



The Contribution of Lake Victoria Fisheries to National Economies*

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Abstract

The paper discusses the contribution of the Lake Victoria fisheries resources to the riparian states as well as the communities. The paper has used data from studies conducted simultaneously and by reviewing documents from government and other studies reports. Results indicate that in addition to GDP, fisheries have also generated income and revenue, provided employment and brought in substantial foreign exchange. Other findings also reveal direct and indirect contribution of the fishing industries in the improvement of services and quality of life among the dependant community. However, the lake is still faced with the challenges of poor business environment, inadequate technologies for value addition and poor local markets for fish among others. In conclusion, Lake Victoria is an important resource among the partner states as well as the riparian communities. Control of fishing illegalities and promotion of economic value of other fish species especially dagaa will increase benefits to the riparian communities.

Key words: Lake Victoria, Nile perch, economic contribution, employment, exports.

Introduction

The Partner States of the East African Community (EAC) have designated the Lake Victoria Basin as an economic growth zone, which implies that the resources of the basin should contribute to their development goals. These include poverty alleviation, self sufficiency in food, employment creation, increased foreign exchange earnings, and improved public services, among others. Managing the fisheries of Lake Victoria so that they make an effective contribution towards the achievement of these goals is a major challenge facing the Partner States.

One of the constraints on the implementation of fisheries management on Lake Victoria is the lack of reliable and sustainable sources of financing for the fisheries institutions. This compromises their ability to discharge their mandate effectively, which is a situation that needs urgent redress. The next Fisheries Management Plan for Lake Victoria, 2009-2014 (FMP2) includes plans to establish sustainable financing mechanisms for these institutions, incorporating the user-pays principle at all levels of fisheries (LVFO, 2008).

This principle is embedded within the Code of Conduct for Responsible Fisheries (CCRF) and in the EAC Protocol for the Sustainable Development of the Lake Victoria Basin. Through its application, the wider community not directly involved in fisheries activities is able to derive benefits from the fisheries, which are shared common pool resources. The Lake Victoria fishery contributes significantly to the economy of the riparian countries bordering the lake and has been managed since 1950's according to different management regimes. In the pre-colonial period the fishery was purely community managed. During and after the colonial period up to and including the 1990's fisheries management was the responsibility of the central governments. Now a partnership arrangement is being developed where the lake resources are managed by the governments in collaboration with communities within a co-management framework.

In recent years, Lake Victoria has been faced by over fishing. This has been evident by the declining trends in catches. Stock assessment surveys reports a declining trend on the Nile perch biomass since 2000, while at the same period CAS reports an increased total catches for Nile perch. Other indication of over fishing is the common use of small and illegal nets that has reduced the average size of the fish caught. Declining fisheries have far reaching socio-economic consequences, including a loss of incomes and livelihoods, unemployment, food and nutritional insecurity,

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and conflicts over resources at community, national and regional levels.

Methods

This paper is based on a study carried out simultaneously in the three Partner States to establish the contribution of Lake Victoria’s fisheries to national and household economies. In each country, the literature was reviewed and secondary data and information collated by reviewing published and unpublished manuscripts, official government records and publications, including statistical abstracts and bulletins from the national Bureaus of Statistics, economic survey reports, national development policy documents, trade reports, and sectoral strategy documents produced by relevant ministries. Information was also obtained from previous studies undertaken during the Implementation of a Fisheries Management Plan (IFMP) project (Abila *et al.*, 2006; Abila *et al.* 2007, LVFO 2007, 2008, Odongkara 2006a, 2006b and 2006c). The study also made use of data and reports from other IFMP components such as the Catch Assessment and the Frame Surveys, while some statistical information was also obtained from the Trans-boundary Diagnostic Analysis of the Lake Victoria Basin report recently produced by the Lake Victoria Basin Commission (EAC).

National institutions were also visited to fill information gaps and address key questions arising from the literature review. These institutions included Fisheries Departments and other Government Ministries and Departments, especially those responsible for statistical, planning and financial portfolios, and other institutions with information and data, such as the national associations of fish processors and exporters.

Results and Discussion

Contribution of fisheries to poverty alleviation

Poverty in fishing communities is multi-dimensional, concerned not only with low or declining catches and the consequent fall in income and food supply, but is also reflected in the inadequate access to social services, poor levels of education, remote and isolated locations of fishing communities, poor organisation, political voiceless and the high exposure of fishers to accidents and natural disasters (FAO, 2009). Fisheries contribute to poverty alleviation by providing food for the poor and supporting local livelihoods in different ways (Figure 1).

