

EXAMINING THE NEXUS BETWEEN NATURE, WEALTH AND POWER IN THE LAKE GEORGE FISHERY

The Case of Major Actors in the Fish Product Chain



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List of Acronyms

ACODE	-	Advocates Coalition for Development and Environment
BMUs	-	Beach Management Units
FRI	-	Fisheries Resource Institute
GDP	-	Gross Domestic Product
LAGBIMO	-	Lake George Basin Integrated Management Organization
LCs	-	Local Councils
MoFPED	-	Ministry of Finance, Planning and Economic Development
NWP	-	Nature Wealth and Power
PEAP	-	Poverty Eradication Action Plan
PRIME/WEST	-	Productive Resource Investments for Managing the Environment in Western - Uganda
UBOS	-	Uganda Bureau Of Statistics

Acknowledgements

This briefing paper arises out of one of ACODE's current research undertakings meant to influence policy processes in biodiversity conservation through generation of policy relevant information. The main aim of this paper is to highlight the relationship between nature, wealth and power (NWP) and the intricacies along the fish product chain from Lake George and point out critical gaps that policy processes ought to target. Using the NWP analytical framework in understanding utilisation of fish from Lake George, the paper puts a case to the effect that integration and balance of nature (environmental management), wealth (economic concerns), and power (good governance) are the bedrock of development in natural resource dependant communities.

We are greatly indebted to the United States Agency for International Development through the PRIME WEST Programme for providing the financial support that facilitated the research, production and publication of this policy briefing paper.

We hope that exposition of different losers and winners from the Lake George fishery will spur policy makers and implementers in the affected region to redress the imbalances.

Executive Summary

Lake George is an important fish habitat that supports fish stocks estimated to be worth 4-5 billion shillings per year. Secondly, the economic value of fish to the Ugandan economy reached record levels in 2005 with fish exports reaching US \$143 million. Fishing is being viewed as a potential growth sub-sector with potential to contribute significantly to national GDP and ensure eradication of poverty. Fishing also has other multiplier benefits of boosting other sectors of the economy like construction (buildings at most landing sites), manufacturing (foods and beverages e.g. beer, sodas, spirits, wines etc), and the transport. From our research, emerging evidence point to the fact that overemphasis on fish conservation without corresponding emphasis on power (governance), economic relations and behavioural patterns found among the actors largely account for the marginal successes in poverty eradication based planning that has been emphasized for a while.

In this briefing paper, we present preliminary observations on the extent of degradation of fishery resources on Lake George, the structure of actors engaged in exploitation of the fisheries as well as key factors determining winners and losers in terms of access to, and benefit from, the resource. In spite of the actual and potential wealth, this paper notes that the socio-economic status of major actors within fish-dependent communities around Lake George reflects a different reality. The main conduits of wealth, especially barias and Deyi-Deyi, are characteristically poor if assessed basing on the national poverty standards. We found that at landing sites, the ability of any group of actors to gain from available fish market was determined by two major factors;- the behavioural aspects and the power possessed by a group of actors. Different ways of power use by different actors influenced both the market and decision-making processes.

In this paper, we argue that notwithstanding the imperfections in use of command and control (traditional approaches) in managing a common property resource, a resource like fisheries, vulnerable to overexploitation with dangers of possible collapse, will not survive if left to the forces of the market alone. We advocate for policy interventions that can balance the demands of human capital to be in line and cognizant of the growth factors of natural wealth such that both can be exploited sustainably.

The Nature, Wealth and Power (NWP) analytical framework and the Commodity Chain Analysis Methodology informed the philosophical analysis that went into preparation of the paper. The NWP analytical framework seeks to explain why previous community development interventions in many African countries in the area of natural resources conservation have failed to produce sustainable results especially in terms of ensuring the ecological integrity of the environment and natural resources while improving the economic living conditions of the targeted communities. The hypothetical drive was that pro-poor interventions have largely failed because of ignoring to address the economic structure and the power relations that provide the framework within which major resource ownership and access decisions are made.

The briefing paper describes the main actors along the fish product chain on Lake George. We argue that some act as conduits in whose hand wealth passes, often leaving no visible wealth impacts. Actors are classified into three categories, which are not mutually exclusive. There are primary actors, who extract the resource (fish) notable among whom are baristas and boat owners, secondary actors who are engaged in post-harvest handling of fish among whom we include artisanal processors, deyi-deyi and traders, and tertiary actors consisting of local institutions involved in local administration such as Local Councils (LCs) and others overseeing resource extraction, handling and trade

notable among whom are Beach Management Units (BMUs) and their committees as well as other organisations like LAGBIMO.

In the paper, we highlight the fact that, in spite of declining stocks, fish is still a wealth creating resource. We present evidence to the effect that some gains accrue to different actors in the fish product chain. A deeper analysis indicates a mismatch between gains received and quality of life for fish-dependant communities around Lake George. To some actors like barias and fishmongers, the gains are not translated into poverty reduction or livelihood improvement.

In the briefing paper, we also comment on power and how it relates to access and exploitation of the Lake George fishery using a decision-making perspective. We assess the role of BMUs and LCs at fish landing sites. Beyond the two power centres, we comment on the power of other levels of LCs at the sub-county and, the district, local government chiefs, and fishery managers at the centre. Important to note is that power that is wielded by boat owners and barias influences resource management, ownership and distribution of gains.

For instance, we underscore the fact that the increasing number of barias had stepped up their influence in determining the BMU chairman through voting. In essence, the BMU chairman was seen and considered to be influential in determining shared revenues of the landed catch between boat owners and the barias. BMU chairmen also had substantial powers over resource management, which again influenced resource sharing. The non-barias agued that a BMU chairman, who is a baria, is not strong in enforcing fisheries regulations since fishing multi-practices often benefit him (baria) and other members of his category.

