

**THE CONTRIBUTION OF CO-MANAGEMENT ON POVERTY
REDUCTION AMONG LOCAL FISHING COMMUNITIES OF
LAKE VICTORIA BASIN: A CASE OF MAGU DISTRICT**

**THE CONTRIBUTION OF CO-MANAGEMENT ON POVERTY
REDUCTION AMONG LOCAL FISHING COMMUNITIES OF
LAKE VICTORIA BASIN: A CASE OF MAGU DISTRICT**

By

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**A Dissertation Submitted to MUDCC in Fulfillment of the Requirements for
Award of the Degree of Master of Public Administration (MPA) Dares Salaam
Campus College of Mzumbe University**

2014

CERTIFICATION

We, the undersigned, certify that we have read and thereby recommend for acceptance by the Mzumbe University, a dissertation titled **The Contribution of Fishery Co-management on Poverty Reduction amongst Artisanal Fishing Communities in Lake Victoria Basin, a Case of Magu District** in fulfillment of the requirements for award of the degree of Masters of Public Administration of Mzumbe University.

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DEDICATION

This dissertation is dedicated to my beloved wife Elizabeth George M. Magina. Baby you have been acting as shock absorber as you give me peace in the midst of stress as well as confidence in the shadows of doubt. I am really proud of residing in your heart for the rest of my life! For your perspective on life has taught me patience and resilience. It is now my humble hope that may you share the content of this work with all that you will be able to reach all over the world. With your seminal ideas on creating an ideal society please help life become better, sweeter with more harmony, more peace as well as more meaning and satisfaction rewarding to the poor fishing communities as this study demands me, you and them to do.

LIST OF ABBREVIATIONS

AIDS	-	Acquired Immune Deficiency Syndrome
BMU	-	Beach Management Units
CBO	-	Community-Based Organization
CSRP	-	Civil Services Reform Program
DAC	-	Development Action Committee
DFID	-	United Kingdom, Department for International Development
DFO	-	District Fisheries Office
FAO	-	Food and Agriculture Organization
FGD	-	Focus Group Discussion
HI	-	Human Infections Virus
LGAs	-	Local Government Authorities
LVFO	-	Lake Victoria Fisheries Organization
LVFRP	-	Lake Victoria Fisheries Research Project
MoFEA	-	Ministry of Finance and Economic Affairs
NGO	-	Non–Governmental Organization
OECD	-	Organization for Economic and Development
PSRP	-	Public Services Reform Programme
REPOA		Research on Poverty Alleviation
SAPs	-	Structural Adjustment Programmes
SFLP	-	Sustainable Fisheries Livelihoods Programme
SLA	-	Sustainable Livelihood Approach
URT	-	United Republic of Tanzania

ABSTRACT

The present ambition of the Tanzania government is among others to eradicate poverty in the local artisanal fishing communities. It was envisioned that this objective could better be achieved through among other poverty reduction strategies is co-management hence the formation of Beach Management Units in the local fishing communities. The main purpose of this study was to assess the contribution of fishery co management on poverty reduction in the poor artisanal fishing communities in the Lake Victoria basin. The BMU institution is used as case study to provide information on impact of implementation of fisheries co management in the fishing communities.

The study was designed as a case study in order to provide qualitative descriptions. A sample of 100 units from three lake side villages was selected both through a simple random and purposive sampling techniques whereas methods of data collection involved were interviews, focused group discussions and participant observation in obtaining primary data. Again, document analysis was used to provide seminal texts on the subject matter of fisheries co-management.

The study reveals that the fisheries co management has not reversed the trends of illegal fishing practices in the lake Victoria basin, instead it has been used to inform the poachers about the government surveillance in the lake. Second, Local fishers incomes have not improved such that many fishers fail to pay the school fees for their children. Education has not been improved as many children still dropout because of early pregnancies for girls and lack of guardian's support for both boys and girls. Health services are poor and inaccessible as health centers are remotely located combined with inability to afford the costs thereof. Poverty is persistent in the local fishing communities. It is better to consider not only the management practices but also the sociological context of the fishing communities when planning to reduce poverty in these communities. Policies must aim at providing them with multiple economic choices in their sociological context in order to reduce vulnerability.

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CHAPTER ONE

INTRODUCTION AND BACKGROUND INFORMATION

1.1 Introduction

In early 1980's, Tanzania had observed the terrible poor performance of various economic sectors which was attributed to be the results of central planned economy under the influence of socialist policies. Thus, necessitating the transformation among various sectors embedded to economic performances, among others included Structural Adjustment Programme (SAPs), the Public Sector Reform Programme (PSRP) and eventually the Civil Service Reform Programme (CSRP). As a response to a poorly economic performance, Tanzania privatized about 380 state owned enterprises, as the emerging neo liberal macroeconomic policies in the country, whereas the market was left to operate with minimal state regulations (Heron, 2008).

Until the late 1990s, like other economic sectors, the fisheries of Lake Victoria were poorly managed in each country by regulations developed and enforced by central government, without posted fisheries staffs to the resource users. Heron, (2008) is of the views that there was very little, or no, participation by fisheries communities in the resource planning and, but the need to involve fishing communities in management grew from the recognition that the top-down approach was not succeeding in managing the fisheries in the lake, particularly for Nile perch.

The high catch rates were obvious difficult for the fisheries departments alone to manage and illegal fishing had increased such that could not be controlled by the fisheries departments because of the vast size of the lake. Consequently international trends in natural resource management which involved cooperation between governments and communities compelled local governments to change. The solution was to involve stakeholder groups in the management because this would promote a sense of ownership and a greater willingness to comply with regulations (Ibid).

This study was therefore designed to purposely assess the contribution of the fishery management by engaging local resource users on poverty reduction among the fishing communities in Lake Victoria basin. Specifically the research foci were to ascertain whether fishery co-management has had any significant role in improving the local fishers incomes and satisfaction, improving local fishers public health, improving education and reducing the trends in illegal fishing practices through compliance with the fisheries laws and the BMU regulations.

1.2 Background Information

Since the early 1990s, the subsequent ideological shift that accrued to the collapse of socialism in Eastern Europe suggested the development models based on liberal democracy. Therefore the firms remain the key players in allocation of market decisions (Heron, 2008). Resource management had also to be responsive to the market decisions.

Tanzania is endowed of abundant natural resources, amongst others are; water bodies such as lakes , rivers and the Indian ocean at the eastern part , others are huge and thick forests, wild lives, minerals and natural gas as per the recent discovery reports. Lake Victoria is the largest fresh water lake in Africa with an area of 68,800 km² shared by the three East African states of Kenya, Uganda and Tanzania (Ligtvoet & Mkumbo, 1990).

According to Arunga (1981), the lake supports one of the world's largest inland fisheries, based primarily on three species, the Nile perch *Latesniloticus* and Nile tilapia *Oreochromis niloticus*, both of which were introduced, and the endemic cyprinid *Rastrineobolaargentea* (Pellegrin) known locally as dagaa, omena or mukene. However, Nile perch is by far the most valuable species since it supports an export industry that provides the three countries with about US\$350 million in export earnings per year (Ibid).

Evidence that the Nile perch stocks are declining is causing concern and has forced the three countries sharing the lake to reconsider their management strategies. It is

now accepted that without the involvement of the stakeholders, especially whose livelihoods depend on the resource, in management, it may not be possible to reverse this trend. Consequently, in order to involve stakeholders, legislation had been enacted in each country to establish the structures that make possible a shift from the command and control approach to a co-management approach that involves stakeholders at all levels. Thus, all members of the fishing community, including boat owners, boat crew, managers, fish processors, fishmongers, local gear makers, and dealers in fishing equipment, are being brought into the co-management through membership of local institutions called Beach Management Units (BMUs) (Bulayi, 2001)

In the late 1990's Tanzania began the process of implementing co-management with the formation of community-based Beach Management Units (BMUs), with generally positive results. More BMUs were formed in Tanzania and Kenya in the late 1990s and early 2000s with a few in Uganda. Because there were no harmonized guidelines at the time, they differed in the way they were formed, their membership and operations. In 2004, the International Fisheries Management Project brought the Partner States together to agree on regional guidelines for BMUs which were then used to produce national guidelines in Tanzania and Kenya; Uganda already had a like guideline (Bulayi, 2001).

The creation of these community-based beach administrative units required actions to raise awareness amongst the different categories of stakeholders, after which they were registered. BMU committees were elected, and registration certificates issued by the respective departments of fisheries. A total of 1,069 BMUs have now been formed around the entire lake and have become involved in the co-management of the fisheries. Lake Victoria now has the world's largest co management system and its progress is of significance within and beyond the African continent (Ibid).

The government of Tanzania has launched various poverty alleviation strategies, of which MKUKUTA is one amongst others. The central themes of the MKUKUTA

include amongst others enhancement of good governance and rule of law; of course the theme has remained central to achievements of MKUKUTA Outcomes which is alleviation of poverty (URT, National Strategy for Poverty Reduction Paper, 1998). In order to maintain transparency and accountability of the use of public funds, responsible use of public office and the respective public properties, and proper utilization of national natural resources such as minerals, water and wild life, the government has been producing various reports. These reports are always based on cumulative amounts spent on recurrent and development expenditures by Ministerial Departments, Agencies and Local Government Authorities or Regions (REPOA, 2009)

1.3 Statement of the Problem

Since the year 2000, Tanzania GDP growth had averaged approximately 7% per annum, which was historically high and comparable to the performance of the growing economies in sub-Saharan Africa. GDP growth peaked in 2004 at 7.8. Despite this strong and sustained growth rates, since 2000, only a slight reductions in household income poverty had been noticed over the same period (REPOA, 2009). Between 2000/01 and 2007, the percentage of households in Mainland Tanzania living below the basic needs poverty line declined by just over two percentage points from 35.7% to 33.6% This small reduction means that MKUKUTA targets for poverty reduction by 2010 could not met (URT. NSGRP I Evaluation Report, 2010).

Since then, GDP growth recovered to reach 7.4% in 2008. However, due to the global economic and financial crisis, growth was projected to fall to 5% in 2009 before gradually increasing to 7.5% by 2012. According to REPOA (2009) poor governance undermines social and economic progress. Achieving the national goals of growth, reduction of poverty and social well-being under MKUKUTA's Clusters I and II relies on accomplishing Cluster III's goals of good governance and increased accountability. Consequently this leads to improved living and alleviation of poverty. Based on above growth statistics this study intends to assess

the implication of the said 7.5 GDP growth rate on quality of living of the local artisanal fishing communities alongside Lake Victoria.

However there are still many challenges facing the sustainable management of Lake Victoria fisheries to meet the desired MKUKUTA outcomes, these include environmental degradation, inadequate service provision and the high prevalence of HIV/AIDS amongst the fishing communities, the lack of compliance with regulations and the rapid increase in fishing effort, which is threatening fish stocks (URT. Ministry of Livestock and Fisheries Development Audit Report, 2013)

Medard (2004) observes that many fishing illegalities still exist on the lake, including the use of small meshed nets, small hooks and active fishing methods such as explosive techniques and poisoning. According to one Radio Free Africa reporter; on 2nd February 2014, about 60 units of small meshed fishing nets were caught in Sengerema district –Mwanza, and were burnt by the area fishery officers. This is sufficient evidence that undersized fish are regularly caught and sold, thus damaging the fish stocks and the future livelihoods of the fishing communities.

Pomeroy (1995) argues that an empowered community can address both the need for economic development and the conservation of natural resources. He continues by insisting that sustainability of Community-based organization like BMUs and the active participation of the fishing communities in resource management will depend on the perceived benefits of the organization to its members. While the overall goal of BMUs, particularly in Tanzania, is to get the community to participate in resource management and having sustainable fisheries as a benefit of this partnership, this benefit cannot be seen directly to fishing communities like in Lake Victoria, where there is a serious problem of poverty since currently such partnership has no direct impact on their daily income from fisheries on which they depend (Ibid)

Hara and Nielsen (2003) observe that the BMUs at the Lake Victoria particularly Tanzania, should be integrated with market issues like management of first-hand

sales in order to increase the market performance of fishing communities which in turn will lead to improved income and standard of living. With market- oriented fisheries co-management arrangements, fishers will actively participate in resource management since they will be no longer fishing as an employment of last resort, as their organization (BMUs) will struggle and lead for better business environment and improved fish prices.

A lot of reviews have concentrated much on how better the BMUs have been able to manage fisheries resource. Very few reviews have commented on the trickledown effect of the fisheries co-management on direct poverty reduction among Lake Victoria fishing communities. The object of this study was to assess the contribution of fisheries co-management by exploring the various initiatives consistent to the Tanzania National Strategy for Growth and Reduction of Poverty (clusters, I, II and III). However a few selected areas under the (NSGRP) were included. This was due to time frame limit as well as insufficient financial package .The study was designed to allow interventions in the local artisanal fishing communities wherein data were gathered through interviews, focused group discussions and document analyses. Moreover participant observation was used when the researcher found it relevant.

1.4 Objectives of the Study

1.4.1 Main Objective

The main purpose of this study was to assess the contribution of fishery co-management on poverty reduction amongst artisanal fishing communities in Lake Victoria basin.