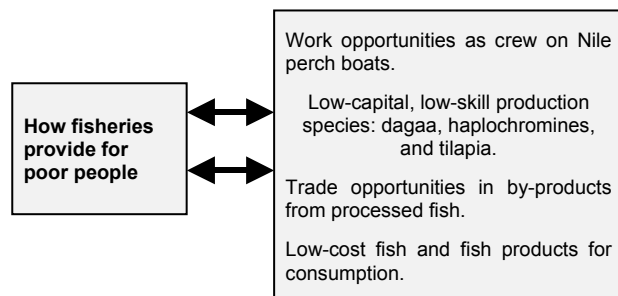


Figure 1. Some ways in which Lake Victoria fisheries contribute to poverty alleviation.

Although many of the fisheries activities are still carried out on artisanal basis, they are focussed on the market, continuing to generate earnings from the sale of the fish products and creating wealth. . It is also an engine of growth for rural development and can promote economic growth at national level. Many households and communities within the Partner States depend on fisheries to ensure their food security.

The fisheries on the lake have provided opportunities for people to work as crew members, boat owners, processors, traders, input suppliers and service providers. Much of the occupation is poverty focussed because of its low-capital, low-skill requirements, suitable for the poor and semi-educated communities along the lakeshore. Fortunately, Lake Victoria has species, apart from the Nile perch, that can be targeted by poor people such as tilapia, dagaa and the haplochromines, which enables them to earn some money, although the income of crew members is lower than that of boat owners (Table 1). Furthermore, some of these species, notably dagaa and the haplochromines, are becoming increasingly abundant in the lake as a result of the decline in Nile perch biomass. Other fish products utilised by poor people include the factory by-products such as fish heads and frames, off-cuts, skins and oils.

Table 1. The contribution of fishing to individual incomes on Lake Victoria (US\$ per day) From LVFO (2007)

	Boat owner	Crew
Kenya	9.1	3.5
Tanzania	22.0	3.5
Uganda	42.0	14.6

The co-management strategy has been introduced in the fisheries with the overall objective of improving the livelihoods of the fishing communities. The establishment of Beach Management Units (BMUs) has contributed to the fight against poverty through improved planning and resource management for sustainable livelihoods; good governance with particular emphasis on the rights of all, with democratic participation by disadvantaged and vulnerable groups like the crew and women and promoted self reliance as a necessary basis for working out of poverty. The fishing industry has indirectly contributed to improvements in the services and quality of life among the poor. Access roads to beaches have been improved, leading to better market for fish and improved supply of goods and services while schools, health and recreational facilities have been built in the vicinity of fishing villages, thus providing them with social services.

There has been some concern that the export trade in fish products, notably Nile perch, has reduced the supply of important food source to the communities and reduced opportunities for those traditionally involved in processing and marketing, particularly women (Abila *et al.*, 2007). As a result the riparian communities have resorted to catching of immature fish thus contributing too much to fishing with illegal gears.

The per capita consumption of fish in the Partner States; 4.0 kg yr⁻¹ in Kenya, 6.0 kg in Tanzania, and 7.0 kg in Uganda (FAO, 2009) is relatively compared to the world and Africa consumption which stood at 16.4 and 8.3 kgs respectively in 2005 (FAO, 2008) . It is determined by human population, fish production, fish export and import, purchasing power, tastes and preferences, cultural influences and availability of other substitute foods that the population can consume.

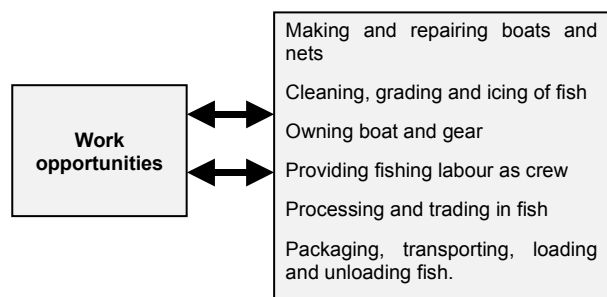
Fisheries production as a contribution to GDP

Table 2. Fisheries GDP as contribution to national GDP at current prices (US\$ million) From Government of Kenya (2006), Tanzania Country Report (2006); UBOS (2008)

	Kenya		Tanzania		Uganda	
	Fisheries GDP	% of Total GDP	Fisheries GDP	% of Total GDP	Fisheries GDP	% of Total GDP
2000	101.1	0.7	139.6	2.7	118.1	2.2
2001	100.5	0.6	151.8	2.6	160.0	2.6
2002	97.3	0.6	173.0	2.6	166.3	2.6
2003	88.3	0.5	198.1	2.6	180.6	2.4
2004	98.5	0.5	220.2	2.5	230.6	2.6
2005	98.9	0.5	249.3	2.5	289.4	2.6
2006	94.2	0.4	241.4	1.6	338.8	2.7
2007	95.9	0.4	277.4	1.6	390.6	2.7

Fisheries contribution to employment

Unemployment is one of the challenges facing the regional economy. Fisheries contributes to employment within its production, processing, marketing and industrial processing components (Figure 2).