We believe that the recommendations and ideas contained in this policy briefing paper will go along way in informing policy makers and policy implementers about what can be done to improve the status of fish-dependant communities, especially around Lake George.

1. Introduction

Over the last one and half decades (1990 – 2006), the economic value of fish in Uganda has been growing reaching record levels in 2005 with fish exports reaching US \$143 million (approx. 20% of total exports). Over the same period, the structure and scope of the actors in the fisheries sub-sector has undergone significant transformation especially with the increasing dominance of fish processing firms and middlemen operations. Increasingly, the fisheries sub-sector is being viewed as a potential growth sub-sector that can contribute significantly to the national GDP and ensure the eradication of poverty especially among the fishing and fishery dependent communities.

Voices from the field

“...bye-laws are passed by the district, but people there don’t know fishing...if such bye-laws are to be passed, one of us should go to explain what we need...you find like the chairman doesn’t know nets...” (An FGD at Mahyoro fish landing site).

“our colleagues farming in the hills...when they dig, soil runs into the lake...in road construction, the soil is washed into the lake...accumulating to about 10 metres...this affects breeding ground for fish...” (An FGD at Kayinja fish landing site).

“...government is not fair, it comes and grabs from us...it takes money but they are yet to put here a public latrine...all the money that is collected here...is just eaten... my father and our family opened up this site... that is why I dug up that hole to prove that soil here is not porous as leaders claim...people here are too poor - you see someone putting on torn trousers and you want money from him ...you are cheating him... at least cant they deceive us with small loans, and give something to Barias so that they can grow cotton, or other crops.” (An FGD at Mahyoro fish landing site).

“...if given free nets, ..we would make sure that no one uses the wrong fish nets...in this lake, fish used to die due to its high density but not any more now...this is due to an increased population of people chasing it around...” (An FGD at Katunguru Kasese fish landing site).

“...Barias were no bodies before the BMUs. At least now we are even represented on the boat owners’ committees. We can air our views...” (An FGD at Katunguru Bushenyi fish landing site).

However, evidence based research emerging from the sub-sector point to the fact that the overemphasis on resource conservation without corresponding emphasis on power, economic relations and behavioural patterns among the actors largely account for the marginal successes achieved in over forty years of conservation and at least almost a

decade of poverty eradication based planning. Based on Lake George in Western Uganda, this paper presents preliminary observations on the extent of degradation of the fishery resource on the Lake, the current structure of actors engaged in the exploitation of the Lake George fishery as well as key influences determining winners and losers in terms of access to, and benefit from, the resource. It is argued that the current interventions that engender the current power relations over the resource could produce dramatic results in terms of fostering the ecological integrity of the Lake and poverty eradication among the hitherto poor and marginalized actors.

2. The Contribution of Fish to Poverty Eradication

The Poverty Eradication Action Plan (PEAP) 2004 recognizes fisheries as an important resource. The National Planning Authority categorises fisheries as one of the key wealth creating sectors in the economy basing on its form of natural wealth. Right from estimates of the value of catch at landing sites, and the gains throughout the processing, transportation and marketing chains including added values, fish is by any means a wealth creating natural resource. Using national indicators of GDP, fisheries is estimated to contribute up to 6%¹ or even as high as 12%² of the national GDP although only 2.7%³ is captured in the national accounts. These estimates exclude other multiplier benefits of boosting other sectors of the economy like the construction (buildings at most landing sites), manufacturing (foods and beverages e.g. beer, sodas, spirits, wines etc), and the transport.

¹ (PEAP, 2004)

² BANKS, R. 2001. Business Plan for Uganda Fisheries Authority. Report for Government of Uganda.

³ UBOS (2004), Uganda Bureau of Statistics, Statistical Abstract, 2004

3. The Economic Value of Lake George Fishery

Wealth accruing from any fishery resource is estimated from the total landed value and the value added throughout the entire transportation, processing and trade (for both domestic and export markets) chain in a period of time. This does not include other multiplier effects such as increases in beer consumption, fuel utilization and other sales as a result of fish business. For purposes of this policy briefing paper, the wealth value of Lake George fisheries has been limited to the value of landed catch in a period of time.

It should be noted that similar to what is found on many other lakes, systems employed for data collection on Lake George have been rather weak. The figures obtained and used, therefore, are only estimates based on reliability of methods of collection that have been employed at a time. Nonetheless, data and information found in the official records is used to estimate the level of wealth of Lake George.

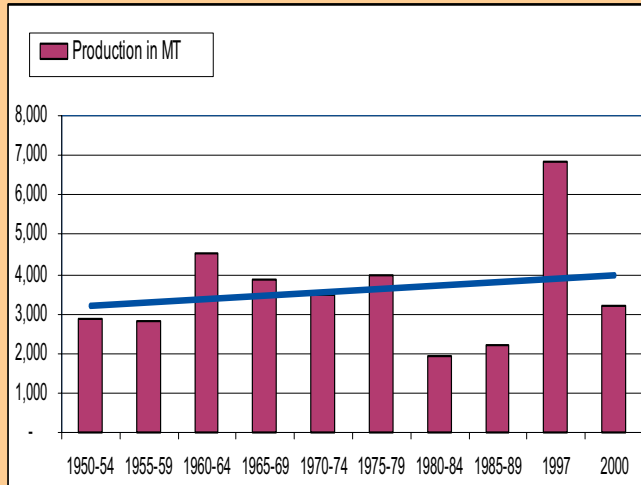
Table 1: Trends in catches, prices and values of fish from L. George at landing sites from (1950-54 to 1985-89 and estimates up to 2005