- i) To identify the current activities performed by the BMU institutions on Lake Victoria.
- ii) To evaluate how the government- BMUs partnership help generate incomes through fishing activities among the artisanal fishers on Lake Victoria
- iii) To assess the contribution of the government-BMUs partnership on access to and quality of social services among local fishers on Lake Victoria

- iv) To evaluate the contribution of government-BMUs partnership on local fishers compliance with laws and regulations on Lake Victoria
- v) To come up with constructive suggestions on improving local fishers capacity for poverty reduction through government-BMUs partnership

1.5 Research Questions

- i) What activities are by now performed by the BMU institutions on Lake Victoria?
- ii) How do the fisheries co-management help generate incomes through fishing activities among local fishers on Lake Victoria?
- iii) How does the fisheries co-management help access to and quality social services among local fishers on Lake Victoria?
- iv) How does the fisheries co-management contribute to local fishers' compliance with laws and regulations on Lake Victoria?
- v) What is currently needed to improve the fisheries co-management performance in improving the local fishers' poverty reduction capacities?

1.6 Significance of the Study

This study contributed to a clear understanding of the impact of the poverty reduction initiatives amongst fishing communities

- i) The study revealed out clear roles and impacts of fisheries co-management in fishing communities
- ii) The study also has ushered the policy makers to the clear picture on poverty reduction initiatives in the fishing communities in the Lake Victoria basin
- iii) Most important this study has been a judgmental criterion to assess the researcher's academic excellencies as a bonafide student of the Mzumbe University Dar es Salaam College Campus. The study has therefore qualified the researcher beyond reasonable doubt that he deserves a Masters Degree award of the Mzumbe University Tanzania.
- iv) Since the author wished to pursue further higher studies; the completion and approval of this study ushered a new academic thrive, it gave him

courage, inspired him with confidence and propelled his desire towards pursuing a PhD and or other doctoral studies.

1.7. Definitions of Key Terms

1.7.1 Co- management

Co-management is a loosely structured alliance in which cross national partners collaborate in training technical and managerial, production management, information system development and value chain integration (Oded. &Yadong, 2004). This partnership provides a means by which stakeholders quickly and efficiently acquire skills that could not be bought from a public market. It provides a synergetic combination that opens additional economic benefits (financial, operational, or technological) arising from cooperation between stakeholders that provide each other with complementary resources or capabilities (Ibid). In practice these synergies and related economic benefits can be the result of risk reduction, knowledge acquisition, economies of scale and rationalization, competition mitigation, improved local acceptance and market entry. Poverty reduction requires broad based policy frameworks and of course it can be overcome through public policy formulation and implementation (Ibid)

1.7.2 Fisheries Co-management

Fisheries co-management is thus an integrated process of information gathering, analysis, planning, consultation, participatory decision making, collective allocation of resources and formulation and implementation, with enforcement as necessary of regulations or rules which govern fisheries activities in order to ensure the continued productivity of the resources and accomplishment of other fisheries objectives. It entails a complex and wide embracing set of tasks aimed at ensuring that the optimal benefit are obtained for the local users, state or regions from the sustainable utilization of the living aquatic resources to which they have access.

1.7.3 Poverty

The Development Action Committees (DAC) Guideline on Poverty Reduction (OECD, 2001) states “Poverty encompasses different dimensions of deprivation

that relate to human capabilities including consumption and food security, health, education, rights, voice, security, dignity and decent work”. This will be a working definition of poverty throughout this study.

1.8 Organization of the Dissertation

This study is subdivided into five main chapters each with distinct themes. Chapter one provides basic introductory information to the proposed study, background information on fisheries co-management, Statement of the problem and the objectives of the study. In short it puts clear the rationale for and justifies the necessity to carry out the study.

Chapter two is a plethora of literature review; it offers theoretical and empirical information on the validity of fishery co-management on poverty reduction and sustainable use of fishery resources. This chapter is based on archival information ranging from the past two decades through to recently published materials of relevance to fisheries co- management from various fishing community journals and institutions. Precisely chapter two aims at giving the research with an insight on fisheries co-management prior to the actual field surveys.

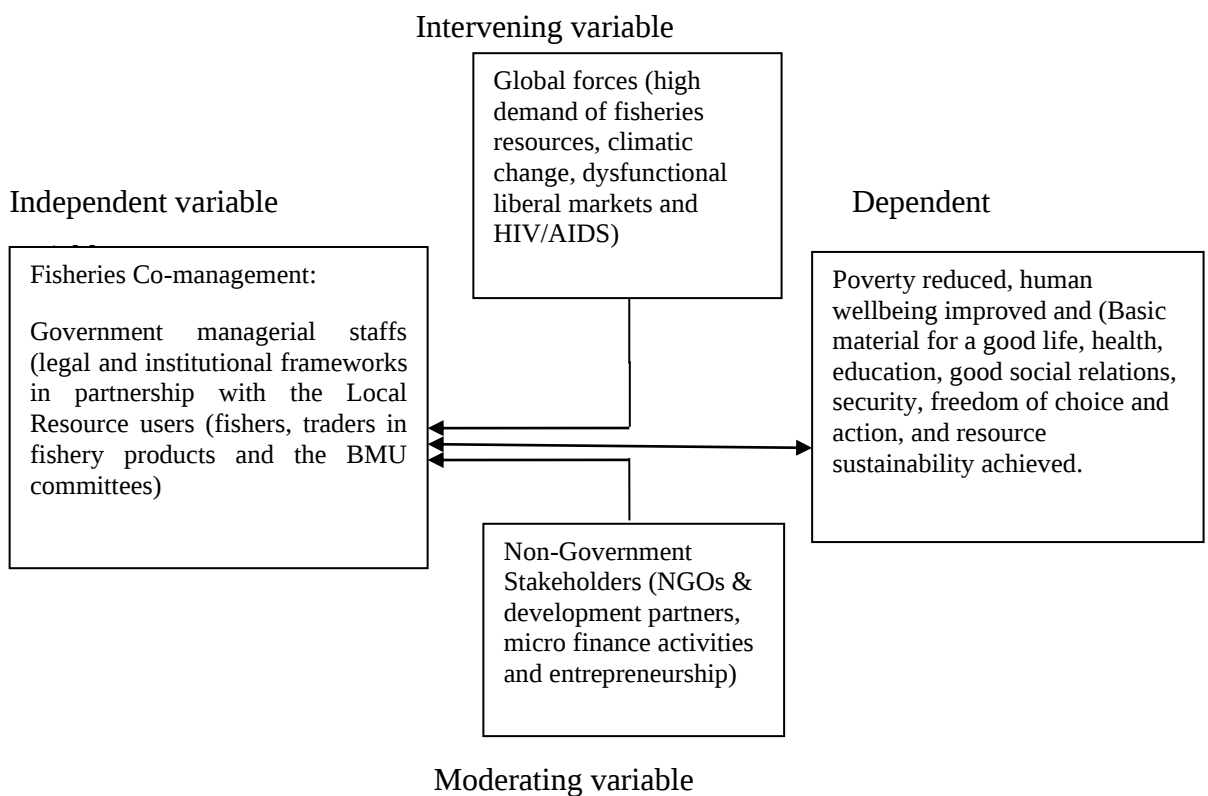
The theoretical framework was expected to provide the researcher with guidance and focus a threshold the study through research design to report writing. Chapter three is the research methodology section; it provides in advance the practical and procedure by which the work was done. It defines the targeted social group, identifies the area of study, types and techniques deployed during intervention. In a nutshell chapter three provides a research design that enabled the researcher to better arrive at predetermined research objectives with the highest level of confidence under the available cost and time factors. Chapter four presents the practical field work, data collected through various techniques and analyses thereof as well as data presentation. It is in chapter where the thematic topics of this study are put clear through methodological techniques such as data analyses and presentation of the findings. Lastly is Chapter five, this part of this study provides us with the general summary of the study, conclusion and recommendations as well as policy

implication of the study. In a nutshell chapter five provides instrumental reality of the entire manuscript in a summative way.

1.9 Conceptual framework

A conceptual framework is a network, or a plane of interlinked concepts that together provide a comprehensive understanding of a phenomenon or phenomena. The concepts that constitute a conceptual framework support one another, articulate their respective phenomena, and establish a framework-specific philosophy (Yosef, 2009)

Figure 1. 1: Conceptual Framework for Fisheries Co-management for Poverty Reduction



Source: Author, 2014

Adopted with some modifications from the Island Press (2003) A Framework for Assessment of Ecosystems and Human Well-being

This conceptual framework shows that fisheries co-management is implemented through collaborative efforts. Both the government and the local resource users have a role to play in fisheries management. It also shows that human wellbeing has multiple constituents, including the basic material for a good life, freedom of choice and action, health, education, good social relations, and security. Since poverty is also multidimensional and has been defined as the pronounced deprivation of wellbeing, the fisheries resource management should also involve multiple stakeholders so as to preserve the resources sustainability.

The assumption is that if the fishery resources ecosystem changes it will affect human wellbeing in a number of ways such as Security which will be affected both by changes in provisioning services, eventually this will affect supplies of food and other goods and the likelihood of conflict over declining resources, and by changes in regulating services. These changes in turn affect material well-being, health, freedom and choice, security, and good social relations (Island Press, 2003).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The literature review is the part of the research study that plays a major role in justifying the need for a proposed study; it justifies the research problem, and reveals the importance of the issue at hand. According to Aaker& Kumar (2007) literature review creates the need for the study as expressed specifically in the purpose statement and the research questions, it helps the researcher identify key variable relations, and trends and use these to provide direction for research questions.

2.2 Co-management Theoretical Bases

Matland in Christopher, (2010) developed a synthesis of a theoretical model of policy implementation by identifying six factors that shape implementation process. In fact his model is based on public policy theories, specifically on the governance theory. Matland's six factors theoretical model for successful policy implementation identifies such factors as, statutory compliance, bureaucratic accountability, statutory goal accomplished, local goals accomplished, political climate improvement as well as learning. Statutes should be oriented towards goal accomplishment. Statutory compliance alone may overlook issues of efficiency or effectiveness of policy implementation. Again it does not mean that the statute or compliance with the statute is consistent with constitutional principles, generally accepted ethical standards or democratic governance (Ibid).

Matland in Christopher (2010) is of the views that in theory, bureaucrats are hired on the basis of knowledge, skills, and abilities and that they implement public policy in a politically neutral manner, while Oded and Yadong, (2004) have noted that bureaucrats are not politically neutral, instead elected officials use oversight to check bureaucracy and guide it towards compliance with the political intents. Speaking of statutory goal accomplishment, they argue that a desired output should be produced, while by local goals accomplishment they note that policies made at a national level tend to focus on very generic policy goals implying that local goals

rarely are accommodated (Christopher,2010). However the policy goals are implemented at local levels by communities, it is therefore important that public policy fit in local needs as well as meet national goals. Implementation of a policy at local levels is often judged in terms of its ability to meet local needs because citizens are primarily interested in how policies help them. On the other hand elected officials particularly legislators seeking reelection, view implementation in terms of how electorates are benefited by the policy (Ibid). Political climate improvement, Matland views politics in terms of values allocation. Values often explain the level of joy or displeasure in the policy environment and within implementing agencies.

In his point of view, Matland sees successful implementation as something that has been improved as a result of public policy, to him improvement might entail better support for the political process; in essence successful policy implementation might give local communities renewed hopes and optimism that the demands can be made of government, policy enacted, and positive outcomes produced. Learning is the most important thing expected from successful policy implementation. Although the statutory compliance and the meeting of the goals are obviously of great interest; Matland sees learning as the central to making things even better. To him Learning means that policy improves over time and more complicated goals can be pursued and certainly achieved (Ibid).

In a nutshell Matland's theoretical model on policy implementation is built on the very premises of public governance theory. He summarizes by identifying two general categories complementing each other on policy implementation process: the top down approach assumes that statutory language is clear, complete, concise and applicable. The approach is also inclined in the belief that implementation is an administrative function. Anything that impedes compliance is a barrier, the statute in itself is not seen as a barrier at all, and so environmental factors are often regarded as problematic. The goal is to remove barriers to compliance, essentially cleaning the ground in front of policy implementation rather than working with existing conditions.

The top down approach regards the local communities' complaints about policy implementation as barriers that must be overcome rather than recognized and considered (Ibid). In contradistinction, the bottom up approach contends that policy is implemented by the local communities, local administrators as well as elected officials, these are the people working closest to the clientele. Bottom up implementation generally assumes that statutes are not complete and concise.

Policy implementation is therefore accomplished through policy networks known as advocacy coalitions which comprise of interested citizens and pressure groups, and administrators. He adds that specific goals for policy are defined in the implementation phase and strategies to accomplish those goals are agreed up on. For the bottom up approach, the recognition of the current and the historic context is central to good implementation of a public policy. This converges to the new public management premises as Matland in Christopher, (2010) winds up by noting that accountability is a function of the democratic process that includes elected officials as well as sovereign citizens. The rules defining the bottom up policy are created and legitimized through a wide array of advocacy coalition participants.

The above theoretical framework provides the researcher with an insight that there much of common in public governance theory and the New Public Management theory, both brings the citizen into the management process with the government as partners. There is a thin line separating governance from new public management practices. The difference is more of connotation by practitioners, whereas in politics the connotation governance is preferred whilst in business milieu the new public management certainly more preferred. A central theme in both theories is that management should involve citizens in planning and deciding what is good for them and in what best ways should it be implemented meanwhile exercising accountability.

