marginal weakness or a

fundamental weakness. The factors can further be rated as high, medium and low depending on their importance in achieving competitive advantage (Wilson and Gilligan 1997). In addition, there is need to consider the relative importance of the weaknesses because some are not worth an investment.

3 METHODOLOGY

3.1 Analytical framework

This study adapts the strategic business analysis framework expounded by Thompson and Strickland (2001). In addition, approaches mostly from Strategic Marketing Management by Wilson and Gilligan (1997) and Porter's (1990) writings on the Competitive Advantage of Nations were integrated to further understand and improve the analytical framework. For details, please see sub-section 2.5.

3.2 Study scope

The study was only concerned with the marketing of Nile perch from Uganda in the EU. Other upstream marketing and production activities in Uganda were only analysed to improve the understanding of the competitive advantage of Ugandan Nile perch export fishery industry in the European market.

3.3 Research design

The study mainly used secondary data from authoritative data sources. In addition, mail questionnaires were utilised to collect data from main informants along the fish export value chain. A rapid appraisal of the available information was undertaken to help fine-tune data collection methods and analysis.

3.4 Main informants

Nine fish processors and one senior fisheries inspector in Uganda, three Europe based Nile perch importers, one Europe based fish processor/exporter and two supermarket chains were contacted for the study using a mail questionnaire (Appendix V and VI). The main informants who agreed to co-operate included two fish processors and one senior fisheries inspector in Uganda, and one European based exporter.

3.5 Data sets

Data sets included standard products in the market, physical product and financial flows in the market, the size and number of firms involved in fish marketing, value addition activities and product positioning. Data was also collected on market segments, market trends, the marketing macro-environment, and the market conduct of participants.

3.6 Analysis of data

Data was coded and entered in Microsoft Excel spreadsheets. Descriptive statistics such as measures of central tendency and percentages were used to analyse the data. Trends in the market were evaluated by use of simple graphical analysis and appropriate growth models. Since a great amount of data was qualitative, appropriate qualitative methods e.g. the SWOT analysis were also utilised.

3.7 Important risks and assumptions of the study

- There will be no fish ban and natural disasters that will adversely affect the fisheries sector in Uganda.
- Political and macro-economic stability will continue in Uganda.
- Competition between Uganda Nile perch fish processing companies in the domestic and export market is insignificant under the current analytical framework.

4 RESULTS AND DISCUSSION

4.1 Regulatory framework governing fish exports to the EU, relevant to the Uganda Nile perch export fishery

4.1.1 Tariffs and quotas

In line with everything but the arms (EBA) initiative, there are no tariff and quota limitations for exports from the least developed countries like Uganda to the EU (MOFA 2002). However, indirect tariff barriers exist in the form of subsidies under the European Common Fishery Policy (EU on Line 2002). It is possible for these subsidies to negatively distort the market conditions for Nile perch in the EU.

4.1.2 Potential non tax barriers (NTB)

Included here are most of the regulations (EU directives) meant to protect the health and safety of consumers and some related documentation procedures (Appendix I). Products imported into the EU will be subject to the same hygiene measures as products from member states (Gordon Munro 1995). In effect, developing countries that wish to export to the EU have to adopt production and marketing patterns that conform to the expectations of the high technology and high-income food consumption patterns of the European community.

In directive 2406/96/EU, common trade norms aimed at quality improvement are laid down for certain species of fresh or chilled fish (CBI Strategic Marketing Guide 2001). Since July 1998, fishery imports from developing countries to the EU are only possible if they are included on specified EU lists, which are part of directives 97/296/EC and 97/20 or from the Economic European Area countries (EEA). In sum, there are four different groups of countries importing fishery products into the EU (CBI Access Guide 2002[a]; CBI Strategic Marketing Guide 2001):

1. EEA countries
2. Completely harmonised countries (Directive 91/492 and Directive 91/493)
3. Provisionally harmonised countries (Directive 95/408)
4. Non-harmonised countries

The key features of directives 91/493/EEC and 2406/96/EU is that all fishery products (whether fresh, chilled, frozen, canned, salted, smoked or dried) imported from third countries into the EU must come from a preparation, processing, packaging or storage facility, which has been approved by a competent body in the country concerned. The list of approved companies is endorsed by the European Commission and published in the Official Journal of the EU.

In bilateral negotiations, EU member states have the opportunity to draw up a list of recognised countries. In 2002, Uganda and Tanzania were included on the specified EU lists, but Kenya was still suspended and only exporting under bilateral negotiations. However, the strategic issue is whether this position is sustainable.

Packaging, marking, and labelling: These are especially important factors when the product is to be retailed by supermarkets or other retail outlets (CBI Strategic

Marketing Guide 2001). Technologically, packaging protects the products against mechanical damage and creates a microclimate. The greater weight accorded to trace ability in international fish marketing (Richardson 2002) has made appropriate labelling more important. Packaging, marking and labelling are thus essential factors of quality, product policy and as such should be designed to fit in the overall marketing strategy being pursued.

Environmental issues: There is a strong environmentally sensitive consumer movement in Northern Europe, particularly in Scandinavia, Germany and the Netherlands. It has been noted that the environmental issue may be one of the largest determinants of success in the EU market (CBI Strategic Marketing Guide 2001, Dijkstra 2001). Uganda could exploit this trend by positioning its Nile perch exports as environmentally friendly in the future. However, there are some added costs on such an approach that may require aggressive promotional efforts to convince the consumers to pay for the premium.

Adherence to strict safety and quality regulations can be an important non-tariff barrier to the access of fishery products to the EU. Fishery production chains and post-harvest handling have to be modified in accordance with export requirements. Often the capital needs and organisational capacity are highly constraining in the artisanal fisheries common in developing countries and Uganda in particular. As a result, Uganda had three fish export bans imposed on it by the EU between February 1997 and March 1999 (Dijkstra 2001). Similar fish bans were placed on Kenya and Tanzania in the same period. Currently (2002) only Uganda and Tanzania are exporting to EU, Kenya does not meet the export conditions.

Both tariff and non-tariff barriers are dynamic and there is need to be continuously updated on the situation if one is to be a serious exporter (Gordon Munro 1995, CBI Strategic Marketing Guide 2001). Thus the importance of a strong market information system need not be over-emphasised.

4.2 Uganda Nile perch export fishery market structure

4.2.1 Channel structure

Most of the Nile perch exports from Uganda are destined to go through the marketing channel, which is depicted in Figure 1 below. The main source of Uganda's export Nile perch is around Lake Victoria. The Ugandan channel is characterised by many fishers who sell their fish mainly to middlemen (suppliers) who then sell it on to fish processors (Sabiiti 1999). Sometimes the factories purchase fish directly from fishers. Prices are generally competitive and determined by the market. Suppliers usually use insulated boats and ice for transporting fish but fishers rarely use ice in their operations (Ecaat and Odongo 1999). The perish ability of fish held by fishers is sometimes taken advantage of by suppliers to reduce their bargaining power. Fish in the hands of agents and fishers is usually in the form of whole un-gutted fish.

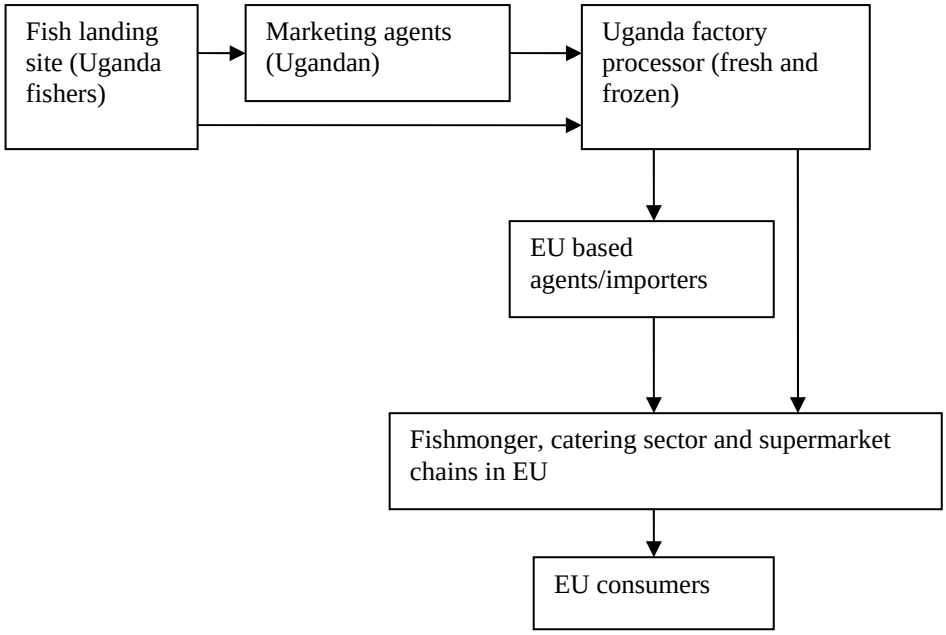

Figure 1: Major marketing channel for Ugandan Nile perch exports to Europe (Sabiiti 1999 and CBI Market Survey 2001).