Year	Metric tones	Kgs	Est. price/Kg	Est. Value (Ugsh mil)
1950-54	2,850	2,850,000	100	285,000
1955-59	2,800	2,800,000	150	420,000
1960-64	4,550	4,550,000	100	455,000
1965-69	3,850	3,850,000	350	1,347,500
1970-74	3,500	3,500,000	420	1,470,000
1975-79	3,950	3,950,000	500	1,975,000
1980-84	1,950	1,950,000	700	1,365,000
1985-89	2,200	2,200,000	1,000	2,200,000
1997	6,850	6,850,000	1,000	6,850,000
2000	3,200	3,200,000	1,200	3,840,000
2001 est.	3,500	3,500,000	1,100	3,850,000
2004 est.	3,580	3,580,000	1,300	4,654,000
2005 est.	3,650	3,650,000	1,500	5,475,000

Adopted from Kamanyi (1991)

Figure 1: Trends in and catches of fish from Lake George (1950s - 2000)

From the estimated figures, it can be seen from Table 1 and Figure 1 that the estimated wealth of Lake Gorge is in the region of Ugshs 4-5 billion per year.



In spite of this actual and potential wealth, the socio-economic status within fishery-dependent communities reflects a different reality. The main conduits of this wealth, especially fishermen or barias and boat owners, are characteristically poor basing on the national poverty standards. Although there have been no disaggregated quantitative data on the poverty status of fishing communities, qualitative poverty assessment studies⁴ indicate that poverty is prevalent amongst fishing communities.

Current approaches in managing the Lake are market-oriented whereby forces of demand and supply are left to take a free hand in determining the actual monetary gains. Behavioural issues⁵ aside, the extent of gains from the market are determined by the power possessed by different actors and their ability to use that

⁴ Mainly done by the Ministry of Finance, Planning and Economic Development (such as Ministry of Finance, Planning and Economic Development – MoFPED (2002): Second Participatory Poverty Assessment Report. Deepening the Understanding of Poverty), Fisheries Resources Research Institute (FIRRI), and the Department of Fisheries Resources.

⁵ Tanzarn, N., and Bishop-Samrook, December 2003

power to manipulate market allocations. Besides, fishing on Lake George is of an open access nature in a sense that everyone can get a fishing license since its cheap (approx Ushs 5,000 per year). At the landing sites, the ability of any group of actors to gain from the market of fish is largely determined by two major factors;- the behavioural aspects and the power possessed by a group of actors and how that group is able to use that power to influence both the market and the decision-making process.

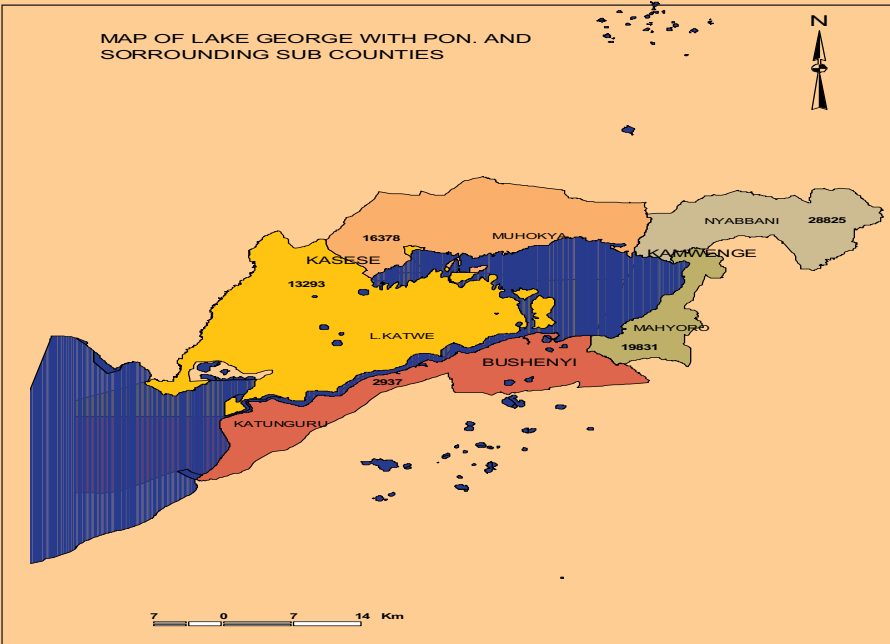
4. Population whose Livelihood Depend on Lake George

Lake George directly or indirectly supports the districts of Kasese, Bushenyi, and Kamwenge whose entire total sub-county population is 81,264 as shown on the Table 2 and Map 2. It is a major source of direct livelihood for most people. What is sad to note is the fact that a substantial segment of people in communities that depend on the lake fall in the category of the 'poor' yet the lake is a great source of wealth. Data available from UBOS indicates that 39.6% of people in Mahyoro sub-county (Kamwenge), 46.5% in Mukokya and Lake Katwe sub-counties (Kasese) and 58.2% in Katunguru (Bushenyi) are considered as being the poor.