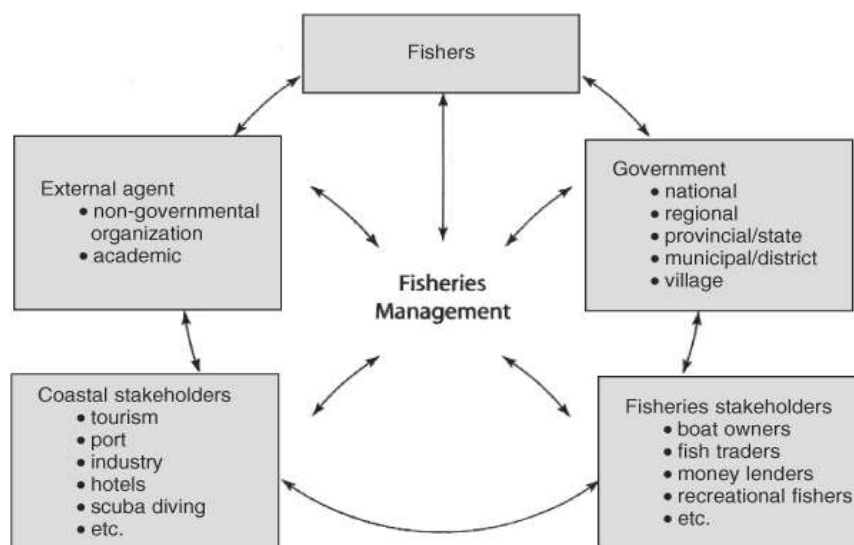
2.3 Fishery Co-management a Theoretical Implication

Pomeroy and Berkes, (1997) concur with Matland by viewing co-management as a partnership arrangement in which government, the local communities who are

resource users (fishers), external agents (non-governmental organizations, academic and research institutions), and other fisheries and coastal resource stakeholders (boat owners, fish traders, money lenders and tourism establishments) in the case of this particular study share the responsibility and authority in decision- making over the management of the fishery. Co management covers various partnership arrangements and degrees of power sharing and integration of local (informal, traditional, and customary) and centralized government management systems while seeking equity in fisheries management and strive to activate fisher's participation in the planning and implementation of fisheries management process (The Fisheries Division, 2006)

Pomeroy & Berkes,(1997) Are of the view that self-involvement of the fishing communities in the management of the resource will lead to a stronger commitment and comply with the management strategy and sustainable resource use. Pomeroy and Guieb (2005) had developed a co-management model that illustrates a complete set of stakeholders in the formation and implementation of sustainable management of fisheries resource base. Herein under is the developed pictorial model.

Figure 2. 1: Co-management Theoretical Model



Source: (Pomeroy & Guieb, 2005)

Generally not all responsibility and authority should be vested at the community level, the amount and types of responsibility and or authority that the state level and various community levels have will differ, and depend upon country and site-specific conditions. Resource management and artisanal local fishing is an economic and livelihood activity that can be vested to a local community. Government legislation and policy to establish supportive legal rights and authority frameworks must be available or established with consultation to the resource users (Ibid).

According to Pormeroy and Berkes (1997) the establishment of an appropriate government administrative structure and an enabling legal environment are essential efforts in order to promote and sustain existing local level of fisheries management systems or development of new co-management systems. The relevant user-group or household with rights to fish in the bounded fishing area to participate in the management and to be an organization member are bounden to be clearly defined, and how they should be represented, as well as at which level should the co-management be instituted and finally which management functions should be retained by the state and which should be handled by user-organizations (Ibid)

2.5 The Purpose of Fishery Co-management

Co-management promotes active participation of the fishing communities in planning, formulating by-laws and enforcement of fisheries regulations in the same vain this creates a high sense of ownership and legitimacy, enhances compliance to fisheries laws and regulations. Co-management promotes participation of user groups, sense of ownership, which enhances legitimacy of the regulatory regime and hence compliance with fishing regulations (Hollup, 2000). In addition, Bene, C (2003) argues that co-management makes the resource users have a better understanding on the vital issues regarding their fishery, that is the state of fishery, their role as stakeholders, why certain laws and regulations are imposed, In fact fisheries tend to be better managed when the resource users and partner organizations have a good understanding of why they are managing the resource

and what results are envisaged. The National Fisheries Management Coordination Office (2007) put it that the fisheries co-management promotes elements of equity, fairness and democracy in sharing the resources and opportunities where decisions are mutually accepted between members and problems affecting them are jointly tackled.

Co-management enhances the information flow between resource users and central government. This is achieved through constant negotiations and interactions between all the stakeholders involved, while the state will be informed of what is taking place at local level and the fishing communities will be aware of what is taking place in the central government. This kind of information flow will help to prevent or reduce possible future conflicts between fishing communities and the state. Co-management has greater hope towards the successfully management of fishery resource since there is utilization of knowledge and skills of both resources users and other professionals compared to the more centralized approach” (Hollup, 2000).

Apart from the above mentioned benefits of co-management, there are some drawbacks or risks of implementing this approach. The management of the fisheries resource is very sensitive and dynamic; such responsibility if completely left in the hands of resources users might leads to depletion of the resource since most of the fishing communities lack sufficient knowledge and skills on conservation and better management of the resources. This matter was also cautioned by Jentoft, (2004)

“Fishing people are empowered when it becomes possible for them to sustainably manage their fishery, and capacity building is a means by which this may be accomplished”.

Despite the benefits explained above, there are also high initial costs like; time, financial resources and human resources to establish co-management. Community awareness and sensitization, making institutional framework and capacity building of the fishing communities does not occur within a short time and these has greater

cost of time and financial resources, (Yosef, 2009). As time pass some people might lose patience and expectations hence less motivation of being involved in co-management process. Finally, the co-management arrangement involves various numbers of stakeholders which need to develop a consensus from a wide range of interests as a results it reduces the efficiency of co-management as much time needed for decision-making process and sometime result in weaker, and compromised measures (Pomeroy and Guieb,2005).

2.6 The Tanzania experience on Lake Victoria Fishery Co management

An observable decline in fish catches from the lake, environmental degradation, and failure of top-down fisheries management were among the reasons for adopting the co-management approach in Tanzania through the formation of the community-based management organization (Onyango, 2007).

The Fisheries Department in 1998-2000 strengthened the fisheries extension and enforcement through developing a program of involving the communities in fisheries management and this resulted into the establishment of over 500 Beach Management Units (BMUs) in beaches across the Tanzanian part of Lake Victoria (Onyango, Ibid). He adds that the formation of community-based organization was a top down process, there were no active participation during the formation, but the community had to listen to the Fisheries Officers.

The village government received a letter from the Fisheries Division directing them to call a meeting for group formation. On that day the objectives, responsibility, area of operation and other issues for institutional framework of Beach Management Units (BMUs) were explained to the fishing communities. The village members did not understand what it all was about, due to inadequate preparation and lack of awareness creation on the whole aspect of co-management principles (Onyango et al, 2003).

Since there was no clear identification of the intended resource user-group and stakeholders, some people were opportunists and thought there would be financial

incentives, some BMU committees ended by being formed by village farmers, non-fish traders, village leaders, fisher and even illegal fishers contrary to fisheries legislation. Due to this cynical composition only 200 out of 500 (40 %) were active and functional (Onyango et al. 2006).

In the views of the poor artisanal fishers, the idea of co-management was not clear enough for them to assume the greater responsibility of management of fisheries resources and implementation of fisheries regulations. They were unsure on how could the BMUs change their lives, whether their livelihoods was in danger or it was going to marginalize them on how to sustain their livelihood. This could be one of the major reasons why some BMUs lacked support and cooperation and finally collapsed (Onyango, 2005).

According to Onyango et al (2006) the weakness in their legal foundation the Beach Management Units causes a lot of conflicts in their day-to-day operations. The BMUs operations were by then based on mutual understanding, trust and hope to the main governing institution - the Fisheries Division. Some BMU members involved with arrests and prosecution were being abused by offenders from their own communities and these incidents made them loose hope and become less involved in co-management.

In the year 2003 new fisheries legislation No 22 was issued and the problem of legal backing is now solved. Under this new legislation no one will be allowed to be involved in fishing activities if he (she) is not a member of BMU and to get such membership is achieved through the vetting process of the existing members in the BMU. The BMUs will have the responsibility of making registrations and keep records for boats and fishing gears and their owners, crews and numbers of members in BMU at each beach,

They will further decide on gears and engine identification marks which are registered by the fishers. Making fisheries by-laws and enforcement after being approved by local government at district level and propose on fish breeding

grounds based on their fishing experience and indigenous knowledge. They will assist in taking daily statistics on fish catches and selling prices and make annual planning on BMUs activities and fisheries in general (URT the Fisheries Act NO.22, 2003).

2.7 Sustainable Livelihood Approach (SLA)

It has been evident that in developing countries artisanal fishers have different livelihood strategies in order to sustain their lives. In Lake Victoria, Tanzania; artisanal fishers are recognized to be involved with agricultural farming, livestock grazing, trading of fish and fisheries related products, and fish processing. The broadly accepted definition of “livelihood” comprises the capacities, assets (material and social resources) and activities needed to live. Livelihoods are sustainable when they can withstand and overcome constraints and shocks, and maintain or strengthen capacities and assets to both in present and in the future without undermining the natural resource base (Pormeroy & Berkes, 1997).

The multi-dimensional nature of poverty and the relationship between poverty and vulnerability in fishing communities is increasingly acknowledged; and a broad and multi-disciplinary approach for understanding and responding to these multiple dimensions of poverty is essentially required. The SLA has been considered as useful approach for poverty reduction in several low-income countries. It provides both a set of guiding principles and an analytical framework for understanding the strategies of artisanal fishers confronted by fluctuating fisheries resources (Allison & Ellis 2001).

The working principles of SLA have been summarized by Allison and Horemans (2006) as follows:

- (i) Putting people’s social and economic activities at the centre of the analysis, Management efforts to reduce fishing pressure or allocate rights for access over the fishing resource to the poor should be emphasized more in understanding people than just their fishing effort.

- (ii) Assessing options for management and development intervention that transcend sectoral boundaries such as fisheries, agriculture, pastoralist, wage labour or small enterprise, and that incorporate issues affecting all people, irrespective of occupation, such as access to social services such as; health, education, and social security, political representation and judicial services.
- (iii) Making micro–macro links. SLA is a multi-layered operational approach that encourage explicit consideration of links between local issues (such as the resource allocation among different types of resource-users in a fishing port), medium level processes (such as decentralization of government, bringing planning and financial management under the control of local authorities) and wider concerns, including national policy and economic or social change (such as the adoption of a new fisheries policy or legislation, and the liberalization of markets).
- (iv) Being responsive and participatory the poor and vulnerable populations should be the key actors in the development process and promote a dynamic, adaptive and learning approach to management.
- (v) Building on strengths while addressing weaknesses. In an effort to reduce poverty SLA based on community strength, it integrates community's livelihoods strategies by taking into consideration those that communities themselves consider to be important in order to achieve sustainable benefits. In fishing communities, these may include extensive local or indigenous technical knowledge, strong vocational skills and diverse and flexible livelihood strategies.
- (vi) Taking a broad view of sustainability.

Allison and Ellis (2001) argue that in fishery management the four key dimensions to sustainability (economic, institutional, social and environmental) are all important. Sustainability is viewed as the capacity of elements of a livelihood system (people, institutions, environment and economy) to withstand shocks and adapt to change.

Currently the SLA has been applied by West African societies which live on the coast through the implementation of Sustainable Fisheries Livelihoods Programme (SFLP). Policies set centrally and external factors linked to human activities are of great influence also. The SLA has a lot to do with considering the objectives, the range and the priorities of development and its overall purpose is poverty eradication seen in terms of both actual poverty and vulnerability to poverty (Ibid).

According to DFID (1999), SLA has six overall objectives that are meant to accomplish: (i) More reliable access to natural resources and the better management of those resources (ii) Improved access to good quality education, information and technologies, to high quality training, better food and good health (iii) A social environment which favors cohesion and integration (iv) Better access to basic infrastructure and support (v) More reliable access to financial resources (vi) An institutional environment which supports various livelihoods strategies and assures the promotion of equitable access for all to competitive markets.

In line with the above mentioned objectives; SLA aims to reduce poverty amongst coastal and inland communities through sustainable use of aquatic resources. Poverty reduction and livelihood improvement are envisaged to take place largely through the development of social and human capital in fisheries-dependent communities, by maintaining or enhancing the natural assets used by those communities, and by supporting the development of appropriate policy and institutional environments instead of introducing new technologies

2.8 Institutions for Poverty Reduction in Tanzanian Fishing Communities

Poverty is blamed for compelling people use destructive fishing methods again it is poverty that leads the increase in the fishing communities. Poverty alleviation initiatives for sustainable livelihoods and food security are among the identified areas for support. The economic diversification and poverty reduction initiatives will help to reduce the problem of increased fishing pressure. The government recognizes the poverty situation in fishing communities and under its fisheries policy and strategy statements it states as follows: “Given the situation that the majority of the people in Tanzania lives in the rural areas and are poor, the role of the government is to assist the local communities to become aware of their own situation and support them to become responsible for their own destiny by making better use of the fish resources” (URT National Fisheries Policy and Strategy Statement, 1997).