Currently, the European fish market is characterised by many suppliers, processors and distributors. The expected future trend, however, is towards fewer market players and more concentration (CBI Market Survey 2001). This implies more market power associated with market players in the EU. As opposed to the individual consumer who prefers going to the supermarket or fishmonger, firms in Europe prefer e-commerce sales as these imply bigger and quicker profits (CBI Market Survey 2001). The fish exporter (processor) must be aware of the different channels in the market so as to weigh the possibility of either transacting business directly with the end chain or through middlemen.

Two types of agents can be identified in the EU fish import channel: buying agents and selling agents (CBI Market Survey 2001). The former represents the buyers, such as the food industry. The latter represents the sellers, mainly exporters. Agents are usually well informed about current market trends, prices and users. Importers buy fishery products on their own account and sell, mainly to the food industry and re-exporters. Manufacturers/processing importers buy raw materials and semi-finished products to process them further, with the aim of selling them to the end-product manufacturers. Some importers especially in the Netherlands have specialised in buying Nile perch for re-exporting (CBI Market Survey 2001). The channel structure is therefore much more complex in reality than the diagrammatic representation above.

Retailers or catering services carry out the final stage of selling fishery products to consumers, accounting for a very large share of the total sales (CBI Market Survey 2001, Richardson 2002). Except for some of the bigger supermarket chains and retail multiples, retail/catering organisations hardly ever purchase directly from abroad. Figure 1 above shows the distribution channels. In the marketing of Uganda's Nile

perch to the EU the direct linkage of processors to the retail/catering outlets is represented by importers who own processing factories in Uganda like Alpha group.

Retail chains possess a lot of market power and are responsible for setting a fair price. They rarely work on the spot market but prefer to work with the same suppliers (Richardson 2002). Exporting directly to the EU retail fish market requires a lot of financial capacity to support exclusive contracts, advertising campaigns and to service special requirements. In addition, the supplier must know the detailed requirements of the local market and of individual end users (CBI Market Survey 2001). Partly for this reason, Uganda's fish processors are likely to rely on EU importers and agents in the short to medium term. Of course the scenario can be different if the processor is a branch of the EU importer.

Supermarket and hypermarket retailing is gradually becoming more popular in the EU at the expense of the traditional fishmonger (Table 1). This is especially pronounced in North-western Europe and Scandinavia as opposed to the Mediterranean countries where fishmongers and market stalls still command a large majority (CBI market survey 2001). In this regard, promotion of Nile perch exports that target retail outlets should preferably be directed to the respective dominant channels.

Table 1: Retail sales channels for fish products in the EU (%) 2000 (CBI Market Survey 2001).

Purchasing point	**Total fish products**	**Fresh/ defrosted**	**Frozen unpacked**	**Frozen packed**	**Preserved**	**Salt, dried, smoked**
Modern distribution						
• Hyper/supermarkets	50.8	37.7	28.4	76.2	83.5	40.1
• Discounts	4.3	0.5	5.7	11.8	10	2.7
Sub-total	**55.1**	**38.2**	**34.1**	**88**	**93.5**	**42.8**
Traditional distribution						
• Food stores	7.2	3.2	31.3	10.6	4.6	12.6
• Fish shops	28	44.4	29.4	0.7	0.1	22.3
• Speciality shops	0.4	0.1	0.7	0.4	0.7	2.1
• Local markets	8.8	13.7	4.1	0.1	0.7	19.7
Sub-total	**44.4**	**61.4**	**65.5**	**11.8**	**6.1**	**56.7**
Others						
• Cash and carry/producer outlets	0.3	0.3	0.3	0.2	0.4	0.3
• Direct sale	0.2	0.3	0.1	0	0	0.2
Sub-total	**0.5**	**0.6**	**0.4**	**0.2**	**0.4**	**0.5**
Total	**100**	**100.2**	**100**	**100**	**100**	**100**

4.2.2 Nile perch standard products on the market and their positioning in the EU

The standard Nile perch products produced by Ugandan fish processors include chilled fillets and portions of 200 g – 800 g and frozen fillets of 500 g – 1200 g packs. Other products as shown in Table 2 are headless and head on gutted fish, gilled and gutted fish, steaks, loins, and red meat. In addition, some by-products and value added

products are also produced (Table 2). Apart from Nile perch leather value added products do not currently have a competitive edge in Europe. This can be attributed to the bulkiness of some of them, low market confidence and tight EU food safety and quality regulations (CBI Market Survey 2001, EC and USAID 2002).

Table 2: Nile perch standard products and positioning (Survey data (main informants), CBI market Survey 2001, Dijkstra 2001, UIA 2002, UFPEA 2002).

a) Chilled and frozen products	
Chilled	**Frozen**
Skinless fillets, portions, headless gutted Nile perch, whole gutted, skinless loins,	Skinless fillets; skin on, scale less, fillets; portions; headless gutted Nile perch, head on, gilled and gutted Nile perch, steaks, loins, IWP fillets, red meat,
Fillet and portion size range:	
200 g – 800 g	500 g – 1200 g
Main chilled and frozen products	
Chilled fillets (most exported overall)	Frozen fillets (2nd most exported overall)
b) Other products (minor category c.f. to a above)	
Value added products*: Nile perch leather, battered fish portions, fish burgers, fish cakes, breaded fish balls, fish sausages, Nile perch tikka kebabs **By-products:** roe, head and cheeks, fats, belly flaps, skins, scales, fish maws, fish bladder, fish stomachs	
c) Positioning	
Near cheap substitute for highly demanded cod and cod like species	

***N.B**: Apart from Nile perch leather, which is exported to Europe, the value added products are mostly meant for the local market and at most exported in the regional market.

However, different Nile perch products may be found in the EU retail markets because of added value along the channel. As far as positioning is concerned, data from fish processors indicated a poorly developed market information function in Uganda. All the main informants interviewed were unable to clearly articulate the positioning of Nile perch in the EU market. This can partly be attributed to their being too far from the end product consumers.

Available literature indicates that, Nile perch fillets along with hake fillets are positioned as cheaper near substitutes to the traditionally demanded cod and cod like North Sea species (CBI Market Survey 2001, UIA 2002). Tilapia species, which are massively produced and promoted by countries in Southeast Asia do not qualify as substitute products for the highly demanded white fish species in Europe. Rather, they are marketed under the segment for ethnic minorities (CBI Market Survey 2001). However, tilapia is so promoted that in countries like Italy, Nile perch fillets had to be introduced there as a form of tilapia (Boserman 2001). Promotion of Nile perch as a unique fish is therefore vital in improving market penetration. The steps being taken by UFPEA in the form of participation in export expositions are very commendable.

According to the interview with main informants and secondary data, the average FOB price of hake fillets per kg was about US $ 2.5/kg (CBI Strategic Marketing Guide 2001) while that of Nile perch was estimated at US $ 3.2/kg. Assuming the price indicates consumer preference, Nile perch seems to have a competitive edge as a substitute product for cod and cod like species. The ability of developing countries

fishery products capacity to act as substitute products for the preferred European fish species is one of the main criteria for successful market penetration in the EU (CBI Market Survey 2001).

4.2.3 Revenue flows along the Nile perch market channels

The total average production cost per kg of Nile perch fillets produced was estimated at 5096 Uganda shillings (about US $ 2.8). The average FOB price of Nile perch fillets per kg using the information from both secondary data and main informants was estimated at US $ 3.2. Therefore the current profit margin for Ugandan Nile perch processors can be estimated at US $ 0.4/kg.

In order to estimate returns to added value products along the Nile perch market channel in Europe, information on red fish, which is in some way similar to Nile perch, was used.

Assume Nile perch and red fish have similar % margin and assume that importers have to sell ready to cook Nile perch products to retail outlets. Also assume that the average exchange rate between the US dollar and Euro is 1:1, the computations below apply (Belgium Covee Supermarket 2002 and interview with main informant):

- Red fish wholesale price 90 – 92 % fish after glazing (sold to supermarket) = US $ 5.7 /kg in Belgium.
- Producer of glazed pack sells at US $ 5.2/kg (about 46% of retail price).
- Retail price at supermarket in Belgium = US $11.2.
- Therefore wholesale price = approximately 50% of retail.
- Now apply this to Nile perch
- Nile perch retail price = US $ 11.86/kg (92% fish).
- 50% of Nile perch goes to whole seller = US $ 6.44/kg after accounting for glazing.