Table 2: Population by Parish, Sex, Household Number and Average Household Size of Sub-Counties around Lake George

DISTRICT	County	Population			Total	Average Household Size
		Households	Male	Female		
	Sub-county					
	Parish	Households	Male	Female	Total	Household Size
KAMWENGE						
	Mahyoro	4,646	9,763	10,068	19,831	4.3
	Bukurungo	628	1,333	1,376	2,709	4.3
	Kitonzi	952	1,973	2,158	4,131	4.3
	Mahyoro	1,843	3,705	3,708	7,413	4
	Nyakasura	854	1,951	2,036	3,987	4.7
	Nyakera	369	801	790	1,591	4.3
	Nyabbani	6,283	13,749	15,076	28,825	4.6
	Kanara	1,204	2,478	2,752	5,230	4.3
	Nganiko	1,090	2,684	2,872	5,556	5.1
	Rwenjaza	1,473	3,272	3,618	6,890	4.7
	Rwenkubebe	1,124	2,530	2,758	5,288	4.7
	Rwenshama	1,392	2,785	3,076	5,861	4.2
KASESE						
	L.katwe	3,169	6,651	6,642	13,293	4.2
	Hamukungu	464	819	693	1,512	3.3
	Kabirizi	407	1,009	933	1,942	4.8
	Kahokya	1,319	3,372	3,764	7,136	5.4
	Kasenyi	317	477	387	864	2.7
	Katunguru	477	762	657	1,419	3
	Mweya	185	212	208	420	2.2
	Muhokya	3,352	8,006	8,372	16,378	4.9
	Kahendero	749	1,379	1,233	2,612	3.5
	Kibiri	729	1,985	2,197	4,182	5.7
	Muhokya	571	1,212	1,206	2,418	4.2
	Kilembe	594	1,566	1,551	3,117	5.2
BUSHENYI						
	Katunguru	1,033	1,602	1,335	2,937	2.8
	Kashaka	224	332	290	622	2.8
	Katunguru	188	339	312	651	3.5
	Kazinga	222	384	360	744	3.4
	Kishenyi	399	547	373	920	2.3

Source: (UBOS, 2002) Uganda National Census Data

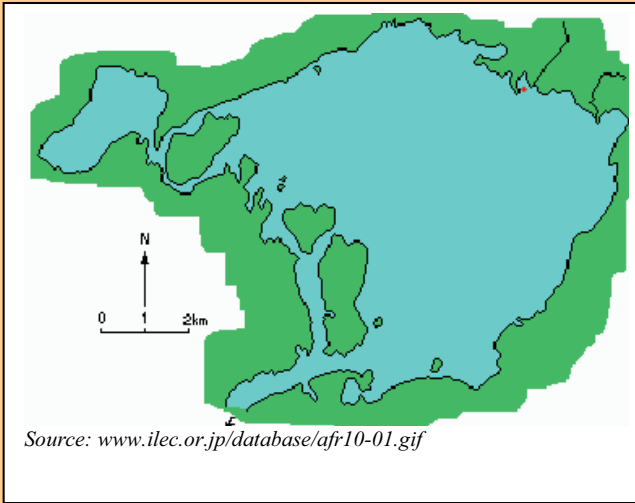


Source: (UBOS, 2002) Uganda National Census Data

5. Physical Location

Located in Western Uganda, Lake George lies in the western branch of the Great Rift Valley. It is a small shallow lake of about 250 km² with an average depth of 2.5 m at an altitude of 914m above sea level. The lake lies between 0:05-0:05S, and 30:02-30:18E and is shared between the districts of Bushenyi, Kamwenge and Kaseese.

5.1.1 Ecological Characteristics of the Lake



Map 2. Sketch map of Lake George

Major inflows into the lake include rivers; Ruimi, Mubuku and Nsonge from Rwenzori and Mpanga and Dura from the northeast. The outflow is the Kazinga

Channel, which drains into Lake Edward. The northern lakeshore is lined with papyrus swamp. The water fluctuation levels are very low. Studies have indicated that the quality of water is mainly being affected by eutrophication that has resulted into increased algae bloom.

Lake George is a habitat for a variety of fish species including, even those considered to have been indigenous and now extinct in Lake Victoria. The main species caught and commercially exploited include Nile tilapia (*Oreochromis niloticus*) locally known as Ngege, *Protopterus aethiopicus* – Emamba, *Clarias gariepinus* – Emale and *Bagrus docmak* – Semutundu. There are also rare but occasionally caught species which include; *Oreochromis leucosti* – Bambala, *Barbus altianalis* – Enjunguli *Mormyrus kannume*- Kasulubani and the most quoted rare but valuable specie *Labeo forskalli/victorianus* – Eningu. The fishing community on Lake George indicate that the rate at which they were catching *Clarias* was increasing yet the specie is known to be among the most rare, an indication of a

poor performance of the fishery. Catching of Emale indicates that nearly all the Tilapias often caught with nets were getting finished hence the decision to resort to this hard-to-catch and self-preserving Emales.

Lake George presents a potential for fisheries resource abundance. According to research done by the Fisheries Resources Research Institute (FIRRI)^{6 7}, local knowledge indicates that the lake's productivity is high based on water quality standards. However, with extra fishing pressure, all indications point at the resource being over exploited since too many people chase too few fish, explaining the notion that a common property resource (open access) cannot be responded to by the market controls alone.

Notwithstanding the imperfections in use of command and control and traditional approaches in managing a common property resource, a resource like fisheries, vulnerable to overexploitation with dangers of possible collapse, will not survive if left to the forces of the market alone. This requires policy interventions that can balance the demands of human capital to be in line and cognizant of the growth factors of natural wealth such that both can be exploited sustainably.