In alignment with such policy statement different strategies were developed to promote fish production and generate income through employment creation as a measure for poverty reduction and these are no other than the MKUKUTA clusters I, II and III. In Tanzania the Vice President office has the central role of monitoring and coordinating the implementation of poverty eradication efforts as stated in the national poverty eradication strategy of 1998. The office also has the mandate to ensure that all governments’ organs and other stakeholders interact on poverty eradication issues, designing poverty indicators and promote participatory methodologies in poverty eradication initiatives.

The poverty eradication efforts goes down from Vice President Office, poverty eradication advisory committee, central ministries, sectoral ministries, regional, district, ward up to the village government and households, families and communities. Under these household, families and communities level; are recognized as main actors in poverty eradications efforts, they are responsible to identify and prioritize their needs and mobilizing their locally available resources (financial, material and human).

The village governments are responsible to enact by-laws that encourage poverty eradication initiatives like environmental protection, community participation and promote self-reliance (*the Fisheries Act NO.22*). In this regards they are responsible organs to oversee all activities undertaken by NGOs and Community-Based Organization (CBOs) including BMUs in their respective villages.

The fisheries sector maintained modest growth, attaining a 5 percent in 2008 before declining to 2.7 percent in 2009. Tanzania has immense fishery with resource potentials both in fresh and marine waters, which if sustainably utilized can contribute to improving livelihoods, including the nutrition. The main challenge that this sector faces is illegal fishing and trafficking of fish and fishery products across borders, thus, reducing the sector's contribution to growth and reduction of poverty. Other challenges include use of inappropriate fishing gears by small and medium scale fisher folk, limited credit resource degradation, and high post fishing losses (URT, National Poverty Eradication Strategy Paper, 1996).

Throughout the literature we have seen the over exaggerated role of Co-management on empowering poor resource users to benefit optimally from the resources at their disposal. Across the entire review of this section it is clear that most of the information emphasise more on the roles of fisheries co-management on regulating fisheries resource utilization including its role on stopping what is termed as illegal fishing practices. Very few studies have focused on changes of people's lives as a result of implementing the fisheries co-management in the fishing communities. It is the object of this study to look into really impact of the Lake Victoria's BMUs as entrusted local resource management units among the fishing communities. The study is expected to reveal inside out the clear picture of the level of poverty in artisanal fishing communities specifically in Magu District in Mwanza region Tanzania based on the fact that it is almost 20 years by now since BMUs were formed on Lake Victoria shores.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Research Methodology is a way to find out the result of a given problem on a specific scientific inquiry or problem, which is also referred as research problem. In Methodology, researchers use different criteria for solving or searching the given research problem (Aaker & Kumar, 2007). For the purpose of this particular study the fieldwork was conducted mainly based on qualitative methods for data collection, analysis and presentation. Focus group discussions and key-informant interviews were mainly used for primary data gathering. Further secondary data were used to enrich the study with supportive information from the relevant documents pertaining to poverty reduction initiatives.

During data analysis process inductive techniques were deployed. This is because qualitative research methods are valuable in providing rich descriptions for complex phenomena like poverty as far as this study was concerned; it also helps tracking unique or unexpected events, revealing experience and interpretation of events by actors with widely differing perceptions and roles. On the other hand qualitative methods help giving voice to those whose views are rarely heard; it facilitates conducting initial explorations to develop theories, generate and test hypotheses eventually moving towards explanations (Bogdan & Sari, 2007).

The researcher was particularly convinced to pursue this topic because of his background in Politics and Management of Social Development. This study will further his career thrive. Moreover the researcher devoted himself as a practitioner and a stakeholder in improving social wellbeing, thus playing his part in trying to understand and explain the impact of poverty reduction initiatives among the Lake Victoria fishing communities. However, this study was focused to government and BMUs partnership in Magu district of Mwanza region, Magu is a residential and work place to the researcher, in one remote public secondary school among these fishing communities.

3.2 The Research Design

This study focused on poverty reduction, tracing the development or improvement in Lake Victoria local fishers' lives. The study was trying to trace the impact of fisheries co-management on poverty reduction among the Magu district fishers, it explored what actually changes have occurred since the introduction of the government-BMUs co management in Chabula, Ihale and Kigangama villages, trying to come up with realistic answers to such questions like (is it really working for the very purposes of reducing poverty and resource base sustainability)?

The methodologies have to be applicable in understanding respondents in their natural and socio-cultural settings and the on-going processes within the particular contexts in which they live and do their work. In other words, poverty is recognized as a real phenomenon in a community, something that can be observed, surveyed and measured (Allison & Ellis, 2001).

The researcher mainly relied on data sources such as focused group discussions and interviews with people who have been associated with the fishing activities including the BMU committees and fishers; he also used observation of the present situation among the fishers, and analyzing existing documents including various written records. The researcher chose to carry out a case study because it is possible to scout for possible places and people that have been the subject or the sources of data. This also afforded him with an opportunity to look for clues on how he proceeded and what could be feasible to do. In short a case study design allowed the researcher to make possible design modifications and chose new alternative procedures as he was proceeding with the study while keeping on the track.

3.2.1 Area of the Study

The study was carried out in Ihale, Chabula and Kigangama villages in Magu district. Since poverty is a multi-dimensionally defined issue, the researcher deliberately included the social services delivery subsector as stipulated in the National Strategy for Growth and Reduction of Poverty. To be specific; the researcher collected data on education service sector, health services sector, water and sanitation, and the

public security. Government officials working in these social service sectors and specifically whose work stations are located in these fishing communities had been part of the respondents. The portion of the population involving entirely in other income generating activities such as agriculture and livestock keeping were not the target of this study.

3.2.2 Population Sampling and Representativeness

3.2.2.1 Population

A population is defined as the set of all objects that possess some common set of characteristics with respect to social research problem (Aaker & Kumar, 2007). Population sampling is primarily associated with quantitative research, emphasizing estimations of various parameters, testing hypotheses and so on with the purpose of arriving at statistically valid conclusions. In a qualitative research like this however is seldom used to arrive at statistic valid conclusions though it is possible, but rather was used to understand, gain insights and create explanations.

3.2.2.2 Sampling Techniques

The sampling methods used were purposive and random. Purposive had been used to determine the landing sites of the fishers and to identify key informants such as teachers, health officers, members of BMUs committee, police staffs and the district fisheries officers, while random had been used to sample respondents like fishers, traders, and villagers on the beaches. The BMU centers visited during data collection were; Ihale BMU, Chabula BMU, Kigangama BMU and the district fisheries office.

3.2.2.3 Sample Size and Sample Distribution

Sampling is useful when the population size is large and if both the costs and time associated with obtaining information is high. The sample size for the purpose of this study was 100 units. This is because the opportunity to make a quick decisions may be lost if a large population is surveyed. Again with 100 sample units more time was spent on each interview (personal) thereby increasing the response quality and it was

easy to manage surveys of these small samples meanwhile exercising control in the interview process.

Table 3. 1: BMUs Locale and Respondent Distribution

BMUs LOCALE	Fisher	Teachers	Health staffs	DFO	Police officers	Total
Ihale	22	5	3	5	5	30
Chabula	22	5	3			30
Kigangama	22	5	3			30
Total Respondents	66	15	9	5	5	100

Source: Researcher, 2014

3.2.3 Data Collection Techniques

3.2.3.1 Primary Sources of Data

These are data that were solicited at first hand by the researcher himself. Primary data were obtained through the use of such techniques as focus group discussions, key interviews and participant observation.

3.2.3.2 Focus Group Discussions

These were used in order to gain insights into various perspectives and opinions from respondents, it involved selecting groups of about 6 – 12 people who shared the same roles in fisheries activities and in BMU organizations, such as BMU committee members, fishers and fish traders for a discussion. A number of guiding questions were used. The respondents were free to talk about the topic under researcher's facilitation. The method was preferred because of its usefulness in obtaining in-depth information on concepts, perceptions and ideas of a group. In every beach chosen for fieldwork at least three focus group discussions were conducted. In fact this enhanced the validity and reliability of the data given.

Figure 3. 1: Focused group discussion with fishers at Ihale village



Front line from left are, the researcher, second left is the village chairman and last is BMU committee chair man.

Some challenges were however experienced, for instance, some of the people interviewed misunderstood my objectives. They thought that my work was to identify the poor among them so that I could arrange to assist them. Some respondents had to leave during the interviews to attend their families or fishing activities and some thought that the interviews were a waste of time because they it was just a series of questions devoid my answers.

3.2.3.3 Key-informant interviews

The purpose of key informant interviews was to collect information from a people with rich information in specific sectors; and with their particular knowledge and understanding they provided insights on the nature of the problems and gave recommendations for possible solutions (James et al, 2010)

Figure 3. 2: Key informant interviews with Ihale primary school teachers



Source: Researcher, 2014

These focused mainly on individual perceptions of poverty within their communities. The interview schedules had a set of prepared questions for which the researcher never lost the foci. These included mainly the socio-economic conditions of the fishers, fishing activities, incomes and satisfactions as well as the level of fishers' compliance to rule and regulations of BMU institutions as a way to maintain public security among fishers

3.2.3.4 Observation techniques

Through this method the researcher became a member of these communities (Ihale, Chabula and Kigangama). By living amongst Magu fishing community, I learned to appreciate how the fishers relate to their fishing activities not as an occupation of last resort, but something they value regardless of the income it provides. I also went out fishing with them, and disguisedly I participated in fishing activities. Espials on the beaches revealed much of what the respondents were even not ready to speak openly during interviews and focused group discussions. For instance the BMU committee members' involvement in seining and the concomitant use of small eye nets openly at the formal landing sites where the BMU institutions' office are located. An espial provided unbiased information and indeed encouraged the researcher to scout for more live cases on fisher's landing site, door to door surveys and on the beaches.

Figure 3. 3: Participant observation witnessing seining illegal fishing at Kigangama



Source: Researcher, 2014

From right hand the second man is the author of the dissertation

3.2.3.5 Secondary Data (Document analyses)

Documents refer to materials such as photographs, video, films, memos, letters diaries, clinical case records and memorabilia of all sorts that can be used as supplemental information as part of the case study whose main data source is participant observation, focused group discussions and interviews (Bogdan & Sari, 2007). Documents are categorized as personal, official and popular culture documents.

For the case of this study these involved a collection of reports and quantitative data from both the social service delivery departments, and the research institute that are most relevant for the study, such as national guidelines for BMUs, survey reports and catch data, books and articles from internet sources had been used for enriching the study and provide a check and balance of the primary data that were gathered at first hand, and or information from documents had been used also for enriching discussion of the findings. This method involved analysis of published journal articles retrieved from the internet and authors of papers, books and technical reports from the Lake Victoria Fisheries Organization.

The researcher also retrieved published and unpublished research reports from online source, local newspaper reports, official government reports and Policy documents from the Ministry of Livestock Development and Fisheries, the Poverty Eradication section in the Ministry of Finance. The policy documents provided information on historical management regimes in this fishery, the resource status, policy and legal changes that have occurred, poverty levels and its understanding and how it has been addressed. These documents also helped in developing questions posed to Kigangama, Ihale and Chabula village residents.

3.2.4 Data Analysis Techniques

3.2.4.1 Inductive Data Analysis

Qualitative data analysis is primarily an inductive process of organizing data into categories, and identifying patterns and relationships among the categories. In this way more general themes and conclusions are arrived at from the data rather than being imposed prior to data collection. In this technique therefore pages of field notes or interview transcripts were critically examined and synthesized both during data collection as well as after all the data had been gathered. This was useful as in qualitative research data analysis is an ongoing part of the study (Bogdan & Sari, 2007).

3.2.4.2 Triangulation Technique

The researcher used triangulation technique, which is a cross validation among data sources, data collection strategies, time periods and theoretical assumptions. This was preferred because of its powerfulness to find regularities in the data; the researcher used this technique to explore the consistencies of different sources, situations, and methods to see whether the same pattern keeps recurring. Again the data were eventually quantified categorically in to be analysed through tables and convey the information into statistic charts for enhanced meaning. The tables and charts thereof were enable by micro-soft excel package windows Xp V.2007.

A theme of co- management in fisheries sector for the case of this scenario was cross checked categorically with its concomitant impact on poverty reduction

amongst the fishing communities by comparing data found in artifact collections, key informant interviews, focused group discussions and on field espials. Then generalizations and conclusive inferences were arrived at based on these analytical consistencies. The data collected for this study was analyzed both while in the field and after whereas data from interviews were largely analyzed together with the respondents. For instance perceptions on issues pertaining to public security and legitimacy of the BMUs among others were synthesized in the field and finally discussed with the respondents' prior to quantification into tables and statistic charts.

Information from the documents was analyzed by establishing both regularities and irregularities, identification of poverty alleviation strategies and status of poverty in Ihale, Chabula and Kigangama fishing communities were also discussed with some key informants. Data from focus group discussions were also analyzed while in the field. Analysis was done manually where responses for each question were grouped together and explanation was then sought for the answers either while in the field or after returning from the field. When there were no more new answers, explanations and interpretations coming up, the data obtained was considered analyzed and conclusive.