Supermarket.

Taking individual quick frozen (IQF) fillets as an example of ready to cook products, an attempt was made to evaluate the viability of such a business undertaking. The cost of added value for the ready to cook packs in terms of physical transformation and place utility, based on labour intensive operations, was estimated as follows (Table 3):

Table 3: Additional production costs for ready to cook IQF packs in Uganda (Survey data, interview with main informants).

Description of item operation	**Cost/kg (US$)**
Labour for portioning = 100 kg/hr	0.01
Labour for production of glazed IQF packs = 200kg/hr	0.005
Labour for packaging finished products = 50 kg/hr	0.02
Packaging material	0.3
Average freight cost (ship or chartered plane when in great need of supplies)	0.8
Over head cost = US $ 0.25/kg	0.25
Total cost (rounded to one decimal)	1.4

N.B: Direct labour cost in Uganda is estimated at US $ 1/hr, in the above computations it is assumed that one person is working.
Currently, Uganda Nile perch processors are paid up to US $ 3.5/kg on average, the difference of about $ 2.9 /kg (6.4 – 3.5) at a minimum, pays for value addition activities of European based importers. As indicated in Table 3, there is a net margin of US $ 1.5/kg after catering for physical transformation and freight costs. This margin can be assumed to cater for the other value addition activities including promotion, distribution, risk bearing and other marketing activities down stream. However, it is quite on the high side. For instance in Europe, marketing firms like SIF can charge a commission of 2.2% of the total revenue for selling clients fishery products under a commission sales contract.

The main value addition activities on the chain, which increase the form utility, are packaging, glazing, and portioning to 800 g packs. Ugandan Nile perch processors can profitably undertake these activities using the available cheap labour. Additional cost savings are likely to be experienced under reduced handling in terms of packing and un-packing and lowered losses in yield reduction that can be experienced in the EU portioning factory. As already discussed, the market structure seems not to favour direct contact of Ugandan Nile perch processors with retail outlets. In the short to medium term importers or agents can still continue undertaking the other value addition activities in the chain, provided a win-win situation is reached by the two parties.

4.2.4 Competition in the Uganda Nile perch export fishery

The intensity of competition in the relevant export market segment was ranked as strong to very strong (Table 4). This can be attributed to the ease with which new people can easily go into production of fish fillets (Nile perch and near substitutes) and the low bargaining power of Ugandan fish processor in the export market (EC and USAID 2002). Relative to the typical EU fish importers' investment resources, Ugandan fish processors are definitely much smaller. Moreover, the market for Ugandan fish raw material is relatively competitive (Sabiiti 1999). Generally, the results agree with Porter's (1990) five forces model advocated for the structure analysis of industries.

Table 4: Processor level competition in the Ugandan Nile perch export fishery (Survey data, interview with main informants).

a) Main competing countries and relative strength and weakness		
Main competing countries and rank in bracket	Comparative competitive advantages	Comparative weakness
Tanzania (1st)	Shares more of Lake Victoria, transport costs of frozen products are low	Quality of raw materials poor
Kenya (2nd)	Share section of Lake Victoria, transport costs of frozen products are low More market experience	Quality of raw materials poor Less raw materials
b) Overall relative competitive rank of Uganda		Stronger than the rest
c) Main competing tools in the export market		
Tool		Rank
Reliable supply of quality product		1st
Promotion		2nd
d) Intensity of competition in the export market		Strong/high – very

According to the processors, the main competitors were the two other East African countries: Tanzania followed by Kenya. The main competitive advantage that these countries have over Uganda is more raw materials (in the case of Tanzania), more experience (Kenya) and lower transport costs for frozen products for the two countries relative to Uganda. The relatively poor quality of raw materials was pointed out as a weakness for both countries while less raw materials was pointed out for Kenya. The low quality evaluation by the Ugandan processors for the two other East African countries' raw materials was probably based on EU regulations. This may also account for the main informants overall ranking of Uganda's competitive capacity as being relatively stronger.

It is worth noting that Nile perch caught from Tanzanian fishing grounds has been shown to have better organoleptic characteristics compared to that of Uganda or Kenya (Boserman 2001). Trends in the growth of Nile perch processing factories around Lake Victoria seem to be more governed by the availability of raw materials and investment policies rather than the transport cost of frozen products (Dijkstra 2001). Under this criterion, Tanzania comes out as the most important competitor in the regional Nile perch export fishery industry. The issue, however, is whether this is currently strategically important in the Uganda Nile perch export market.

Uganda being landlocked has increased transport costs relative to the other East African countries in as far as transportation of frozen products by sea. However, it is worth noting that the location of the fisheries is similar. Apart from Kenya it is open to question whether the transport costs from Lake Victoria to Dar-es-Salaam are significantly less than those of the Ugandan counterparts. However, Kenya has a very low supply of raw materials. Also the Nile perch processors are not significant players in setting the export price. Provided a good margin exists for the processors in all the three countries, location may not be a strategically significant factor in the regional Nile perch export market competition under the current scenario. At most it can be an important factor in the location of Nile perch fish processing plants, which apparently doesn't show this leaning.

As indicated by available literature (Dijkstra 2001, CBI Market Survey 2001, EC and USAID 2002), the processors have rightly pointed out that reliable supply of quality products is the main basis of sustainable competition in the European market. All three East African countries face this problem and Uganda is in fact currently better off although this is a short-term advantage. Therefore, one can argue that there is no serious strategic competitive advantage in the Nile perch export market between the three East African countries. Promotion, the second competitive tool indicated by the informants has been pointed out as one of the main factors responsible for increasing seafood sales in any liberal market (Richardson 2002). In the global market Nile perch competes with all the cheaper near substitutes of the highly demanded white flesh fish species. These can include fish such as hake and tilapia that are highly promoted and produced in relatively stable large marketable quantities (Boserman 2001, CMB Market Survey 2001). In contrast, supply of marketable Nile perch is irregular and promotion is also relatively poor (Dijkstra 2001, EC and USAID 2002). The confluence of these two drawbacks can highly reduce the competitive advantage of Nile perch in the export market, particularly in the more lucrative higher value ready to cook/eat products market.

4.3 Important trends in the market

4.3.1 Growth of the Nile perch export fishery industry

Between 1991 and 1996 (before the export bans), the Uganda fishery exports were growing at an average rate of 55% (Appendix II and III). The reduction in the growth rate of fish exports between 1997 and 2000 (Figure 2) is due to three successive bans to the EU that were imposed on the Ugandan fishery industry (Dijkstra 2001).

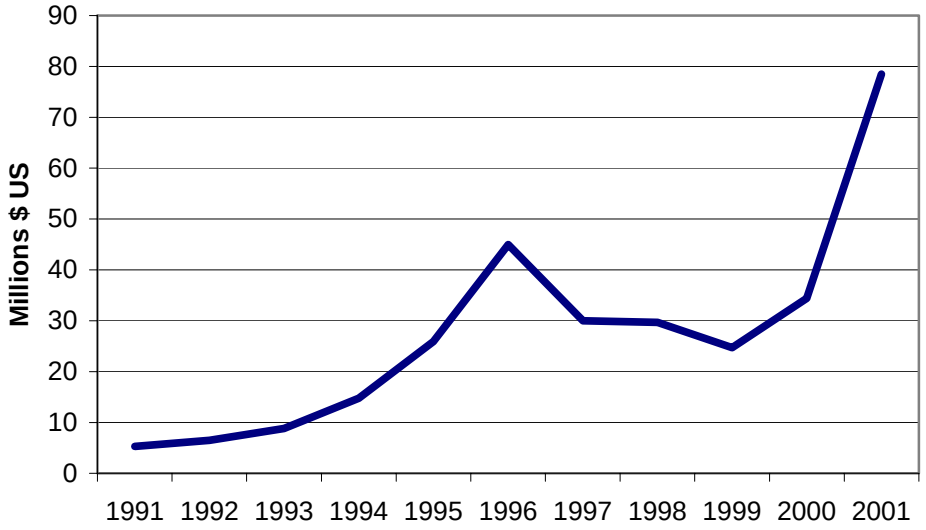

Figure 2: Evolution of Uganda Nile perch exports (EC and USAID 2002).