Fisheries have made substantial contributions to the regional economies through monetary as well as non-monetary values (Table 2). On the monetary side, the fisheries sector has to a large extent been integrated into the formal economic sector in the region through the international fish trade. Values are generated in the production component, which involves the processing sector including both artisanal and industrial activities, and distribution through domestic, regional and international trade. Values are also generated through such support services as the manufacture and repair of boats and nets, the cleaning, grading and icing of fish, packaging and transportation. Non-monetary values include fishing for personal consumption as well as the use of personal or family labour in fisheries activities. While attempts have been made to capture both monetary and non-monetary values in the national income accounts of the Partner States, the problem of poor records makes it difficult to obtain accurate estimates of these values.

Figure 2. Some of the ways in which fisheries on Lake Victoria contribute to employment

Table 3. Direct employment in fishing (thousands). From LVFO (2009)

	Kenya	Tanzania	Uganda	Total
2000	38.4	56.0	34.9	129.3
2002	54.1	80.1	41.7	175.9
2004	37.3	78.0	37.7	153.0
2006	44.2	98.0	54.1	196.3
2008	42.3	105.0	51.9	199.2

Fisheries contribution to foreign exchange earnings

Fisheries contribute to the region's foreign exchange earnings through the regional and international fish exports. Tanzania and Uganda were the main fish exporting countries to the region, while Kenya was an importer (Lwenya *et al.*, 2006; Odongkara *et al.*, 2006; Onyango *et*

al., 2006) while other countries that imported fish were the DRC, Rwanda and Burundi. All the major commercial fish species were traded within the region, with sun-dried dagaa and smoked tilapia being the leading products. The main constraints in regional fish marketing were inadequate marketing inputs, insufficient fish, a lack of infrastructure and technological facilities, inadequate information and an unclear regulatory and policy framework governing the trade. Furthermore, the informal organisation of the trade meant that it was not adequately documented and its value to the regional economy is not fully appreciated.

The international trade in Nile perch has attracted most attention. Around 152,000 tonnes of Nile perch were processed by the region's 32 operating factories to produce about 86,000 tonnes of various Nile perch products for export in 2006 (Table 4). The fish export markets are diversified to include at least 26 countries in all five continents, although the European Union is the dominant market. Fish is among the most important exports from the region, earning substantial foreign exchange in countries that currently run serious trade deficits.

Table 4. Nile perch fish exports (chilled and frozen fillets, gutted and beheaded) from Lake Victoria, 2000-2007. The quantity is expressed as thousands metric tonnes while the value is in millions of US dollars. From LVFO (unpublished).

	Kenya		Tanzania		Uganda		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
2000	15.8	34.3	30.8	49.8	15.9	34.4	62.5	118.4
2001	17.9	50.4	31.4	79.5	28.2	79.0	77.5	209.0
2002	16.5	52.2	24.7	82.5	25.2	87.6	66.4	222.3
2003	16.5	50.9	32.4	104.5	25.1	86.3	74.1	241.7
2004	15.7	52.1	30.3	87.5	30.1	102.9	76.1	242.5
2005	13.7	46.7	40.8	123.2	36.6	143.6	91.1	313.5
2006	12.7	48.6	40.9	143.0	32.0	137.0	85.6	328.6
2007	12.4	43.5	44.7	127.5	28.4	117.4	85.5	288.4
2008	13.0	45.6	46.0	131.2	23.4	96.7	82.4	277.9

Revenues from the fisheries

The contribution of fisheries to public revenues is usually provided for through the various statutory instruments. On Lake Victoria, these include vessel license fees, fishing fees, fish trading fees, fish transport fees, market dues, fines and permits of various sorts, although the specific rates vary from one country to another. At present, the governments, with the support of development partners, provide the funding for fisheries management but the lack of resources remains a major constraint. There is a need to strengthen statutory provisions for revenue collection to ensure that fishery management can be self-financing and sharing public revenues with the different fisheries institutions and BMUs.

Conclusions

The paper examined the contribution of fisheries in the national economies of the riparian states of Lake Victoria. Areas of contribution identified included poverty alleviation, contribution to household and national incomes, employment, foreign exchange earnings and public revenues. While considerable information exists on the significance of fishers, details of the information are often lacking and data gaps have been identified, notably in the areas of poverty and livelihoods, consumption and marketing.

Apart from data limitations, the role of fisheries in the riparian economies is also hindered by the role of the fisheries in the riparian countries is also hindered by poor distribution of the fisheries values, conflicting values, particularly export versus consumption values, poor business environment for fisheries investments, inadequate technologies for value addition, and poor local markets for fish, negative socio-cultural practices and poor revenue collection by the institutions concerned.

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