Table 3. 2: Examples of how interview statements were analyzed

Responses	Responses analyzed as meanings
Question: Do the BMUs truly represent fisher's community? How	
Yes, because are made up of fishers only	BMUs are socially legitimized
Yes, because it encourage sustainable fishing methods	BMUs protects fishery resources
No, because it only serves committee members interests.	BMUs are not socially legitimized

Source: Researcher, 2014

3.2.5 Reliability and Validity of the Research

For this study, the following issues were undertaken to achieve research reliability and validity;

- a) Maintaining transparency and openness throughout the study: During the entire period of research, transparency was maintained by being open from the research questions development to the writing and presentation of this manuscript. The production of the report equally went through a rigorous supervisory guidance which did not only involve the review mechanism but also advice from the researcher's supervisor
- b) Use of constant comparison: Through this method, the study started off with three interviews from which answers were grouped and commonality or difference was identified. Categories of incidences from the data that came out as common were then analyzed in detail by comparing how each of the interviews brought them out. In addition subsequent interviews also looked at how the common issues were coming out from the respondents.
- c) Ensuring attainment of saturation point: Validity and reliability were also ensured by reaching a point of saturation where no more new information was forthcoming. This was arrived at when the more probing question dug deeper into an issue the more tritely answers came out giving similar information and existing conceptual categories.
- d) Relating findings to literature (comparing and contrasting): Data collected were also compared or contrasted with the existing published information.

3.2.6 Data Presentation and Reporting

Data presentation is important because it is the only window through which different stakeholders get to know the real picture of poverty problem among local fishers in Lake Victoria basin. And this may usher the need to take prompt measures in addressing the problem. The data analyzed at last were presented in qualitative form together with few supportive quantitatively presented data. This study was presented through report writing. A report manuscript was textured in qualitative explanations providing descriptions and interpreted meaning of findings. It was good to

disseminate the report to as many stakeholders as possible. However this is restricted to meet the academic merits of the researcher.

3.2.7 Limitations of the Study

The desire to generate new knowledge and or understanding is neither devoid simple nor can be perceived a regular pursuit of ordinary habits. In conducting this study a lot of stumbling blocks were encountered. Insufficient fund to travel long ways to surveyed villages was one problem, others are the problem of language whereby my respondents to a large extent were sukuma by tribe and only can speak in their mother tongue. It was difficult to the researcher but there were few of them who were willing to interpret into Swahili.

Another challenge was that some fishers expected a monetary return just to be effective respondents; this problem was addressed through the village chairpersons who convinced them to support the project free of payment. Besides the request for money return another problem was associated with sorting out realistic responses and cynical data. This was associated with conflicting values among fisheries resource stakeholders. The problem was addressed by tritely seeking responses on the same task questions to different categories of respondents until a point of saturation was reached then objectivity was assumed to be met. Cynical responses and deception are problems that may hinder the formulation of theories that could form the baseline on which explanations are sought. It was important address this problem because the validity of the study depends largely on how the content consistently reflects the realities across various tools of data collection.

3.2.8 Ethical Issues

Undertaking a study among poor and vulnerable people require ethical issues. I asked for their consent before starting discussions or interviews with them. In order to ensure that I protected their good relationships, we all together agreed in principle not to write names in my reports and or publications therefore the names used in this work are coded names representing individuals with their common names in the community. We also agreed that I should take back a copy of my outputs to the

village for them. I also asked for their permission to use their photos in my outputs. Some agreed and others vehemently refused. Some had to verify and decide the specific photo that they allowed me to use. However, the facial areas of the specified photos were blurred so as to conceal their faces and make them indistinct as a matter of protecting their social relationships.

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF THE FINDINGS

4.1 Introduction

This chapter presents the findings by first analyzing the collected data. The data obtained through interviews and focused group discussions were analysed through triangulation technique, whereby similar responses were categorically grouped to ascertain frequencies on recurring cases. Then the respondent distribution tables were used to provide clarity thereon. Besides tables, there are statistical charts and or figures such as pie charts and bar charts which were created through micro-soft excel program. Charts were purposely deployed to further interpret and convey the analysed information into their respective meanings as well as enhance instrumental understanding on intricate information. The dissertation is thus a product of both first hand information obtained directly from the field surveys and secondary information from artifacts that were examined in order to uncover seminal texts and theoretical explanations.

The findings are grouped under the following summarized headings;

- (a) Activities currently performed by BMU-government co management in Ihale, Chabula and Kigangama fishing villages
- (b) Income and satisfaction among fishing communities
- (c) Access to and quality of the social services in Ihale, Chabula and Kigangama fishing villages and
- (d) Fishers compliance to laws and BMU regulations. Then a detailed presentation follows thereon

4.2 The Current Activities Performed by the BMU Committees

Beach management units form the basis for fisheries co-management in Tanzania. BMUs is envisioned to provide the more marginalized sections of the fisher community with a stake in planning and decision making and also provide an entry point for development intervention in fisheries management (Nunan and Scullion. 2004).

According to the Ministry of Livestock and Fisheries Development (2009) It is put clear in the guidelines for establishing community based collaborative fisheries management in marine waters of Tanzania that the BMUs roles are as follows;

- a) Enforcement of the Fisheries Act and Fisheries Regulations.
- b) Preparation of by-laws to supplement the implementation of Fisheries Act and Regulations.
- c) Ensures beach sanitation and hygiene.
- d) Collection of fisheries data/information.
- e) Educate other fishers on the negative impact of illegal fishing practices and other environmental issues that affect the fishery resources and the general environment.
- f) Prepare and implement economic sub- projects.
- g) Ensure security of the people and property.

In order to maintain the Nile perch St. Mgaya Y.D (2005) in the LVFO came up with the fisheries management plan for Lake Victoria 2009 to 2014. It was proposed that the following new management measures for immediate actions should be taken;

- Affirmative action to eradicate illegal trade of undersized, immature Nile perch to neighboring regional markets.
- Intensify self-monitoring and control by fish processors to prevent the processing and export of illegally sized (<50cm) Nile perch,
- Targeted enforcement programmes to eradicate the most harmful illegal fishing practices including beach seining and the use of under-sized gill nets. He adds that these are actions needing more time and commitment, increase penalties in fisheries regulations to make them a more effective deterrent.

Surprisingly, all the proposed strategies neither establish any connection with improving the local fishers' lives nor embraces poverty reduction perspective. What seems to be a prime goal is protecting the Nile perch stock at any cost. However the

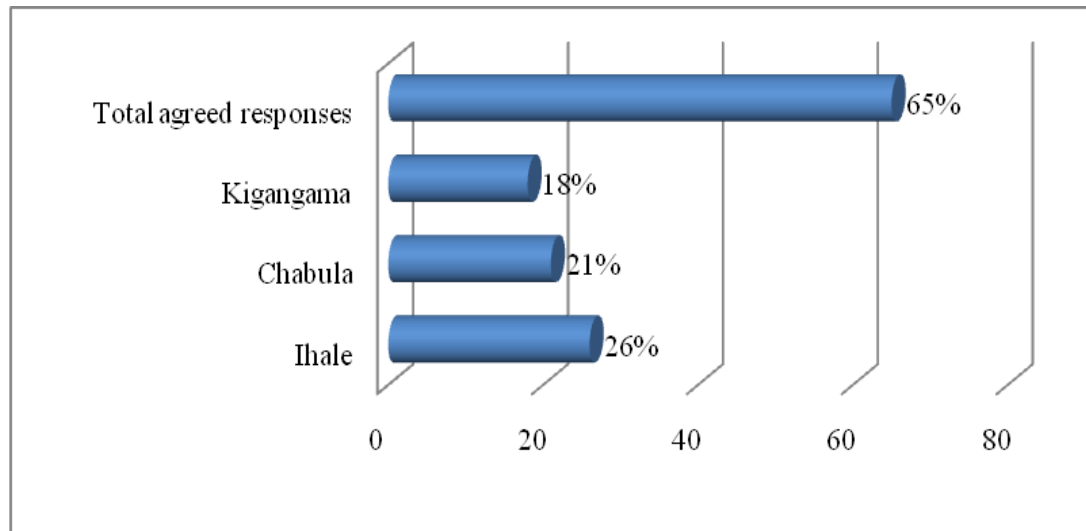
findings from the fishers provide us with a clear picture at the ground as follows; When the data were collected responses on the current roles of the BMUs at Ihale, chabula and Kigangama villages respectively the results were analyzed as follows;

Responses from 14 fishers (4) of them women at Ihale village mentioned almost the same roles as stipulated in National Guidelines for Establishing Community Based Collaborative Fisheries Management in Marine Waters of Tanzania. However 4 respondents were BMU committee members. On the other hand 8 fishers from the same village (Ihale) had viewed BMUs as an organization for personal interests of the BMU committee members. In their own views the BMU committee members are in first place violating the rules they are supposed to enforce meanwhile maintaining strict measures against non committee members.

The data from focused group discussions in Chabula village indicated that 18 fishers (6) of them women recognize the roles of BMUs as spelt out in the Guidelines for Establishing Community Based Collaborative Fisheries Management in Marine Waters of Tanzania. On the other hand 4 respondents viewed BMUs as an organization that is used to serve personal interests of the committee members.

Again field data collected from Kigangama village indicated that 13 respondents (3) of them women mentioned the roles performed by the village BMU committee as stipulated in the Guidelines for Establishing Community Based Collaborative Fisheries Management in Marine Waters of Tanzania whereas 7 respondents commented that the BMU committees are losing their original purposes and that they have multiplied the roles beyond the authority entrusted to them.

Figure 4. 1: BMUs performance as per the Guidelines for Establishing Community Based Collaborative Fisheries Management in Marine Waters of Tanzania



Source: Researcher, 2014

The findings reveal that fisheries co-management with the established BMU institutions perform the roles as stipulated in the Guidelines for Establishing Community Based Collaborative Fisheries Management in Marine Waters of Tanzania. It is established on the basis of the statistical evidences on table 4.1 above that 65% of the total units for the case of this particular study indicate that the local BMU committees perform their roles effectively. However it should be not presumed that effective performance by the BMU institutions guarantee successful poverty reduction amongst these local fishing communities which is the focus of this study.

The data collected from key informants interviews aimed at gaining a broad spectrum of poverty status among these fishing communities. Respondents in this category were professional groups like teachers, health officers, police officers and the fisheries officers. Interviews with the Ihale Primary school teachers indicated that 3 out of 5 teachers interviewed were skeptical over the roles performed by the Ihale village's BMU committee and added that they do not see any plausible change in socio-economic life of the fishers. In contrast, 2 teachers were able to identify the same roles of BMUs in the villages as in accordance with the Guidelines for

establishing Community Based Collaborative Fisheries Management in Marine Waters of Tanzania; however other teachers contended that are among the big boat owners and closely liaise with BMU committees.

The data collected from key informant interviews with 5 teachers at Chabula primary school indicated that all 5 teachers were skeptical over what the village BMU committee does. One of the teachers argued that the very BMU committee members organize illegal fishing activities and behind their positions many family friends follow the trends by fishing openly.

Again data collected from 5 interviewed teachers at Kigangama primary school indicated that 2 teachers know the roles played by the BMU committees as provided in the Guidelines for Establishing Community Based Collaborative Fisheries Management in Marine Waters of Tanzania whereas 3 of them said that the BMU committees cannot perform the roles as provided by the Guidelines for Establishing Community Based Collaborative Fisheries Management in Marine Waters of Tanzania because the tasks assigned are more technical thus require adaptation to technology and new skills are essential to implement them.

In their views the local fishers (BMU committees) do not have such necessary requisites so as to best fit in the roles assigned to them. When interviews with the Ihale village health officers were sought, the village chairman said there was no health center in his village but they share one dispensary with Bukome, a neighbor village. I was therefore obliged to meet and conduct an interview with the health officer at Bukome village, only 2 out of 5 workers attended on that day, thus I asked their consent for interview. The data collected from the two respondents were mutually discussed and analyzed, they all said what they only know is that BMUs prevent illegal and destructive fishing methods in the lake. Data collected from the police officers and the District Fisheries Office were synonymous, The interviews involved 4 fisheries officer from the DFO and 4 police staffs, hence the data obtained there were subjected to rigorous discussion and then were generalized as consistent to roles Played by the BMU committees as provided in the Guidelines For

Establishing Community Based Collaborative Fisheries Management in Marine Waters of Tanzania. The data obtained from interviews with the District fisheries office and the police officers for Ihale village were considered inferential applicable to both Chabula and Kigangama villages.

In an effort to collect data from health officers in Kigangama villages, the 3 health officers at Kigangama out rightly said that BMU committees prevents fishers from using illegal fishing methods, when asked whether they work in collaboration with the BMU committees in health related matters all of them said there is no such a thing at all .

Once a day on my way to data collection at Chabula village, the Chabula village chairman said there was no any health centers at his village but one dispensary about 10 kilometers eastwards (Kigongo village). I rode to the said nearby village, the interview was held with three health officers after having first their consent. The data provided indicate that they know the BMUs as an institution which was established by the government for preventing illegal and destructive fishing methods. These data were inferential to Chabula village but similar those of Kigangama and Ihale health officer. More information is provided in table 4.1 on the next page hereunder.