6. Retracing the footsteps: Who benefits from Lake George Fishery?

The actors described have been identified during preliminary observations arising from on-going studies in the fisheries sector based on the Nature, Wealth and Power (NWP) analytical framework and the Commodity Chain Analysis Methodology. The NWP analytical framework seeks to explain why previous community development interventions in many African

⁶ Fisheries Resources Research Institute, (FIRRI) Annual Report 2002/2003

⁷ <http://www.firi.go.ug/Publications.htm>, Fisheries Resources Research Institute Publications, (FIRRI)

countries in the area of natural resources conservation have failed to produce sustainable results especially in terms of ensuring the ecological integrity of the environment and natural resources while improving the economic living conditions of the targeted communities. The focus of the ongoing studies is an attempt to understand the hypothesis that pro-poor interventions have largely not reduced poverty because of failure to address the economic structure and the power relations that provide the framework within which major resource ownership and access decisions are made.⁸

7. Actors in Lake George Fisheries

There are a number of actors along the fish product chain on Lake George. Many of the actors operate as conduits in whose hands wealth passes, often leaving no visible wealth impacts. The actors can be classified into three categories, which are not mutually exclusive. There are primary actors, who extract the resource (fish) notable among whom are baria and boat owners, secondary actors who are engaged in post-harvest handling of fish. Examples of secondary actors include artisanal processors, deyi-deyi and traders. The last category are tertiary actors who consist of local institutions involved in local administration such as Local Councils (LCs), overseers of resource extraction, handling and trade notable among whom include Beach Management Units (BMUs) and their committees as well as other organisations like LAGBIMO⁹.

Understanding the relationship between the various actors and the resources, the nature of wealth distribution among actors and the distribution of power and decision making authority are essential pre-conditions for establishing a management regime

⁸ The NWP analytical framework and the commodity chain analysis methodology is described in more comprehensive detail in the final research papers that are being prepared for subsequent publication.

⁹ Lake George Basin Integrated Management Organization

that responds to the current rates of resource degradation and achieving poverty eradication among fishing communities.

7.1.1. Fishermen/Barias

The fishermen, who are locally and commonly known as “baria” and hereafter referred to as barias, constitute a group of exclusive individuals, mostly male by gender who go on the fishing boats for actual fishing activity. They are the actual fishing crewmembers. They constitute a majority of the active people in a fishing community. Many of them claim to have been born and grown up in fishing villages while others say that they ended up in the business as ordinary job seekers from far off places. The number of barias has increased steadily thereby creating fishing pressure on the natural resource. On average, there are normally 2-3 barias on every fishing boat. Not all barias in fishing villages can access a fishing boat everyday due to their large numbers. By virtue of their work, which is replete with risks (such as drowning, piracy, attacks by wild animals, extreme weather conditions etc), barias spend their daily incomes lavishly, on sex workers and alcohol. Their lack of frugality is based on a false belief that the lake has infinite resources. Therefore, due to their wasteful lifestyles, they possess characteristics of extreme poverty in society. Unlike in the past, barias vote and can be voted to be part of the BMU committees. According to the BMU Statute, barias should constitute 30% of the BMU committee.

In terms of employment, barias are informally employed since their numbers exceed the available boats. As individuals, barias do not have serious contractual obligations with boat owners. As long as they are in good health and in need of money, they are available to work for any boat owner willing to pay. Many barias do not access a boat to go fishing every day. The implication is that for some days of any month, a sizeable number of barias are unemployed. This increases their vulnerability to poverty.

7.1.2 Boat Owners

Boat owners are men and women who use their money to invest in the fishing business. They invest in fishing boats, boat engines, fishing nets and all other paraphernalia required to support the fishing activity. They bear the risk of any kind in the invested capital and meet almost all the operating costs on the fishing business. They employ the barias as fishing crew who go onto the boats for fishing. Some boat owners are former leaders of landing site committees that later formed BMUs. In some cases, boat owners are former barias, while others still act as barias on their own boats. According to the BMU statute, the representation of boat owners on the BMU Committee is 30%.

Once barias bring the catch, boat owners normally take 50% of it leaving 50% to be shared between the two or three barias. However, the sharing arrangement differs from one landing site to another.

7.1.3 Fish Mongers

These are a category of individuals (men and women) who buy fish as soon as it is landed, and sell it to different markets benefiting from the difference in prices. Depending on the location of the markets, fishmongers commute from one landing site to another buying fish and selling to different markets or other buyers. Their role, as a service, is to make fish available from landing sites to fish markets. This category of actors wields power especially by their ability to mediate between the demand and supply dimensions of fish, which can in its own form influence the wealth status of this category.

7.1.4 Artisanal Processors

This is a category of mainly women involved in traditional or rudimentary fish processing methods like sun drying, smoking or salting and selling to fishmongers. Their role is mainly to add value and they benefit from price differences between raw and processed fish. In some cases, such processors act as fish mongers/traders as well. In most cases (especially if this debate is extended to Lake Victoria fishery), majority of artisanal processors fry industrial rejects which make a big shift in their (traditional) processing technology. Very few are still engaged in erstwhile traditional fish processing since fish volumes have drastically fallen in favour of industrial processors.

7.1.5 Transporters

This is a category of business people (virtually all men) who provide auxiliary service to fish traders. They offer transport services to the fish trade business and like other actors, their business depends on the volumes of fish traded. Transporters in the context of Lake George are low scale, own one or two pick-ups, a motorcycle or a bicycle. On Lake Victoria however, and specifically for Nile perch trade, transporters double as fish mongers. They buy from the fishermen and sell to fish processing plants and benefit from the difference in prices. Often, they are able to dictate fish prices at the landing sites, as fish has limited shelf-life if not transported in time. Because of this, they are in position to dictate price differences between landing sites and at the final destination. Besides, it is noteworthy that the final fish prices are also a function of the prevailing fuel prices.