The growth in fish exports is based virtually on quantity rather than product price, which is rather stable (EC and USAID 2002). As it has already been pointed out in literature (Odongkara and Okaranon 1999, Dijkstra 2001, EC and USAID 2002), such

a growth model is un-sustainable in a natural fishery ecosystem. Some quarters have even welcomed the previous ban on fish exports as a saviour of the fishery ecosystem (Dijkstra 2001, EC and USAID 2002). Nevertheless, the growth is an indicator of a strong demand for Nile perch products in the target market. The challenge now is to position the products with a sustainable competitive advantage.

4.3.2 Main markets for the Ugandan Nile perch in Europe

The main four EU countries importing Ugandan Nile perch are the Netherlands, Belgium, the United Kingdom and Germany in order of importance (EC and USAID 2002). Nile perch trade in Europe is mainly in the hands of Dutch companies for two principle reasons: 1) the long tradition of the Dutch in fish trade and 2) the well organised logistic and the strategic geographical location of the Netherlands, which makes it easy for traders to dispatch fish more quickly to specific markets in need (Boserman 2001).

On the other hand the main Nile perch consuming countries in Europe are Spain, Italy, France, Germany, Belgium, Portugal and Holland in order of importance (Boserman 2001). Apart from Holland, which has a very low market share in terms of fish consumption in Europe, the rest of the major Nile perch consuming countries also have the highest share of value of total fish consumption in Europe (Appendix IV). This trend can be an indicator of Nile perch suitability as a substitute for the highly demanded white fish varieties in Europe.

4.3.3 Trends in the Nile perch markets for the major consuming countries

According to Boserman (2001), the following characteristics can be identified in the Nile perch markets for the major consuming countries (Spain, Portugal, Italy, France, Germany Belgium, and Holland).

Spain consumes about 150 mt/week. The market is very unstable and difficult to forecast because it depends on domestic catches of fresh fish. The market is competitive, but quality is an important factor over price. Demand for small fillets is very high. The end destination of fillets is supermarkets and the catering sector. Supermarkets that are important in promoting fish mainly buy from Spanish whole sellers.

In Portugal fillet consumption is marginal and headed and gutted whole fish is very popular. The estimated quantity is 25 mt/week and commercial sizes range between 2-4 kg and 4-8 kg. Boxes generally carry between 15 or 20 kg per package.

The estimated current consumption in Italy is 120 mt/week. The market is relatively more stable than others and quality is an important issue. The market doesn’t accept an inferior product at any cost and it is difficult to sell big sizes.

In France, supermarket chains are important outlets. Some of them can import directly from abroad. Prices are competitive, the market accepts bigger fillets and is not too critical about quality. Price is an important competitive factor and consumers are willing to buy older fish.

Northern European market (Holland, Belgium, Germany): Apart from Belgium, the inhabitants in these countries are not a fish eating community. Nile perch is a cheaper near substitute in the supermarkets and catering sector for the popular cod and red fish when they are in short supply.

Only about 20% (20 mt/week) of the fish imported by Dutch companies is domestically consumed. Most of is re-exported to Germany, Belgium, Northern France, Italy and Spain. Belgium is both a good consumer (30 mt/week) and a good exporter mainly to Northern France. Most of the Nile perch fish imported in Germany is domestically consumed (40-60 mt/week) and little is re-exported to Denmark, Switzerland and Austria.

4.3.4 Share of developing countries in fishery export products to the EU

Important products for developing countries according to the weighted market share are prepared or preserved fish, followed by fish fillets and meat (fresh, chilled or frozen), frozen fish and chilled fish in that order (Table 5).

Table 5 : Value of imports of selected fishery products into the EU in 1999 ($ US millions) and andpercentage share of developing countries (CBI Market survey 2001).

Product	**Value**	**% of developing countries**	**Weighted share value (%× value)**
Fresh or chilled fish	3902	10	390.2
Fish fillet and meat (fresh, chilled or frozen)	3366	19	639.5
Prepared or preserved fish	2611	44	1148.8
Frozen fish	1678	33	553.7
Fats and oils	146	10	14.6
Fish smoked, dried, salted or in brine.	1693	2	33.9
Live fish	150	1	1.5

N.B. Products selected relate to where Nile perch falls.

The Ugandan fishery export industry is currently positioned in the category of fish fillet and meat. Given Uganda's weakness of being land locked it is advisable to concentrate on this category of fish fillet and meat. Prepared, ready to eat fish although high value is too bulky to be air lifted. In the case of preserved fish, Uganda could have a difficult task in creating a competitive edge over the traditional suppliers in Southeast Asia.

4.3.5 Market segmentation

The market for fishery products from developing countries can be broadly divided in two (CBI 2001 Market Survey 2001):

1) Northwest European countries: cold water species mainly herring, mackerel, Pollack, cod, flatfish, and trout are popular.
2) Mediterranean countries: cephalopods, molluscs and hake are popular.

Species like tuna, salmon, sardines and shrimps are popular throughout Europe.

Since Nile perch is a near substitute of cod and hake (UIA 2002, CBI Market Survey 2001) it is possible for it to be promoted across both broad sub-divisions.

Specific sub-divisions within the two broad categories include the following (CBI Market Survey 2001):

1) The market for the catering industry and restaurant sector: Middle class and top restaurants are increasingly looking for special and exotic fish and shellfish species. There is a growing niche market for fresh high value species (popular ones mentioned above) imported by airfreight.

2) The market for substitutes of European species: Products under this category must be able to effectively substitute the traditionally demanded North Sea species. Substitute products stand a high chance of market success in Europe. Qualifying products under this segment include double skinned Nile perch fillets, skin on hake fillets and substitutes for Dover sole and sole. According to CBI Market Survey (2001), these substitute products don't directly compete with traditionally demanded Northern European species. Rather they are used to fill the supply gap in the market. Therefore, it can be deduced that Nile perch directly competes with the specific substitute products in the segment.

3) The market for ethnic minority groups: There are 15 million non EU residents that prefer certain species of fresh water fish especially tilapia and other fish produced in the Bay of Bengal (CBI Market Survey 2001, Vannuccini 2001).

4) The re-export market: This segment consists of the importing firms, which re-export fishery products to other European countries. The current marketing channel of Uganda Nile perch exports in Europe (EC and USAID 2002) can also be categorised under this segment.

5) The market for non-human consumption: Apart from human consumption, fishery products can be used for industrial, e.g. pharmaceutical sector, or animal feed. The industrial sector is potentially a very high value addition market segment.

4.3.6 Market share of main fish product categories consumed in the EU

Taking the fresh, chilled and frozen products in which the Ugandan Nile perch fish exports mainly fall, it can still be seen from Table 6 that the major consuming countries (Spain, Italy, France, Germany and Belgium) were still the major consumers of all other fresh, chilled and frozen products in general.

Table 6: Market share per main fish product category in the EU countries 1999 (% of total value per category) (CBI Market Survey 2001).

Country	Fresh, chilled and frozen	Dried, salted and smoked	Shellfish
Italy	41	8	10
Germany	15	12	21
Spain	14	0	37
France	8	14	10
UK	5	5	7
Greece	4	4	2
Belgium	4	30	4
Finland	2	1	0
Sweden	2	2	3
Portugal	2	15	3
Holland	1	4	2
Ireland	1	1	0
Denmark	0	1	0
Austria	0	3	0

Thus the invisible hand of the market has guided the Nile perch fish exports to the appropriate market segments in the EU. In this connection, a promotion strategy that seeks to reach the final Nile perch consumers should preferably target the specific high consuming countries above (Table 6). This general trend can again be explained by the suitability of Nile perch as a near substitute to the traditionally demanded white fish species in Europe.

Fresh chilled fishery products followed by frozen ones are clearly the most preferred fishery products in all the main fish consuming countries in the EU (Table 7). This can be attributed to the consumers' perception of fresh products as being healthier and superior in quality (CBI Market Survey 2001). In this respect, the positioning of Ugandan fish exports as mostly chilled products fits well with consumer habits in Europe.

Table 7: Consumer habits in main fish consuming countries (Richardson 2002).

	Sea-food market share % of total per country			
Country	Marinated/tinned	Frozen	Fresh/chilled	Smoked/dried
UK	20	52	25	3
Germany	31	32	31	6
France	19	21	49	11
Italy	18	23	55	4
Spain	13	21	65	1
Belgium	21	16	60	3
Holland	16	25	52	7

In 1999, Italy was the absolute leading consumer (total value) in fishery products, with a market share of about one third of total sales, followed by Germany, Spain, France and Belgium in descending order (Appendix III). Between 1995 and 1999, major markets stabilised in terms of volume but increased in terms of value, except for the Spanish market. Growth rates in Italy were the highest, (followed by Belgium) increasing by 32% and more than 20% in term of value and volume respectively (CBI Market Survey 2001). These growth trends suggest that adding value to Nile perch is

a better competitive strategy to follow. Moreover, this can be an important strategy for ecological sustainability of the Nile perch exports, which is now questionable (Odongkara and Okaronon 1999, Dijkstra 2001, EC and USAID 2002). Most of the current growth in the value of Nile perch exports from Uganda is spurred by volume rather than by price increase (EC and USAID 2002).