Table 4. 1: Responses on the Current Activities Performed by the BMU Committee

BMUs (village)	Education Officers		Health officers		Police officers		DFOs		Fishers		Total		Percentage (%)	
	Agr	Dis	Agr	Dis	Ag	Dis	Ag	Dis	Agr	Dis	Agr	Dis	Agr	Dis
Ihale	2	3	2	0	4	0	4	0	14	8	26	11	26	11
Chabu	0	5	3	0					18	4	21	09	21	09
K/gam	2	3	3	0					13	7	18	10	18	10
Total	4	11	8	0	4	0	4	0	45	19	65	30	65	30

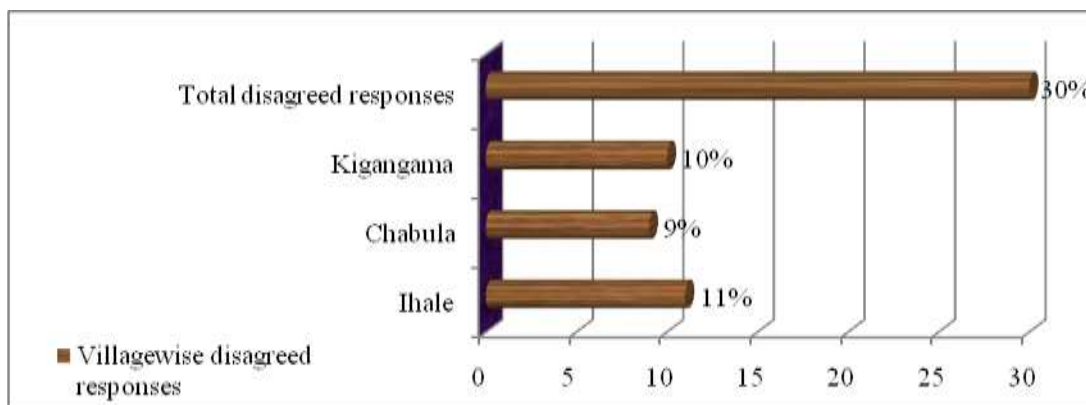
Source: Researcher, 2014

The data analyzed above were then presented herein bellow indicating the level of respondents including fishers who agree that the BMU committee roles at Ihale,

Chabula and Kigangama villages respectively are as provided in the Guidelines for Establishing Community Based Collaborative Fisheries Management in Marine Waters of Tanzania.

Based on the statistical evidences it is obvious that the majority (65%) of the fishers mentioned the BMU committee roles as provided in the Guidelines for Establishing Community Based Collaborative Fisheries Management in Marine Waters of Tanzania. However it is prejudice to conclude that all fishers have the same knowledge over BMU committee roles in the fishing communities, in the same vain on the basis of the data analyzed above hence presented bellow, clearly indicate that (30%) of the respondents view BMU committees in their villages operating activities other than what the government entrusted them to do. For the sake of facilitating understanding figure 4.2 on the next page below is instrumental.

Figure 4. 2: BMU do not perform its roles as per Guidelines for Establishing Community Based Collaborative Fisheries Management in Marine Waters of Tanzania



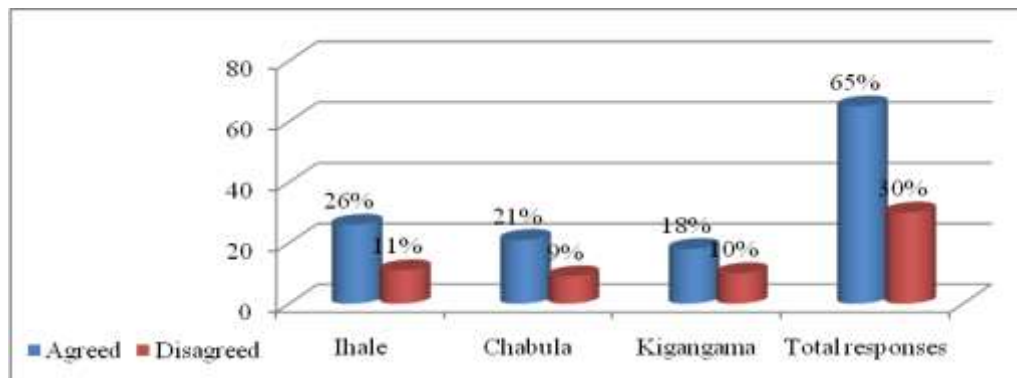
Source: Researcher, 2014

One non boat owner fisher when interviewed “What is BMU? He furiously answered “They are just fishing net sellers and grabbers, anonymous such fisher out rightly, he went on and alleged that pre BMU system, when he went fishing, he did not have to seek permission from anybody. When asked for a general comment about the BMU system another woman at Ihale village lamented that the introduction of the

BMU system has tremendously increased the number of supervisors in the fisheries sector. She continued by saying that since the management arrangement changed, she now has a bigger lot to pay tribute and allegiance to the BMU committee members.

A significant number of the respondents (fishers category) explained that this make them not respect the fishing laws as they are literally forced to even catch immature fish to be able to meet the demands of all those waiting for them on a landing site. Another interviewee at Kigangama village went further explaining that one chairman to a neighbor village had a fixed amount of money that the fishers were suppose to pay him before entering the waters. Figure 4.3 is an auspicious aid demonstrating the general information thereof.

Figure 4. 3: Total BMUs performance as per the Guidelines for Establishing Community Based Collaborative Fisheries Management in Marine Waters of Tanzania



Source: Researcher, 2014

The above data analyses indicate that 65% of the respondents have said that the BMU committees perform their duties as stipulated in the Guidelines for Establishing Community Based Collaborative Fisheries Management in Marine Waters of Tanzania; these roles amongst others are to maintain and keep in collaboration with central or local government, to register all boat owners and their equipment and also register all fishers who are not members in a BMU committee.

The committees also participate in selection of boat owners for licensing and vetting of the fishers in collaboration with the local authorities. They also ensure that licenses' for fishers and vessels operating from the beach are issued in collaboration with designated authorized licensing officers. Together with central and or local governments the BMU committees ensure safety guidelines for fishing operations in accordance with the fisheries laws of the country. On a focused group discussions at Chabula, Kigangamaand Ihale villages respectively, the members of a BMU committee put it clear that they also enforce fisheries quality assurance rules and put in place the sanitation guidelines in the fishing communities as per the BMU rules.

In additional to those responsibilities, they also give authority through by laws for fishers operating from the beach to fish in a particular area, for a particular species using the recommended legal fishing gears and methods, the BMU committee chairman at Ihale village said on a focused group discussion with the researcher. The Committees also record, inspect and grant permission to visiting boats with their crews and equipment to land at the beach. In collaboration with the central and or local government, the BMU committees prohibit fishing in certain lake zones for specified periods for the purposes of allowing fishes to reproduce as a way to fisheries management.

The BMUs liaise with the government to enforce fisheries laws and in conflict resolution between and or amongst fisheries stakeholders. On the other hand the BMU committee members however are in several occasions unable to resolve some conflicts amongst themselves, interviews with a number of respondents amounting to 30% in the field revealed that unmentioned BMU committee members at Ihale, Chabula and Kigangama villages are identified to be the richest fishermen and the one involved in the most illegal fishing practices.

“Normally they have the most undersized fishing gears and are involved in the most illegal fishing methods like seining, using small sized nets and organize piracy against other richest fishers in Lake Victoria” Nyangasa (coded name) furiously expressed”.

4.3 Income and Satisfaction among Fishing Communities

The study aimed at assessing the contribution of Tanzania fisheries co management on poverty among local artisanal fishing communities in Lake Victoria basin. The data gathered to measure the impact of fisheries co management on poverty reduction at Ihale, Chabula and Kigangama villages, the interview schedules designed in such a way that reduced poverty indicators could be identified through focused group discussions, key informant interviews, participant observation as well as through document analyses.

Herein bellow are the analyzed data from different sources as put out in chapter three.

Table 4. 2: Income and Satisfaction among the Local Fishing Communities

Surveyed village name	Responses/Incomes declined %	Response Incomes grew %	Total by %
Ihale	21	9	30
Chabula	20	10	30
Kigangama	25	10	35
Total	66	29	95

Source: Researcher, 2014

Data collected through focused group discussions with fishers at Ihale village were as follows; 16 respondents had the view that fisheries co management through BMU committees has lead them into extreme poverty than the period before its introduction in Tanzania. Interview with Ihale primary school teachers indicated that only 2 out of 5 interviewees have noticed income growth while the remaining 3 said that nothing notable has changed in the local fisher lives as a result of implementing fisheries co-management.

Again an interview with the 2 neighbor health staffs at Bukome village revealed that many patients fail even to meet the health cost sharing system. This was confirmed by the researchers discussions with local the fishers at Bukome village who complained that incomes have seriously declined because they are no longer free to

catch the undersized fishes because the BMU committee members are at all the time conducting surveillances on the beaches. Explaining the life hardship mama Maisha (not real name) added that

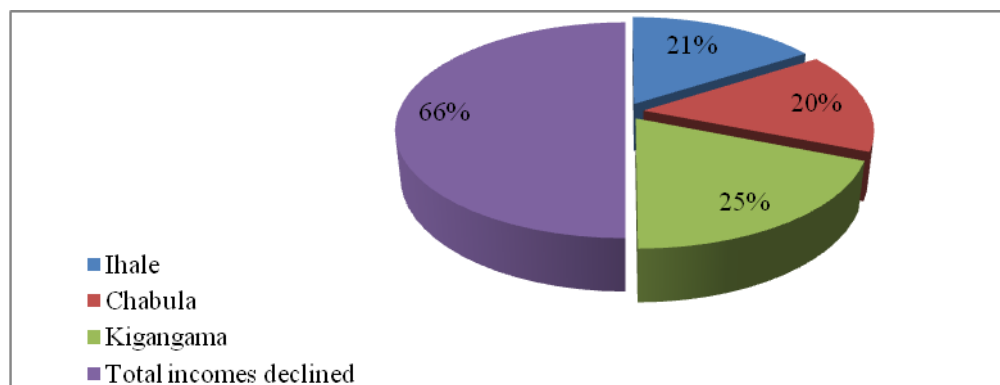
“we are widows having no any fatherly support, and we do not have any farm plot here at Bukome village, yet the BMU committee members every day demand a fixed tribute for even a little bucket of dagaa”.

On the other hand 6 respondents from Ihale village commented that the introduction of the BMU institutions has scaled up their incomes than before. These fishers were able to mention their current possessions such as a modern house, cow, and farm plots which are assets they never possessed under the old top down government centered fisheries management.

One respondent determined to be the spokesman of the group added that they feel more financially secure under BMU committee management. He went further saying that the BMU committee has helped them to negotiate the commercial fish prices with the sole buyers.

“With the auspice of our BMU committee we sell our fishes at fixed profitable prices per kilogram because all the catches must at first brought at the landing site, a place known to all buyers and fishes are bought at a pre determined prices to both buyers and we the fisher” figure 4.4 hereunder illustrates responses on incomes not improved.

Figure 4. 4: Co management did not improve incomes of local fishing communities



Source: Researcher, 2014

Data gathered from Chabula primary school teachers on the other hand indicated that 2 respondent acknowledged that few local fishers have increased their incomes but the majority have even dropped from their previous incomes. However the remaining 3 teachers completely commented that The Fisheries co management Through BMU committees have disrupted the economies of the fishing communities.

Speaking openly during our discussion these fishers blamed that the BMU committee has made the majority of fishers to stop fishing activities because they do not have the recommended fishing methods and that if caught using illegal and destructive methods they are forced to surrender all their fishing nets under the BMU committee and pay more than their daily incomes. One anonymous elder at the village went further by adding that:

“our sons have left the village for Magu town and Mwanza city looking for other means to survive, and a few remaining have to resort in illegal fishing no matter what happens as they find no other means to earn money”.

Of course it seems that the BMU institutions in all the villages where the study was carried out are lacking cooperation from the fishers. On the first day surveying the villages it was observed that the relationship between the fishers and the Fisheries management staffs is not good, because when the researcher arrived at the beach, all fishers disappeared to nowhere about. But with a permit from the village chairman, the researcher kept confident urging them to return in peace and continue with their programs. The researcher was also obliged to join the fishers programs so as to make them ascertain that he was not a dangerous visitor to them. Indeed this facilitated the cooperation between the researcher and the fishers. Thus, respondents were willing to participate on the study with maximum autonomy.

On the other hand 8 (8%) respondents at Chabula and 5 (5%) at Kigangama villages commented that the BMU committee has helped them in the past five years prosper economically than tens of years before its introduction. Defending their arguments in a hot discussion with fishers of the opposite views, on rightly the proponents of the BMU committee said: “all fishers when have even one kilogram fish catch must sell

it at the landing site where the BMU institution assures that fishes are bought at a price profitable to the fisher.