7.1.6 The 'Deyi-Deyi'

The 'deyi-deyi' is a category of individuals (mostly young men and women) at landing sites who provide auxiliary services at

landing sites during the fishing landing and selling business. They neither participate in active fishing nor trading, but they live and survive on doing petty jobs and providing ancillary services such as selling tea and food to fishermen and other landing site communities. They provide other services such as off-loading fish from boats, cleaning and drying of nets. They at times buy fish from the boat and re-sell it at a profit of 10-50 Uganda shillings thus acting as low scale middle persons. This is not a dominant group in the fish chain and is not captured in the chain analysis. Within the fish product chain, this is the group with the least power and who gain least from the fishing activity due to their informality.

7.1.7 Beach Management Units (BMUs)

BMUs are community-based management organisations, legally set up at landing sites purposely to provide a co-management role of the fisheries resource¹⁰. Notable actors that constitute these organisations are boat owners, fishing crew, fishmongers or traders, and other fish stakeholders at respective landing sites. All BMU members make up a BMU assembly, which elects a BMU committee to spearhead the core management of BMU activities. The representation of members on BMU committee is stipulated in the BMU Statutory Instrument (S. I) as 30% boat owners, 30% fishing crew, 10% fishmongers and 30% other stakeholder groups (listed in the BMU Statutory Instrument, including fish processors, boat makers, local gear makers or repairers, fishing equipment dealers, managers, and chatterers). For gender purposes it is stipulated that women should constitute at least 30% of the BMU committee. According to the regulations, a BMU executive has, inter alia, powers to recommend fishers for boat licences and fishing permits, collect revenue, enforce fishing rules and regulations, discipline its errant members (e.g. illegal fishers or those using

¹⁰ The Fishing (Beach Management) Rules, Statutory Instrument No. 35, 11 July 2003

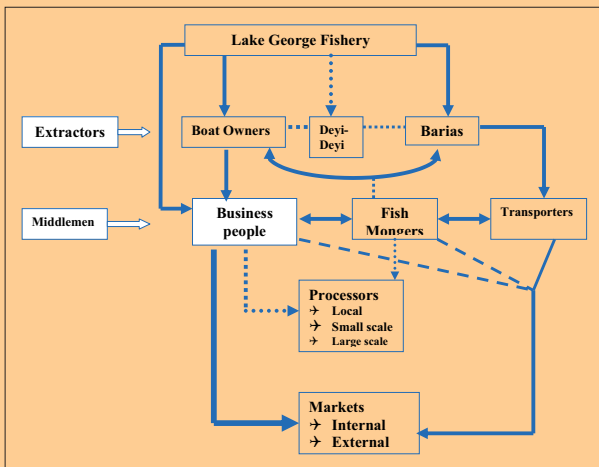
illegal/destructive fish gear). BMUs are legally empowered to prosecute all persons flouting fishing rules and regulations and/or failing to do/satisfy any of the above requirements.

7.1.8 The Local Councils

The Local Councils (LCs) is the lowest local administration unit in the community who are linked structurally to the village, parish, sub-county, districts and the central government. The LCs provides administrative services on behalf of government. Their chairpersons are democratically elected and they, in turn, appoint deserving men and women on their executive committees. Their services often supplement BMUs services such as support to fisheries enforcement by Local Defence Units – an arm of the LC structure. However, on some landing sites, power conflicts are reported between LCs and BMUs, owing to a blurred demarcation line separating the powers of the LCI from a BMU at the local community level.

7.1.9 Illustration of Linkages between Actors

Below is a graphic illustration of different actors showing the linkages and levels of power on Lake George fishery.



8. Fish Production Chain: Wealth Axis

In spite of declining stocks, fishery is still a wealthy resource. Exploitation of existing stocks in value terms still constitutes a factor in poverty reduction among fish dependent communities. Preliminary analysis in this study indicates that some gains accrue to different actors in the fish product chain. A deeper analysis indicates a mismatch between gains received and quality of life. To some actors like barias and fishmongers, the gains are not translated into poverty reduction or livelihood improvement.

The analysis is based on the value of landings per fishing boat and the value of catches or landings as wealth from the lake considering landing site values. At most of landing sites on Lake George, a boat lands approximately 70 kg of fish valued at Ushs 70,000 shillings per day. In some cases, the boat lands up to 150 kgs while in other cases a boat lands no catches.

Table 3: Annual Earnings & Margins of Selected Actors in the Lake George Fish Chain (worst case scenario)

Earnings	Boat owner		Baria		Fish monger	
	Daily	Annual	Daily	Annual	Daily	Annual
Total earnings ('000 Ushs)	12.1	4,374	5.9	2,115	15	5,400
Margins/Profit (Loss)['000 Ushs]	6.9	2,504	2.9	1,030	2	699
Profit (loss) as %ge of landed value	28%		11%		8%	

The calculations of margins assume the following;

- Daily income of a boat owner;
- Recurrent and fixed costs incurred by the boat owners and barias.

As indicated in Table 3, net gains by boat owners on average is Ushs 2.5 million per annum representing 28% of the landed value compared to Ushs 1 million representing 11% earned by

barias. It should be noted that this analysis considered a worst case scenario where on some days, fishermen come with no catch. It is also considered the revenue sharing arrangements between boat owners and barias. The proportion for sharing the value of landed catch for boat owners is 50% and for each baria, it is 25%. This is often done after subtracting general expenses, like landing fees incurred in the fishing activity. The margins by fishmongers on the other hand is calculated on the basis of value-added and gains from the difference in prices in different market places. The analysis reveals that margins of fishmongers constitute 8% of the sales constituting only Ushs 699,000- per annum per fishmonger. Note that these earnings by boat owners, barias and fishmongers are net incomes exclusive of costs and therefore represent the level of poverty based on earnings.