4.3.7 General trends in motivation of demand

As will be demonstrated below, the fish demand trends in Europe are typical of high-income, highly industrialised countries (Kohl and Uhl 1998). Consumers are willing to pay higher prices for better quality and convenience (Richardson 2002, CBI Market Survey 2001). This demand trend coincides with the general growth in the European fish market above (4.3.6) where growth is mainly attributed to value addition. The implication for the Nile perch export industry positioning has already been explained in 4.3.6.

Health image: The image of the fishery fits in well with the consumer preference in Europe. European consumers have adapted more conscious and healthy eating habits as their income has increased (CBI Market Survey 2001, Richardson 2002). The discovery of BSE (Bovine Spongiform Encephalopathy) has increased confidence in fishery products. In 2000, increases in consumption were mainly attributed to the BSE crisis. Consumers perceive fresh fish products as healthier and superior to frozen products.

Apart from a more general and fashionable awareness, factors that are related to high-incomes and an ageing population are the driving force behind healthy eating in Europe (CBI Market Survey 2001). Consumers are getting more curious about up stream fish production methods and quality systems and can be highly vulnerable to negative campaigns from the media (Richardson 2002). This can explain the strict regulatory framework imposed by the EU to ensure the quality and safety of fishery products (Gordon Munro 1995, CBI Strategic Marketing Guide 2001).

Convenience: Seafood sales are tending strongly towards value added convenience buying (CBI Market Survey 2001, Richardson 2002). Reasons for this trend in Europe are: fewer people per household, increased household income, fewer housewives and less time available for meal preparation. The increasing number of single persons per household, coupled with less time available, is creating higher interest in smaller packaging sizes, ready to cook/eat products and one-stop shopping centres. Following this trend, ready to eat fishery products are increasingly becoming the most popular in Europe.

Cosmopolitan food: Increasing international travel and globalisation in general have led to the immergence of international and ethnic food restaurants and special cooking programmes. EU consumers are becoming more adventurous and shifting from traditional fish consumption patterns to products that reflect international cuisine that often include non-traditional fishery products. Surimi – based fishery products fall under this category. However, the bulk of the fish consumption is still traditional (CBI Market Survey 2001). In this respect, developing countries' products that can work as substitute for traditionally demanded species have the biggest chance of success in the market.

Portioning**:** Portioned fishery products are gaining popularity in the catering and fish-processing sector. The market prefers accurate portioning, consistent appearance, calculable prices and exact cooking times (CBI Market Survey 2001).

4.3.8 General demand trends in farmed fish

Farmed fish versus wild fish: In general, consumers are not very discriminating between farmed and wild fish but retail multiples are becoming interested in farmed fish because of its perceived advantages in supply chain management and consistent quality (Richardson 2002). Moreover, the globe trend increasingly indicates aquaculture as much more positioned to increase the future supply of fishery products as opposed to wild sources (FAO 2000). However, there are some reports of relative lower quality of farmed species (cod) by some fish trading specialists (Richardson 2002).

Organic fish: Demand for organic food is rising and was expected to reach 2.5% of the total value of food consumed in Europe by 2000. The market share for organic fish in Europe is still very small but demand is growing rapidly (CBI Access Guide 2002[b]). As already indicated, this coincides with the general food demand trends of high-income consumers who are more skewed towards food safety, environmental preservation, quality, convenience and general enjoyment or fun (Kohl and Uhl 1998. There is rising environmental awareness among consumers in Europe. Consumers are willing to pay a premium price for products that are known as being produced in a sustainable manner. This in line with promotion of green trade by the world trade organisation (WTO) and is potentially useful as a value addition strategy for developing countries.

4.3.9 Specific trends in major EU fish consuming countries

(France, Germany, Italy, the Netherlands, Spain, and United Kingdom)

In the narration below consumer fish consumption habits in major European consuming countries are given. Assuming that Nile perch is a near substitute of cod or hake, consumers' preference patterns indicate that it is possible to promote its consumption across all the major fish consuming countries in Europe.

Seafood is very popular in France, as high as 90% of the population consumes fish. Popular species are cod, sole, salmon, trout, lingcod and whiting (CBI Market Survey 2001, Richardson 2002). In addition, a large variety of tropical species, especially from French speaking former colonies, are popular.

Per capita consumption is very low in Germany and despite being the most populous country in the EU, Germany is a relatively small market. Consumers are conservative and prefer the cold-water species. Most popular species are prawns, Alaskan saithe, cod, tuna (tinned), salmon, trout, redfish, hake, and cured herring (CBI Market Survey 2001, Richardson 2002). Consumption is increasing, and is expected to rise for the fresh water and aquaculture products. Currently, 14% of the consumption consists of fresh water species. Per capita consumption is expected to go up from 13.4 kg to 15 kg within four years. Imports account for 83% of fish sales in Germany, most of them coming from outside the EU. Demand for fresh and frozen fish is rising, while that for

smoked and tinned fish is stagnating. The demand for fresh water fish is also rising, partly because of the BSE crisis (CBI Market Survey 2001).

Italy is mainly a market for shrimp, but also for prawns, anchovies/sardines, hake, sea bream, trout/salmon and cuttlefish (CBI Market Survey 2001, Richardson 2002). As has been indicated above, it is also a major market for the Nile perch.

Popular fish products in Holland are herring, cod, whiting, mackerel and salmon (Richardson 2002). Consumers prefer fresh or frozen fishery products, with fresh or chilled being in the lead (60%). Fish consumption per capita is still much below that of meat and poultry, which stands at 42 kg per year. Consumers consider fish in general as relatively cheap foodstuff. The market for exotic fish is developing very slowly; only tropical shrimps and prawns are visible in the Netherlands (CBI Market Survey 2001).

Spain is one of the EU countries with a high index of marine products consumption per capita. Fresh and frozen products play an important role. Apart from the more processed products and ready to eat meals where quality plays an important role, price is an important factor in Spain. Popular fish products in Spain include hake, anchovies/sardines, mussels, cuttlefish and prawns (Richardson 2002).

Consumers in the United Kingdom have a strong preference for cold-water species like cod and haddock. Substitutes of these species, like hake, have not been well received. Consumers prefer frozen products.

4.4 SWOT analysis of the Ugandan Nile perch export fishery industry

The profile of the SWOT analysis for the Ugandan Nile perch export fishery (Table 8) indicates an ideal business with many opportunities and few threats (Wilson and Gilligan 1997). Important threats, based on their seriousness and probability of occurrence, include dwindling catches and non-tariff barriers in the form of EU regulations/legislation. The most strategically important opportunities, based on attractiveness and the probability of the Nile perch export fishery's industry ability in tapping them, are EU reductions of catching efforts, low coffee prices and the rebirth of the East African community.

Table 8: Summary of the Ugandan Nile perch export fishery SWOT.

A) Opportunities 1) EU countries are reducing their catching efforts. 2) Existence of East African community and other regional organisations. 3) The Everything but Arms (EBA). 4) Information technology. 5) Unification of all the rules in the EU. 6) Continued low prices for coffee.	**B) Threats** 1) Dwindling catches of Nile Perch. 2)The EU regulatory environment. 3) Competition from cheaper near substitutes, especially tilapia.
C) Strength 1) Low pollution of Lake Victoria. 2) Commercial Nile perch only in Lake Victoria. 3) Low cost of land and labour. 4) "Harmonized" country status. 5) Nile perch is a near perfect substitute to cod and cod like species. 6) Relatively low flight costs in Uganda. 7) Lower landed fish prices in Uganda.	**D) Weakness** 1) No developed aquaculture system. 2) Open access nature of fisheries. 3) Low market information access. 4) Small fish processing firms. 5) Uganda is a land locked country. 6) Inadequate funding and regional commitment.

4.4.1 Opportunities

1) EU countries are reducing their catching efforts especially of codfish to be more environmentally friendly. At the same time, demand for fishery products in the EU market is increasing. Prices and margins for fishery products are, therefore, expected to increase, improving developing countries' prospects of accessing the EU market (CBI Market Survey 2001, EC and USAID 2002, EU on Line 2002). This gives Nile perch, which is a near substitute to the cod and cod like species, a market entry point.