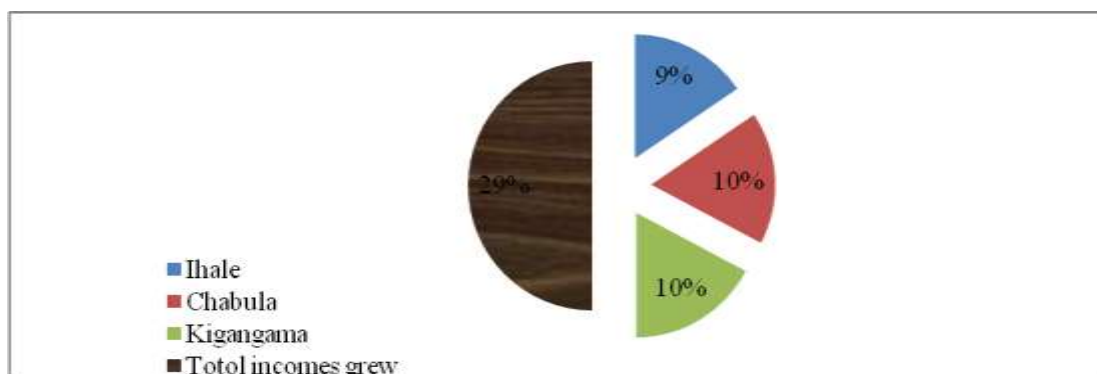
It is therefore arguable that fish markets performs well where the BMU committees intervenes thereof. However the problem is that most of the local fishers at Kigangama, Ihale and Chabula villages are used to fish by illegal fishing gears resulting into catching undersized fishes that end up them under BMU committee apprehensions.

According to data evidences only few fishers in the fishing communities use legally acceptable fishing gears as per the fishery regulations requirements. It was put clear during the discussions with Masuka mwijarubi (coded name) a BMU regulations compliant fisher that:

“A fish catch using their fishing gears can surpass thousands of undersized fish catches of the non compliant because undersized fishes do not enjoy the luxuries of commercial markets price through sole buyers rather than being sold to local consumers”.

Hereunder figure 4.5 provides us with an instrumental understanding on the impact of fisheries co-management on improving local fishers’ income in the fishing communities in Lake Victoria basin

Figure 4. 5: Co management has improved incomes of the local fishing communities



Source: Researcher, 2014

Data clues from a live observation by the researcher indicated that the majority of local fishers used illegal fishing gears so as to amass undersized fishes that are the only affordable to local consumers. As a participant observer, the researcher disguisedly went to fish with them; certainly almost two tons were dragged to the shore at each seine catch, however to my surprise no fishes were sold by weighing at the landing site because they do not meet the desired size (quality) as per BMU and the fisheries regulation specifications.

The findings indicate that only 29% of respondents experienced income growth as an impact of implementing fisheries co-management in the fishing communities.

Figure 4.5 above provides us with an instrumental understanding that few respondents from each surveyed village have had noticed income growth. However, it counts nothing worthwhile such a small number of a population to be a judgmental fact on poverty reduction in the whole fishing community in the Lake Victoria basin. Although we cannot presumably conclude that income growth determines poverty reduction initiatives, yet other socio-economic aspects are closely associative with growth in income.

It is possible therefore that growth or decline in income has a trickle-down effect on other aspects of human wellbeing. Again it is certainly true that when such social services as education, health, water and environmental sanitation improve then reciprocally income growth elasticity is experienced. In fact it is currently a universal assertion that income is a prime indicator of development since it determines satisfactions. As the case of this study it is an implied fact that poverty indicators such as high illiteracy rate and high infant mortality rate amongst others exist in most local fishing communities in Lake Victoria basin. Thus the implementation of fisheries co-management in the fishing communities has had resulted not in significant impact on poverty reduction.

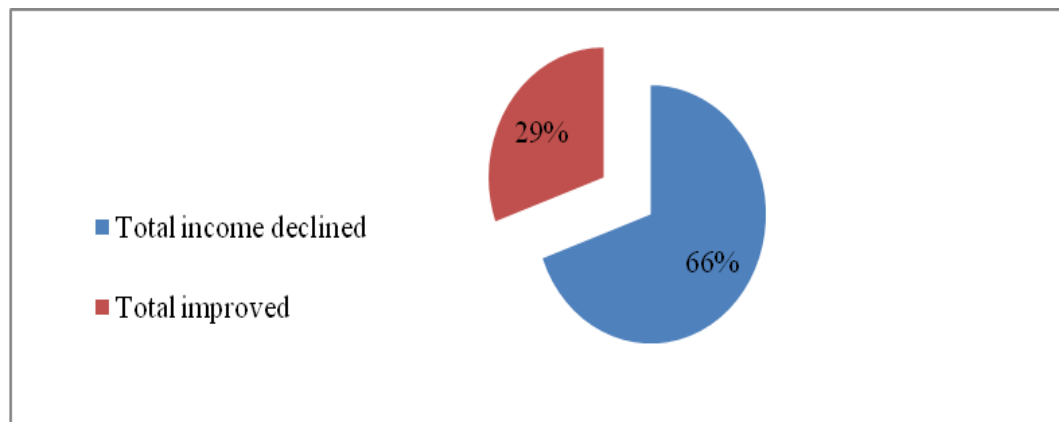
Talking to the researcher as a disguised co-fisherman, a woman had the following to say *“I am very happy today; I have got enough fish for my family consumption then the remaining few I am going to sell so that I can get a tin of maize flour”*.

Being eager to get more from her the researcher asked whether she had left any preserved food at home, the woman said that in the past two days she was sick thus could not go to fish at all, so that the family had nothing to eat at home. In fact this is the way many fishing communities live as many fishers buy rice and maize flour after selling their fishes.

Data collected through different sources indicated that the fishing communities lack the knowledge ground on BMU committees; it is obvious that the information that local fishers have about the fisheries co management through the BMU committee is too intricate to change their customs of production for consumption to saving. The majority of these fishers complained that the required fishing gears as per BMU committee regulations do not provide them with enough catches thus they fail to satisfy the waiting daily needs. That’s why they are forced to break both the BMU committee rules and the fisheries co management regulations in order that they can catch more fish for sale.

The above information clearly shows that efforts done by the fisheries co-management face many challenges eventually the expected goals are not attained. The more fishers keep on fishing unsustainably the more poverty keep on hitting the poor fishing communities, because at the end fishers are going to extinct the fishery resources.

Figure 4. 6: Total incomes and satisfaction among the fishing communities



Source: Researcher, 2014

With the aid of these statistical evidences it gives us a clear picture of the status of income among the local fishers at Ihale, Chabula and Kigangama villages in Magu district. The information obtained through various sources from the sturdy area is convincing to say that the fisheries co management has been not able to reinforce growth and distribution of incomes among the poor fishing communities. Since fisheries co-management is being implemented parallel to the (NSGRP I &II) it is wise that the two converge at one point with common outcomes, that is poverty reduced. The implication of the findings is that fisheries co-management in the fishing communities and the (NSGRP I&II) at its broad spectrum altogether neither provide incentives to reduce poverty in the fishing communities nor align consistently in their strategies.

One of the major goals of implementing the co-management arrangement in the fisheries of Lake Victoria is to help reduce or play a participatory role in poverty reduction in the fishing communities, address the problem of marginalization and vulnerability by promoting social equity among the fishers (Nunan& Scullion, 2004). However, a participatory management approach entails varying and or sometimes contradicting interests amongst the participants thereon. The partnership should therefore be strategized in such a way that conflicts of interests neither compromises one party objective nor become dysfunctional on the general will. It is thus unfair as these findings establish that the fisheries co-management has had any significant

contribution on improving incomes amongst the local fishing communities in the lake Victoria basin.

This dissertation seeks to find out the changes caused by the implementation of the BMU system, an institution for the fisheries co-management approach in the fishing communities. These changes are more focused on the issues with social and economic improvement in the local fishing communities. Specifically the study foci were to assess whether local fishers income, public health and education have been positively improved as a result of the implementation of BMU system.

4.4 Access to and Quality Health Services

Poverty is devoid of meaning unless it affects the social service and provisioning sub sectors. Again all the poverty reduction strategies are worth nothing unless the social services and provisioning sectors are collectively integrated in both the sectoral policies and in the national strategic plans for poverty reduction. As the case may be, it is presumably in our knowledge that the fisheries co-management and the broad national as well as sectoral policies work hand in hand in an effort to reduce poverty in the local fishing communities of lake Victoria basin.

In Tanzania the NSGRP I and NSFRP II provide a framework on which all sectoral policies are consistently derived and implementation follows thereon. In an effort to assess the impact of fisheries co management through the BMU committees on poverty reduction in Ihale ,Chabula and Kigangama villages, the researcher deliberately included the education sector, health sector and environmental sanitation sector as well as the incomes and satisfaction (growth) albeit this part dealt much on education, health and sanitations in the fishing communities.

Data from focused group discussions, key informant interviews as well as researcher's live observations were collected as indicated hereunder;

The data were collected from a sample of those who entirely depend on fishing for their survival, teachers, health staffs (nurses), district fisheries officer, as well as the police staffs. The data were then analyzed as follows hereunder;

Data from focused group discussions showed that 8 (8%) respondents in local fisher's category commented that the BMU committee helps improve their health, environment and sanitation as well as education. Vehemently accrediting the performance of the Ihale village's BMU committee, the village chairman put it clear that BMU committee has initiated a pure and safe water program on the beach where by virtue of residing at the village all Ihale residents are entitled to equal right to use that water. He continued by adding that the village BMU committee has built a two chamber public toilet where all residents are in the same veins entitled the right to use and collectively protect it.

The onsite observations by the researcher however revealed that the said two public services (water and toilet) are located at one area fenced within the BMU committee's confinement. In their views 14 (14%) respondents commented through two determined to be group spokesmen that "the toilet and the water were meant to only be used by the BMU committee members, that's why were located in their official confinements".

Based on these facts it is clear that the fisheries co-management system has had little contribution on improving the health status in the fishing communities, ultimately insignificant contribution on poverty reduction in the fishing communities of Lake Victoria basin. Improving social welfare is the goal to be implemented under cluster II of the National Strategy for Growth and Reduction of Poverty (NSGRP I&II). The findings however, reveal that this goal has been not attain in the local fishing communities in the Lake Victoria basin. Fishery is the sole livelihood in the local fishing communities in the Lake Victoria basin. It is therefore ridiculous that the fisheries resource management system does not bring significant impact on poverty reduction goals. Certainly fisheries co-management institutions are not properly linked to the NSGRP and if this is the case its contribution on poverty reduction is necessarily minimal.

Figure 4. 7: The public safe water and public toilet projects fenced at Ihale BMU site



Source: Researcher, 2014

Inside the fence are fishers under a big tree ready for a focused group discussion. Another spokesman of the same group suddenly intervened that most of the time the toilet is locked while the BMU committee members hold the keys for themselves. He then added that the water tank is too small to serve the entire population of the Ihale village and the population distribution is too scattered such that many residents are forced to use untreated water from the lake or they are required to queue for so long time waiting for treated water from the public tank.

These data were analyzed by grouping similar responses categorically then a respondents' distribution table as appears hereunder was used to enhance clarity and finally the chart was deployed to afford the readers with an instrumental understanding where data alone could result into intricate information.

Table 4. 3: Respondent distribution table on access to and quality of health services in local fishing communities

Village	Fishers		Teachers		Health staffs		DFO		Police staffs		Total		Total
	imp	poor	imp	poor	imp	Poor	imp	poor	Imp	poor	Imp	Poor	%
Chabula	6	16	2	3	0	3	3	1	1	3	12	26	38
Kigangama	10	12	5	0	0	3					15	15	30
Ihale	8	14	2	3	1	1					11	18	29
Total	24	42	9	6	1	7	3	1	1	3	38	59	97

Source: Researcher, 2014

Data gathered at Chabula village indicated that 6 (6%) fishers commented that since the introduction of fisheries co management the health services at the village has improved while 16 (16%) respondents commented that despite its introduction on the beach, the BMU committee has done no efforts to improve health services in the at the village. At least at Kigangama village 10 (10%) respondents in category fishers' accredited the village BMU committee for its performance in an effort to improve health services and sanitation at the beach area, however 12 (12%) Srespondents under the same category discredited the village BMU committee by accusing its members to collect nuisance tributes without substantiating the revenues and expenditure accruing to its activities before the village general assembly.

The health problem in Mwanza region has its roots in poverty and ignorance owing to their prevalence in dietary imbalance, insufficient and unsanitary water supplies, low standards of communal hygiene, poor general lack of knowledge of basic personal health care. These conditions result in a predominance of respiratory, intestinal and skin infections ([http// www.mwanzaregion.org](http://www.mwanzaregion.org)).

One anonymous woman lamented that the BMU committee seek tributes each to each small sackful of dagaa but they do nothing to maintain cleanness at the landing site, she continued by claiming that most of the BMU committee members are corrupt for they are moved by sexual mania.