Comparing these figures with standard poverty indices of a US 1 \$, per annum per person, it can be deduced that neither of these

How do Barias explain their apparent poverty?

- Fish is the only source of income yet buying things for day to day livelihood like food and fresh water is very expensive;
- Their expenditure as being more than the income (house rent, firewood etc);
- Poor planning of the income that is earned (poor perceptions that when you get money today, you will get more money tomorrow)
- No knowledge about their responsibilities towards the lake - 'ponda-ponda' and 'kookota' fishing styles where even the young fish is scooped out;
- Many of the Barias are illiterate;
- Absence of a saving culture - the need for a Beach Bank of some sort; and
- They do not have a concept of how much they earn on weekly basis - even their projections for a daily earning varies a great deal.

individual categories belongs to the poor. Unfortunately, these actors possess poverty characteristics.

Wealth relations further reveal that fees and charges by local government constitute up to 2 % of landed value per boat. This, in aggregate terms, constitutes a higher figure in terms of wealth distribution among the actors in the fish chain.

9. Fish Product Chain: Power Axis

Power and how it relates to access and exploitation of the fisheries resources is looked at from a decision-making perspective. At the landing site level, BMUs provide governance over the fisheries resource. Also, Local Councils (LCs) wield power over governance beyond natural resources. Beyond the two power centres are councils at the sub-county and, the district, local government chiefs, and fisheries managers at the centre.

Concerns of Barias at Kayinja fish landing site

- Once upon a time, we as a 'Kibaria community' collected funds and opened an account but our leaders disappeared with our money;
- Many of us Barias do not save part of our incomes for any investments;
- Ignorance is a cause of poverty for many of us Barias ... we know we will always get money from the lake any time;
- We need a Beach Bank- that should be nearer to us than Bars in order to save money;
- We need support and corporation of boat owners to strengthen Barias Association;
- Patrols on the lake should be considerate - putting us in prison when caught doing wrong on the lake has made us very poor...we sell the little we have to get freedom; and
- We also need credit from micro finance institutions to put up alternative means of earning a living. Our area can produce cotton, rice etc. Growing these crops could reduce pressure on the lake and increase our productivity.

Power, as wielded by boat owners and barias influences resource management, ownership and distribution of gains.

One of the emerging power struggles is related to the number of barias and their influence on determining the BMU chairman through voting. The BMU chairman is seen and considered to be influential in determining the shared revenues of the landed catch between the boat owner and the barias. The chairman also has substantial powers over resource management, which again influences resource sharing. The non-barias agree that a BMU chairman, who is a baria, is not strong in enforcing fisheries regulations since, after all, the fishing multi-practices often benefit him (baria) and other members of his category.

Getting barias into the leadership of the fish landing site management is a new phenomenon and this is threatening the traditional leaders who are considered to wield a wealth of knowledge over the management of the lake (since they have stayed and lived on the lake longer than any other category), most of whom were boat owners.

The sharing of revenue from the catch is a mutual agreement between boat owners and barias. This sharing arrangement is uniform on a particular landing site but not all the landing sites. In spite of this formal sharing arrangement, some barias tend not to declare all the catch but sell it to on-lake fish traders and undisclosed landing sites. This unfair advantage to the boat owner helps the barias to get more income but still this does not make any impact on their wealth status.

With the advent of the BMUs, the power of boat owners appear to have waned since they are outnumbered by barias in the BMU assembly, with potential for similar proportions in BMU committees. Nevertheless, being the owners of the capital, they wield sufficient power demonstrated by their ability to hire and fire the barias. Barias tend to protect fellow barias even when they would be in the wrong. Decisions taken often tend to benefit Barias, especially those on how to share revenue from the catch.

Although the basis for sharing of fish catches between boat owners and barias was mutually understood between the boat owners and barias, complaints of over-cheating one another continue to arise. Such complaints were more pronounced on the side of barias who would take loans/advance payments from several boat owners before going onto the water to fish and thereafter fail to pay back. Within the NWP framework, this is a testimony of conflict arising from ownership of sources of livelihood, wealth level and power held by different

actors. Reasons for inability to pay back such monetary advance payments by barias, often arise from poor catches, and are a constant source of misunderstandings in the sharing arrangement.

In sharing landed catch, there is oral agreement between boat owners and the two barias per boat. In many landing sites, sharing was in the ratio of 2:1:1. This would be after deducting daily costs (such as payment advances to the barias and landing site fees). Whatever balances remains is then shared in two equal halves between the boat owner and the barias. Barias then share their half again in two equal portions. It should be noted that the portion for each actor constitute gross incomes to boat owners and barias. Boat owners, as any other business entity, need to recover their capital investment costs of boats, engines, nets and others while barias also strive to recover expenses in terms of labour provided, time invested and the personal risk of being on the lake. A further look and analysis is yet to be done on distribution of wealth and margins in the, trading, marketing/middlemen and processing (small-scale and industrial) sectors.

Initial analysis indicates that the current sharing arrangement between boat owners and barias and considering costs involved¹¹ constitute income that is high enough to get them out of poverty. However, there are a number of outstanding issues in fishing communities that exacerbate the poverty problem. Notable among these characteristics include; ready and daily cash, no immediate investment opportunities, absence of information on investment options, poor saving culture and illiteracy.