2) The existence of the East African community and other regional organisations is important in the context of the Ugandan Nile perch fishery. The rebirth of the East African Community opens new opportunities for regional co-ordination of strategic policies and development plans. For instance, the three East African Countries may better ensure the sustainability of Lake Victoria fishery resources through collective management. Other regional organisations/projects e.g. the Lake Victoria Fisheries Organisation and fishery institutions complement the East African Community.

3) The Everything but Arms (EBA) Initiative, for the least developed countries' exports in the EU (MOFA 2002). Under this initiative, all products except arms shall enjoy duty free and quota free Access to the EU. This reduces expected tariff barriers for value addition Nile perch fish exports to the EU.

4) The development of information technology worldwide and in Uganda in particular. Seven of the nine fish processors that are currently exporting possess a website. There is also a general website for the Uganda Fish Processors and Exporters Association (UFPEA 2002). This reduces transaction costs, with resulting improvement in marketing efficiency and increased returns to both the fish processors and importers. Firms in Europe prefer e-commerce sales as these imply bigger and quicker profits (CBI Market Survey 2002).

5) Developments towards the unifications of all the rules and regulations across the whole of Europe, concerning locally produced or imported products (CBI Strategic Marketing Guide 2001, EU 2002). This also reduces transaction costs, tariff and non-tariff barriers in some EU countries, consequently improving marketing efficiency.

6) Continued low prices for coffee, the main export crop for Uganda against the expected increase in price and demand for fishery products in the world. While low coffee prices are bad for Uganda's economy in general, they provide a socio-marketing opportunity for the fisheries sector in Uganda. The fisheries sector should utilise this development to market itself to the effective international, regional and national audience.

4.4.2 Threats

1) Dwindling catches of Nile Perch, sometimes under un-explained conditions but partly attributed to deteriorating environmental conditions, over-fishing and the dwindling feeds of Nile perch (Odongkara and Okaronon 1999, Dijkstra 2001, EC and USAID 2002). In this connection, the current expansion of Nile perch exports, which is based on quantity rather than increased unit value, is not sustainable.

2) Potential changes in the regulatory environment: tightening on safe residue levels and more environmental concerns (CBI Market Survey 2001, Dijkstra 2001). The seriousness of this threat is best measured by the three successive bans of Ugandan fish exports to the EU that occurred between 1997 and 2000. As technology improves further in the EU and high-income consumers' food demand motivations shift towards food quality, safety and environmental concerns, the EU regulatory framework is adjusting accordingly. Moreover, the EU currently has a poor image of ACP countries on quality and reliability of supply (EC and USAID 2002). Therefore ACP countries, like Uganda, have to do more than enough to convince the EU of the quality and reliable supply of their products. Partly because of these export channel expectations, Ugandan fish processors may have an up hill task in dealing directly with retail multiples.

3) Competition from cheaper near substitutes, especially tilapia, that are capable of being produced at a high rate from a highly developed farming system and which have a strong promotion strategy (Vannuccini 2001). Although, Nile perch is a superior substitute to highly demanded European fish species relative to tilapia (CBI Market Survey 2001), it is poorly promoted in comparison to tilapia (EC and USAID 2002). For instance, in Italy Nile perch penetrated the market as a type of tilapia, which happened to be a more valuable species there (Boserman 2001). As it has already been emphasised, promotion is one of the main tools used in creating competitive advantage in the fish export market.

4.4.3 Weaknesses

1) Virtually no developed Nile perch aquaculture system (EC and USAID 2002). Given the finite supply of wild Nile perch, availability of raw materials can be highly constrained. There is also a growing preference to aquaculture products by retail outlets because of their expected stable supply and quality (Richardson 2002). However, this weakness could be exploited by tailoring the Ugandan aquaculture development programme to market trends in the EU. In other words, the development should be done in a strategic orientation to the market, taking into consideration the current strengths of the fisheries.

2) Open access nature of fisheries in Uganda, reduces efficient management (Muramira 1999, EC and USAID 2002). There are too many small fishers who apart from over exploiting the resources, are also hard to orient towards EU export based fishery production systems. Fishing methods are often poor and fishers are hardly aware of the requirements of the export market chain. This can bring future problems in attempts at product positioning.

3) Ugandan fishery industry participants have low market information access in the export channel and Nile perch is poorly promoted as a fish from Uganda (EC and USAID 2002, survey data). This reduces bargaining power and the ability to design appropriate market access strategies.

4) Ugandan fish processing firms are small (lack capital) and have no capacity to strategically intervene in the whole value chain to improve competitive advantage. The global competitive advantage of firms is increasingly a function of how well a firm can manage the entire value chain system (Porter 1990).

5) Uganda is a land locked country. There is a comparatively higher transport costs for frozen products and other bulky fishery products (EC and USAID 2002). There is need to develop high value products that can be transported by air. The possible product range developed by processors may thus be affected.

6) Inadequate funding and regional commitment for the implementation of sustainable fisheries management plans/regulations (EC and USAID 2001). This can highly affect up stream strategic intervention in the fishery sector to create a sustainable competitive advantage.

4.4.4 Strength

1) Lake Victoria is not yet significantly polluted, especially waters on the Uganda side. If further controls of pollution are stepped up, this could help the industry to be compliant with future tight EU environmental legislation.

2) The Lake Victoria system is the only environment where there is wild Nile perch in commercial quantities (Boserman 2001, UIA 2002). No other countries apart from the East African Countries are supplying any type of Nile perch to the European market. This can be used to pull international funding for development projects aimed at preservation of this fish as an endangered species. Such an undertaking, if well integrated within a strategic marketing framework, can lead to increased long run returns to market participants and the economy as a whole.

3) Low cost of land and labour in Uganda relative to other East African countries (UIA 2002). This reduces both the initial capital investment and operating costs.

4) The EU granted Uganda "harmonized" country status in October 2000 (UFPEA 2002). In a way, this gives a quality label to Ugandan fishery products throughout the EU.

5) Nile perch is a near perfect substitute to cod and cod like species, which constitute the popular white products in the EU (EC and USAID 2002, CBI Market Survey 2001, UIA 2002). It has a competitive advantage in product characteristics over tilapia as a substitute for white fishes' popularly in Europe (CBI Market Survey 2001).

6) Relatively low flight costs in Uganda compared to competing sources of substitute products from Southeast Asia (personal communication from EU based exporter). High value chilled products, which are among the most demanded fishery products in Europe, can exploit this advantage.

7) Lower landed fish prices in Uganda relative to other countries in the East African region (UIA 2002). This, in addition to cheap labour, further reduces the operating costs per unit product.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

While hygiene and quality regulations are meant to protect health, they effectively function as technical barriers to trade for investment capital starved developing countries, Uganda in particular.

Fish in the hands of Ugandan agents and fishers is usually in the form of whole un-gutted fish. Ugandan agents (Nile perch raw material suppliers) usually use ice and insulated boats for transportation but fishers hardly use ice in their fishing operations. The main Nile perch products produced by Ugandan fish processors for export include chilled fillets and portions of 200 g – 800 g and frozen fillets of 500 g – 1200 g packs.

The total average cost for the whole bundle of products per kg is about US $ 2.8 while the estimated average profit before tax per kg for the same product bundle is US $ 0.4. Ugandan Nile perch processors are paid up to US $ 3.5/kg on average product bundle while the EU agents/importers receive up to US $ 6.4/kg. The difference of about $ 2.9/kg pays for the value addition activities of European based importers including stock keeping, promotion and distribution costs. The main value addition activities on the chain, which increase the form utility, are packaging, glazing, and portioning to the required retail packs. A net margin of US $ 1.5 can be realised after catering for the physical transformation and freight costs for the ready to cook retail packs in the EU market.

Market power in the fishery export channel is as follows:

EU retailers> EU importers/argents>Ugandan fish processors>Ugandan middlemen>Ugandan fishers. Market channel members in the EU are expected to be fewer and more powerful (concentration). Supermarket and hypermarket retailing is increasingly becoming more popular in the EU at the expense of the traditional fishmonger.

Main Nile perch importing countries in Europe are not necessarily main consumers indicating some attractive returns from adding utilities along the marketing channel. Results indicate that it is possible for Ugandan processors to add some more value to their current products.

According to Ugandan processors, Tanzania is the most important competitor in the regional Nile perch export fishery industry. However, further analysis suggests that that there is no serious strategic competitive advantage in the Nile perch export market between the three East African countries. Quality followed by promotion is the main tool for sustainable competition in the Nile perch export market pointed out by the main informants.

Ugandan fish processors have limited information about the macro-market environment and promotion of Nile perch in the export market is relatively poor.