11 The boat owner needs to recover the investment costs of boats, engines, nets, knives, and others. The barias in put is time spent on Lake and the risk involved.

10. Influence of other Institutional Actors

Information obtained indicates that a substantial revenue is remitted to LC-III and district local governments in form of taxes and charges such as; income tax, user charges in form of tender fees, market dues, boat licenses and fisherman's permit. Not only do fishing communities expect to receive services in exchange of the taxes they pay, but also local government regulations require that a proportion (25%) of the collected revenue be remitted back to LC1. However, the reality in a number of visited communities reveals that that some power wielding LC-III and local government officials hardly remitt the 25% to the LC1, which is a focus of fishing activity, and in a few cases where this was done; LC1 officials did not disclose the amounts received. This is unfortunate since majority of poor people live at the LC 1 level. It is a clear indication of the fact that poverty and marginality are in most cases a result of imbalances in power and wealth sharing.

11. Action Points

Responding to concerns that fish stocks are declining and the danger of possible collapse of the lake was eminent, the issue of closed season for a period of time kept being suggested during this study. There were mixed reactions amongst stakeholders in the fishing communities with some agreeing with the principle of closed seasons while others thought that good fishery management practices on the lake could itself rejuvenate fish stocks. The main argument is that once the right-sized nets are used and all illegal fishing is eliminated, there would be no need for closed fishing seasons.

Discussions with fishermen and boat owners revealed that responsible agencies, (the Ministry in-charge of Micro-finance) need to provide a conducive environment for Beach Banks to

be started in order to encourage a culture of saving. The most important passionate appeal about such banks was that their location on fish-landing sites ought to be “closer to individual fishermen than bars and women”. Bars and women are two “necessary evils” that were believed to drain a lot of money from fishermen.

Even with the setting up of BMUs, and considering the principle of co-management where management responsibilities are shared between communities and central government, Lake George still requires a neutral supporting arm of monitoring, control and surveillance. As a matter of fact, the Lake George Basin Integrated Management Organization (LAGBIMO) deserves all the strengthening and support to perform better such functions.

12. Conclusion

While the underplaying hypothesis was that investments to increase the economic value of natural resources (in this case fish) per se might not lead to poverty eradication and environmental sustainability, findings suggest the contrary. Wealth arising from Lake George is not little. In spite of the fact that fish is an important resource with potential for wealth creation, the socio-economic status within fishery-dependent communities on the lake reflects a different reality. The main conduits of this wealth, especially *barias* and *Deyi-Deyi*, look to be characteristically poor. The overemphasis on resource conservation by actors like UWA without corresponding emphasis on the power, economic relations and behavioural patterns among the actors largely account for the perceived marginal successes in ameliorating poverty among fishing communities. *Barias* who are the biggest group of actors on Lake George in particular and all fishing communities in general have work routines that are replete with risks such as drowning, piracy, attacks by wild animals, extreme weather conditions etc. As a consequence, they spend

their daily incomes lavishly, on sex workers and alcohol. Their inability to save and invest part of their daily incomes is backed by a false belief that the lake has infinite resources. It is such wasteful lifestyles that render such actors to appear as characteristically poor. Future research could elucidate more on the behavioural aspects of living in a fish landing site.

13. Recommendations

- Given the high population of fishermen on Lake George and declining fish stocks, the lake-dependent population in an effort to survive, tend to use unauthorised fish gear to maximise their catches. Unfortunately, the end-result is indiscriminate over-fishing which eventually leads to depletion of fish from the lake. Sensitisations through seminars to train the fisher folk on the lake about appropriate fishing methods is conceptually not helpful since they indeed have a wealth of knowledge about the lake and fishing. The Government through the Ministry of Agriculture, Animal Industry and Fisheries must take up and champion sustainable fishing so as to assist the population to procure fish nets of right sizes. Many fisher folk were of the view that what they needed more was not training and seminars but right-sized fishing nets and fishing gear.
- An increasing population within different landing sites threaten Lake George resources. Too many people were chasing too few fish, hence compromising the nature of the natural resource. A solution that should be taken up by government through BMUs is to support some fisher folk like Barias and Boat Owners to diversify to other economic activities like rice growing and small scale trading in trading centres so that the current pressure exerted on the lake is reduced.

- ➔ Though BMUs are better positioned to protect the lake, they lack the necessary facilities like motor boat engines and fuel to do the required patrols which abetts illegality in fishing methods and over-fishing. Another weakness was absence of coordination between different BMUs on the lake. While some were vigilant in dealing with illegal fishing, others were not, yet the lake is one-ecosystem without boundaries. Therefore, the concerned District Fisheries Officers in the three districts of Kasese, Busjenyi and Kamwenge need to cooperate, coordinate all BMU activities and be vigilant to serve and save the lake from over exploitation.

- ➔ BMUs have financial difficulties yet they are mandated to provide a number of services to their communities. They are better positioned to ensure sustainable exploitation of fish, the natural resource. Beneficiary districts of Lake George would benefit a lot if responsible BMUs are awarded tenders to manage fish-landing sites by their respective districts. The innovation would provide to BMUs the much-needed money to enable them execute their mandate. Given their vested interest in well being and sustainable stability of the Lake, BMUs are better managers of the lake than private tenderers who do not have a good appreciation of fishing dynamics and are driven by profit maximisation intention.

- ➔ Since Lake George's potential of fish is getting overstretched without a short-term workable measure to conserve the natural resource it is a worthwhile undertaking for government to put in place a system of 'closed seasons' (periods of no fishing) so as to allow the lake to regenerate. This should be done through a consultative process to overcome enertia to change inherent in the community.

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