In the short to medium term, macro environment analysis indicates that Uganda may not have a competitive advantage in the supply of products directly to supermarket chains. In this connection and considering the current weakness of the Ugandan Nile perch export fishery industry, it is likely that Uganda will in the short to medium term still rely on importers and middlemen for distribution of Nile perch products in Europe.

The market for fishery products from developing countries can be broadly divided in two:

1) Northwest European countries: Cold water species mainly herring, mackerel, Pollack, cod, flatfish and trout are preferred.
2) Mediterranean countries: cephalopods, molluscs and hake are popular.

The main EU fishery products consuming countries according to the market share of sales value were: Italy, Germany, Spain, France and Belgium, in descending order. Fresh chilled fishery products followed by frozen ones are the most preferred fishery products in all the main fish consuming countries in the EU. Growth rates in fishery sales experienced in European countries were spurred mainly by increased unit value and physical quantities were relatively stable. Demand for fishery products in the EU is expected to grow against the reduction of catching efforts on cod, one of the most preferred white flesh fish species.

Nile perch products in Europe are positioned as a near cheaper substitute for popular white fish like cod and hake. Consumption trends for Nile perch products generally follow typical consumption trends for popular white flesh fish products in the EU indicating that Nile perch is a highly preferred cheaper near substitute for those popular species. Trends further indicate that Nile perch products can be successfully promoted in all the major EU fish consuming countries. Creation of a competitive scope for Nile perch exports is more possible in the chilled and frozen Nile perch fillets, the same products being marketed now.

Fish demand trends in the EU indicate that consumers are sensitive to convenience, food safety, health and the environment and are ready to pay a price premium for high fish quality. Retail multiples' expectations about farmed fish are relatively high because of its perceived advantages on supply chain management and stable quality.

Trends over the ten-year period indicate that the supply of marketable Nile perch products to the EU has been rather irregular. This is mainly attributed to the inability to meet the EU food quality/safety regulations. However, demand for Nile perch products is very high in the EU. Between 1991 and 1996 (when there was no ban), Nile perch export values were growing at an average rate of 55% per year. The growth in Nile perch exports value to date has been mainly based on quantity, rather than increase in value or price.

The profile of the SWOT analysis indicates an ideal business with many opportunities and few threats. Important threats are dwindling such as Nile perch catches and non-tariff barriers in the form of EU regulations/legislation. Strategically important opportunities are the EU reduction of catching efforts, low international coffee prices and the rebirth of the East African community.

Despite the inherent weakness and external threats, the Nile perch and the fisheries sector in Uganda has got a lot of potential, which can be strategically exploited to contribute towards improvement of balance of payments and poverty alleviation. Markets exist locally, regionally and it fits in with food demand trends of high-income developed countries and can be exported as a high value product. Technologies of production can fit in with the means of low-income people and thus has great potential for participation of the poor. Above all, it is an excellent protein source whose increased production, if followed by consumption at least by those participating, can help reduce the high level of malnutrition prevalent in the country. Thus it is strategically positioned in the local, the regional and the international economy.

Against this background it is tempting to suggest that the Ugandan government carry out a focused strategic intervention in this promising sector.. In the next section recommendations that can be used as a guide in strategy formulation are given.

5.2 Recommendations

In the short to medium term, the growth in the supply of Nile perch fish to the market is limited by natural factors. Given such a scenario the desire to increase value must over ride quantity, since an increase in quantity may not easily be sustained under the current production arrangement and in the near future. Even if more Nile perch were to be produced in the future it would still benefit from this product differentiation strategy. Moreover, market trends in the EU have clearly indicated that a future increase in fishery product sales is dependent more on per unit value than quantity. However, whether to diversify into those high value products is the decision of individual investors based on the market resources at his/her disposal

More research on costs and benefits should be carried out to determine the specific value addition options for Nile perch. Value addition may not necessarily be a tangible product transformation. It can, for example, be achieved by positioning all Nile perch exports from Uganda with a specific quality label, e.g. eco-products. Products sold under a quality label are reportedly commanding a price premiums up to 10% at the retail level in Europe (Richardson 2002). A competitive scope that can be identified across all Nile perch products from Uganda/Lake Victoria should be preferably created. However, the sustainability of such a strategy may require a joint effort from all the East African states.

Aquaculture must be given serious consideration as part of creating a competitive advantage in the export of fisheries products from Uganda. It can reduce some constraints on the upstream supply chain of raw materials. However, the development of this sector should not be haphazard. Rather, it should be tailored in the overall framework of creating competitive advantage for Ugandan fisheries exports.

The market information system should be strengthened. It is desirable that the secretariat of the Uganda Fish Processors and exporters Association (UFPEA) make this its number one priority. In this connection a promotion programme within an identified strategic competitive scope needs to be drawn up for Ugandan Nile perch exports to the EU. Currently, the generic positioning of Nile perch products in the EU export market is more by default than by a clear charted out strategy.

The profile of the Ugandan Nile perch export fishery SWOT analysis and the marketing macro-environment suggests the desirability of strong collaboration between the three East African countries in order to achieve a sustainable competitive advantage in the Nile perch export market. Tackling the major threat, i.e. decreasing Nile perch stocks, will no doubt require the cooperation of the three East African states. Even the threats of increasing competition from aquaculture products and tightening legislation can be tackled more efficiently by increased cooperation in targeted fisheries management. In reality, these three countries are not serious strategic competitors in the European Nile perch export market, rather they are better off being considered synergistic. The trends in Nile perch exports from the three countries are similar. Major external environmental threats, like dwindling Nile perch exports and regulations in the EU market (ban on fish exports) have affected the three countries similarly (Dijkstra 2001). They even face many similar opportunities and constraints.

A joint approaches by seemingly competing market players has already been pursued in research and development of safety systems for the car industry (Porter 1990). Moreover, the three countries already have more cooperation than competition in the utilisation of Lake Victoria fisheries. In addition, firms like ANOVA and Alpha group of companies (Uganda Fish Packers and Masese Fish Factory), which process and import fish from the region, have linkages in all three countries.

By the nature of the fisheries, the effects of important threats like over-exploitation and pollution of Lake Victoria fisheries have a high probability of affecting all three East African countries regardless of location. The effects of fish poisoning provide a good example. When Uganda imposed on itself a ban on fish exports to the EU, it was very difficult for Tanzania and Kenya to convince the EU about the safety of their fishery products. The lesson is that no East African country can celebrate the inability of another member country's' failure to meet EU regulations. In a way, the net result is low market confidence for all fishery products originating from Lake Victoria fisheries.

Market structure conditions indicate that Uganda processors, apart from those that are branches of powerful importers in Europe, may not easily access the high price retail markets directly. Market channel trends and SWOT analysis indicate that it is advisable for Uganda in the short to medium term to concentrate on using agents or importers to market its fishery products in the EU. Uganda should, however, try to strengthen its bargaining power with these companies and differentiate its products based on its strengths to create a niche market. In Europe marketing firms like SIF can charge a commission of 2.2% of the total revenue for selling clients' fishery products under a commission sales contract. In order to achieve such favourable bargaining terms a well-developed market information system must be developed by the industry.

A clear and effective coordinating desk/team dealing with strategic marketing of Uganda fisheries exports should be established under a mandated organisation. Also, there is need to develop a socio-marketing strategy for the fisheries sector, targeting national, regional and international stakeholders. Socio-science professionals have a great ability to package information in a form that appeals to decision and policy makers at various audience levels. Applied economists with a general background in natural/applied fishery or related sciences can be especially useful in improving the

co-ordination between the natural/applied fishery scientists and general socio scientists.

Last but not least, it is worth noting that the views in this document are mainly the author. A clear strategic framework, involving all of the important stakeholders should be drawn to increase the competitive advantage of the fisheries sector. The author hopes he has added some important issues to the already published work in this direction.

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APPENDIX I

Potential non tax barriers (NTB) to fishery exports: EU directives relevant to Uganda Nile perch export fishery

Included here are most of the regulations meant to protect health and safety of consumers and some related documentation procedures

The following directives specifically developed for meat, fish and aquaculture products can be applicable to Nile perch marketing in Europe (CBI Access Guide Url, Accessed Nov. 2002[a]; CBI Strategic Marketing Guide, 2001).

Directive 97/78/EEC lays down the principles for the organisation of veterinary checks on products imported in the EU.

Directive 96/23/EEC lays down control measures for certain substances and residues thereof in living animals and in products made thereof. Regulations haven been set for, amongst others, veterinary drugs and contaminants.

Regulation 2821/98/EC prohibits the use of the antibiotics bacitracin zinc, spiramycin, virginiamycin and tylosin phosphate in animal feed.

Directive 91/492/EEC imposes strict recommendations on the building, construction, equipment, purification tanks and storage of products. Purification centres must also have the services of a laboratory which can carry out necessary microbiological tests. A record of each incoming batch of product has to be carefully kept, and there should be a health mark on each package listing the species name, origin, despatch centre and packing date.

Decision 97/296/EC and its amendments draw up the list of third countries from which the import of fishery products is authorized for human consumption.

Directive 91/493/EEC is based on the HACCP (Hazard Analysis Critical Control Point) quality assurance approach. The directive lays down health conditions for the production and placing on the market of fishery products. For example regulations have been set for packaging, preparing, processing, freezing and storage.

In Directive 2406/96/EU common trade norms, aimed at quality improvement, are laid down for certain species of fresh or chilled fish.

Directive 92/48/EEC lays down minimum hygiene rules applicable to fishery products caught on board of certain vessels.

Directive 96/22/EEC prohibits the use of certain substances with a hormonal and thyreostatic performance, including ß-agonists, in aqua cultural products.

Directive 91/67/EEC concerns the animal health conditions governing the placing on the market of aquaculture animals and products.

Decision 95/328/EC stipulates that a health certificate has to accompany all imports of fishery products from third countries, except for countries for which the EU has adopted an individual decision.

The EU Directive on Hygiene for Foodstuffs (93/43/EC) stipulates that: "foodstuff companies shall identify each aspect of their activities which has a bearing on the safety of foodstuffs and ensure that suitable safety procedures are established, applied, maintained and revised on the basis of the HACCP system".

Specific non-tax barriers (NTB) to some EU countries (Gordon Munro, 1995)

Specific Belgium NTB

General: All seafood imports must be accompanied by a health certificate issued by a government veterinarian (not a travelling meat inspector). An industry certificate is not acceptable. At least 24 hours in advance of consignments of the fish, the importer must inform, in writing, the inspection service of the nature, quantities and country of origin of the consignment.

Specific NTB for Finland

General: There is a global import quota of 2.3 million Finn marks per-annum for all other species. However, in practice this is rarely employed.

Specific NTB for France

General: All imported fish products must be accompanied by a health certificate issued by the exporting country's agency responsible inspecting and certifying fishery products. Cooked, peeled shrimp, minced fish flesh and pre-cooked products require approval from French Ministry of Agriculture. A questionnaire must be completed to determine the compliance of the exporting country's establishment to French requirements or conditions. Mandatory testing of polyphosphates is enforced. All documentations for products exported to France or its colonies must be completed in French.

Specific NTB for Germany

Germany requires gutting or freezing of all fish in response to the 1987 nematode scare. There are prescribed levels of mercury (1.0 PPM) and mercury-compounds, DDT and polychlorinated biphenyls in fish products.

NTB specific to Ireland

Fresh water fish: Licences are required for the import of live and dead fresh water fish, molluscs and shell fish to ensure products are free from disease.

NTB specific Italy

General: A certificate of health and country of origin is required for all fish imports. A certificate attesting mercury content is required with all imports of fresh or frozen

fish. Mercury content is required to be below 0.7 PPM. All fish must have their heads attached.

Frozen products in general: All frozen food products must have labels stating that the product is deep frozen.
Fishery products: All frozen fish must have a certificate stating that freezing temperatures and processing techniques conform to Italian regulations to ensure the product is parasite free. The issuing of import permits can take a long time (up to one year). This can work as barrier for direct access of fishery products from third world countries to the Italian market.

NTB specific to Sweden

Live fish: Imports of any live fish other than carp and some aquarium fish are prohibited.

NTB specific to United Kingdom: The import of food that has been subject to ionising radiation is prohibited in UK.

APPENDIX II

Growth of Nile perch export fishery industry (EC and USAID 2002)

Year	Nile perch export Value (US $ millions)
1991	5,3
1992	6,5
1993	8,8
1994	14,8
1995	25,9
1996	45
1997	30
1998	29,7
1999	24,7
2000	34,4
2001	78,5

In order to estimate the average growth of Nile perch exports, values of exports between 1997 and 2000 when the ban was in place were ignored and a simple exponential growth curve that assumes a constant percentage increase was applied (Pindyck and Rubinfeld 1998).

Simple exponential growth curve: $Y_t = Yt_0 (1+a)^{n-1} + \mu$

Where Y_t = value of exports at time t (end of reference year), Yt_0 = reference starting value of export, n = number of years to be projected from the original value Yt_0, a = fixed percentage in ratio form at which the exports value are growing per year and μ is the random error term.

The simple exponential growth function was changed into log linear form as follows below:

$Y_t = Yt_0 (1+a)^{t-1}$ ……..……..……..1

$Y_t / Yt_0 = (1+a)^{t-1}$ ……......2

$Log_{10} Y_t / Yt_0 = log_{10} (1+a)^{t-1}$ ……3

$Log_{10} Y_t - Log_{10} Y_{t0} = t\text{-}1 \log_{10} (1+a)$ ……...4

From equation 4, it is possible to estimate $\log_{10} (1+a)$ as a coefficient or gradient of the linear curve in the functions as given in the excel estimates. The results of the excel estimates are given below.

APPENDIX III

Excel log linear growth curve estimates for the Uganda Nile perch exports.

a) Function estimates			
Estimated excel function			R^2
$Log_{10} Y_t - Log_{10} Y_{t0} = t\text{-}1(0.1906)$			97%
b) Average percentage Uganda Nile perch export growth based on the simple log linear curve			
Series	Log10 (a+1)	Anti-log (a+1)	Average % growth (a)
1991-1996	0.1906	1.550958	55

As can be seen from the excel estimates the log linear growth function had a statistically satisfactory fit of the available results (R^2 = 97%). Results indicate that between 1991 and 1996 Uganda fishery exports were growing at an average rate of 55%.

APPENDIX IV

Consumption of fishery products in the EU 1999 (CBI Market survey 2001).

Country	Per capita consumption (US $)	Total consumption (US $ millions)	Market share (% of total value)
Belgium	181	1840	7
Italy	158	9070	34
Spain	103	4080	15
Greece	101	1078	4
Finland	97	500	2
Portugal	89	878	3
Sweden	62	549	2
Germany	52	4241	16
France	41	2402	9
Ireland	37	135	0
Denmark	27	143	1
UK	26	1500	6
The Netherlands	25	401	1
Austria	25	201	1
EU	73	27018	

NB: Per capita consumption for Ireland and Finland excludes shellfish while that of Spain excludes dried, salted and smoked fish.
Figure for Luxembourg is not available.

APPENDIX V

Research guide used in collecting data (secondary and primary)

1. What is the legal, macro-economic and institutional (regulations, technology, the economy) framework in fish marketing?
2. What is the market channel of the Ugandan Nile perch?
3. What are the value addition activities along the market channel?
4. How are the financial flows in the market channel?
5. What are the standard products in the market?
6. What are the characteristics of the target consumers?
7. What are the main Nile perch consuming and importing countries?
8. What are the main firms involved in importing and exporting the Ugandan Nile perch?
9. What is the market positioning strategy used by the participants?
10. How is the marketing power of Ugandan exporters compared to the corresponding importers (strength and weakness)?
11. What are the competing countries and near substitutes in the market?
12. What are their strengths relative to the Ugandan counter parts?
13. How is the growth of the Nile perch market in Europe?
14. What is the consumer preference trend in Europe?
15. What are the threats and opportunities associated with the market trends?
16. How are Ugandan firms responding to the market trends?
17. How are competing exporting countries or products responding to market trends?
18. What are the implications of the above findings on Uganda's stakeholders in the fisheries export sector and the industry as a whole?

APPENDIX VI

List of respondents contacted for the mail survey

a) Ugandan fish processors (includes all those currently exporting)

Byansi Fisheries Co. Ltd.
Gomba Fishing Industries Ltd.
Greenfeilds Uganda Ltd.
Hwan Sung Ltd.
Marine and Agro export Processing Ltd.
Masese Fish Packers Ltd.
Ngege Ltd.
Uganda Fish Packers Ltd.
Uganda Marine Products Ltd

b) European based fish importers/exporters

IceMark; Url: www.icemark.be
Anova Foods; Url: www.anovafood.net
One EU based fish processor (names withheld on request)

c) EU retail supermarket chains dealing in fish

Picard, France; email: client@picard.fr
Carrefour, France; email: suppliers@carrefour.com

d) DFR, MAAIF, Uganda

Mr. Ignatius Odongo, Senior Fisheries Inspector