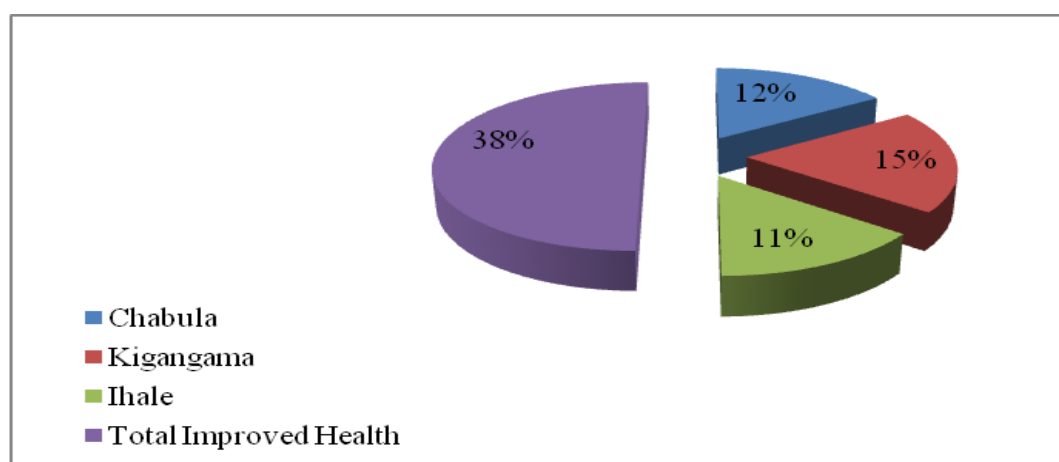
The responses from the health staffs indicated that 1 staff at Bukome, representing Ihale village acknowledged the work done by the village BMU committee for the safe and clean water 2 tanks program and the 2 two chamber toilet. Again the health staff said that at least the BMU committee has shown a way to go about, she showed much concerns with the programs urging the villagers to play their role at individual capacities.

The study findings establish that 38% of the total respondents acknowledge the fisheries co-management that it has had improved the access to and quality health services in the fishing communities in the Lake Victoria basin, whereas 11 (11%) at

Chabula, 12 (12%) at Ihale and 15 (15%) respondents at Kigangama villages respectively. Obviously these statistical evidences provide no powerful influence to accredit the fisheries co-management for contributing significantly on poverty reduction amongst the local fishing communities in the Lake Victoria basin. The findings reveal that the fisheries co-management has had little contribution on poverty reduction efforts in the local fishing communities in the Lake Victoria basin (Table 4.3 above and figure 4.10)

On the other the findings reveal that the fisheries co-management system has had little contribution on improving the health services amongst the local fishing communities in the surveyed villages.

Figure 4. 8: Access to and quality of health services in the local fishing communities



Source: Researcher, 2014

The information presented by figure 4.8 is village wise categorized; wherein substantiation entails both collective village wise responses and the grand total for all three surveyed villages. The facts are according to interpreted responses from individuals as it continues hereunder;

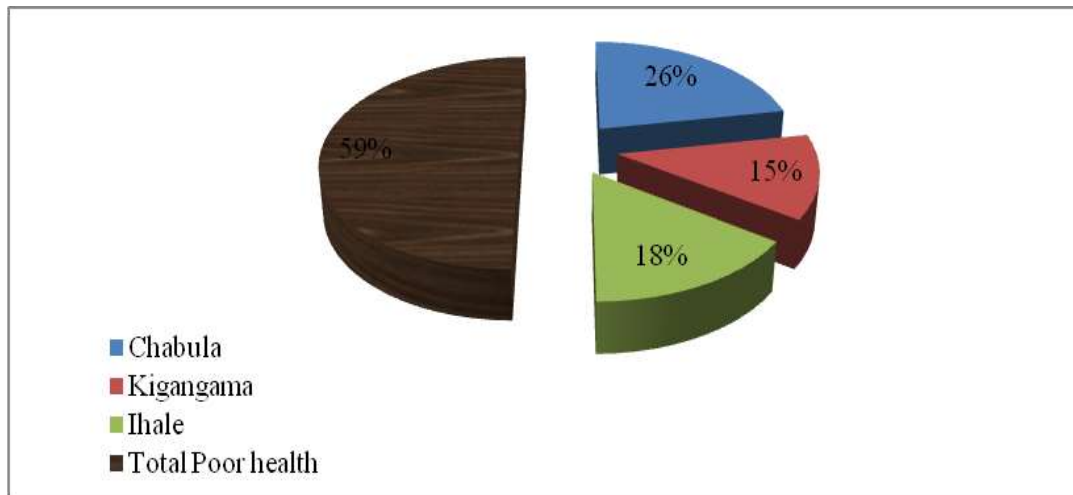
The interviews with 3 health staffs at Kigangama out rightly responded that the BMU committee does not take matters pertaining to public health and environmental

sanitation seriously because the committee members themselves lack the knowledge thereof. Again other 3 health staffs at Kitongo a referential village to Chabula village responded that they have never seen any significant health and environmental sanitation initiatives done by the village BMU committee. Lake Victoria Fisheries Organization (2009) observes that furthermore, the prevalence of HIV/AIDS in fishing communities is substantially higher than the national averages in the Partner States and a concerted effort is needed to address this major challenge around the lake.

Interviews with 5 teachers at Ihale Primary school indicated that only 2 of them acknowledged the village BMU committee for its contribution on improving the health and environmental sanitation at the village, the teachers said that the village BMU committee has not only introduced the safe and clean water tanks for public use but also its contribution on building a two chamber public toilet at the fisher's landing site and another toilet with 5 chambers at Ihale primary school.

During the field surveys the researcher was able to visit the public water and public toilet projects as identified during the interviews and focused group discussions. In fact the Fisheries co management at Ihale village has ushered a move towards a communicable diseases free community. However data from the remaining 3 (3%) teachers at Ihale primary school commented that both the toilets and safe water projects were implemented on cynical bases because the beneficiaries thereon are the very persons in the BMU committee memberships.

Figure 4. 9: Access to and quality of health services in local fishing communities not improved



Source: Researcher, 2014

The facts put clear that 59% of total units of analysis commented that the fisheries co-management has had no significant contribution on public health improvement as well as on poverty reduction in the local fishing communities in the lake Victoria basin, whereas 26(26%) were at Chabula, 15 (15%) at Kigangama and 18 (18%) at Ihale villages respectively. The information presented by figure 4.8 is village wise categorized; wherein substantiation entails both collective village wise responses and the grand total for all three surveyed villages. The facts are according to interpreted responses from individuals as it continues hereunder;

Interview with 5 respondents at Kigangama primary school and other 3 (3%) (under category teachers) at Chabula primary schools respectively said that they do not see any definite health and environmental sanitation improvement in their villages. One anonymous went further saying that the construction of beach centers and the BMU committee operations have created incentives for population increase at the villages. In fact during focus group discussions some respondents exclusively identified themselves that were immigrants from other fishing communes, to affirm their arguments these fishers said that the BMU committees in their home villages has had neither improved both public health at the fisher's landing sites nor improves the

whole village .However, traditionally all fishing communities have the tendency similar to nomadic hunters, they regularly sail season by seasons but grant themselves with residency status as shortly as they mix with their hosts, so responses from these respondents were considered valid on that ground.

Interviews with 4 District Fisheries Officers indicated that (3%) 3 respondents said that the BMU committees have significantly contributed to improved public health and environment and sanitation on the beaches. “Albeit on the landing sites the BMU committees ensure that public health and environmental sanitation are observed by all people on the beaches” said one DFO staff among three. In contrast (1%) 1 DFO staff said that the BMU committees lack essential expertise to execute such technical matters like public health and environmental sanitations in high dense populated areas like on the fisher’s landing sites.

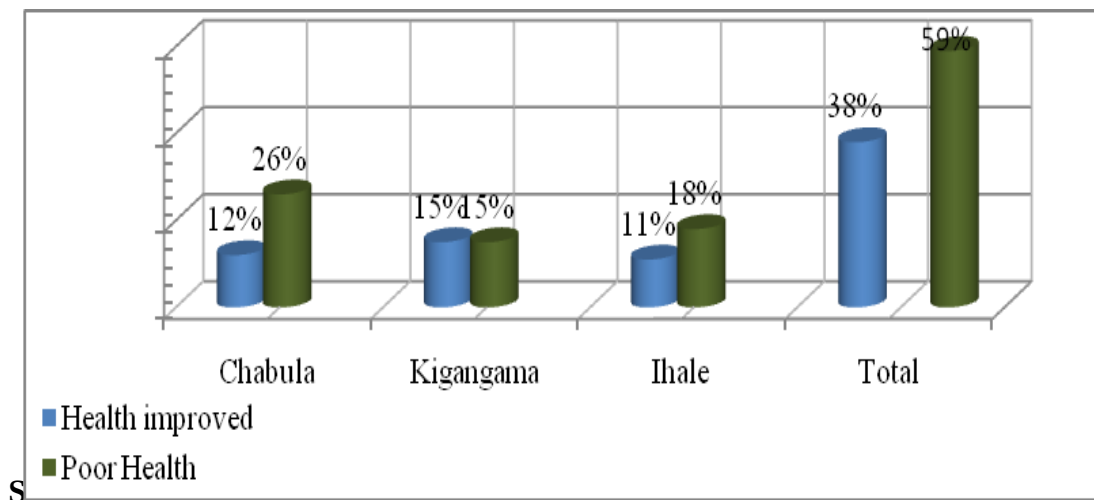
In their responses 3 police officers (3%) said that the BMU committees are mainly concerned with surveillance of illegal fishers and do nothing to improve the community’s public health. Adding on top of this one police staff commented that realistically the surveillance responsibilities entrusted to BMU committees are indeed intricate and require them much time so that they fail to assume other cross cutting issues like health and environmental sanitation in the village.

The above argument directly acknowledge the BMU committees for effective implementation of their entrusted institutional roles as management units, yet indirectly imply that the BMU committees put less importance on community development issues. However this fallacy is proved with Table 4.5 below which clearly show that the level fishers’ compliance with the fisheries laws and the BMU regulations is too poor. With this fact at hand it is sufficient to comment that the fisheries co-management has had little contribution on poverty reduction in the local fishing communities in the Lake Victoria basin.

Hereunder figure 4.9 presents the actual situation on the ground as the findings establish on statistical evidences that fisheries co-management has had little

contribution on poverty reduction in the local fishing communities in the Lake Victoria basin.

Figure 4. 10: Total access to and quality of health services in the local fishing Communities



The information presented by figure 4.10 is cumulative village wise categorized; wherein substantiation entails both collective village wise responses and the grand total for all three surveyed villages. The findings establish that 59(59%) of the total respondents said that fisheries co-management has had no significant contribution on improving the health services in the fishing communities in the Lake Victoria basin. In contrast only 38 (38%) of the respondents accredit the fisheries co-management for improving the health services in the fishing communities in Lake Victoria basin.

Based on these statistical evidences it clear that the fisheries co-management has had not contributed significantly on poverty reduction amongst the local fishing communities in the Lake Victoria basin The facts are according to interpreted responses from individuals as it continues hereunder;

However only (1%) 1 police staff as indicated in the respondent distribution table said that the Fisheries co management through BMU committees has done the best at both its scarce resources and expertise to contribute on community development programs, he added that the BMU committees have become the major source of

revenues to the village governments. He further added that besides their risky tasks of surveillance and anti illegal fishing activities in the lake, the BMU committee generates the village government's revenues,

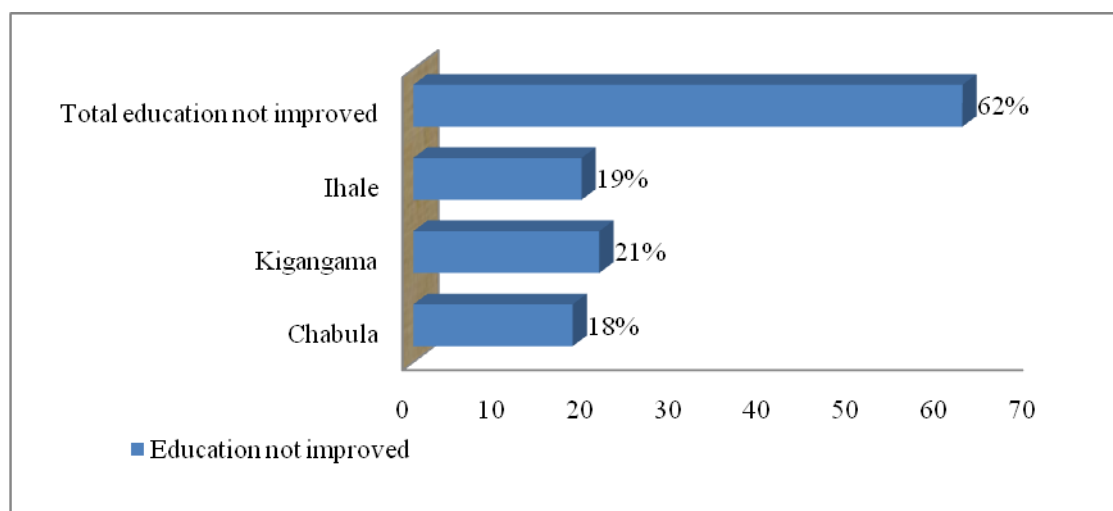
“Although the BMU committees’ roles are not appreciated by many fishers they are directly implied in the functions of the village government or until demonstrated to local fisher through tangible activities” he concluded.

4.5 Education Status in the Fishing Communities

Social capital and social networks present a more comprehensive analysis of how poverty is experienced by families and communities. Loury 1983 in FAO (2000) found that family poverty significantly constrained social mobility in terms of access to education and other resources. Loury consequently views poverty as a condition handed down between generations, not as a result of inherited intellectual or moral failings, but from income inequality and the lack of a redistributive welfare system. He went further viewing those with high educational achievement to be beneficiaries of a stratified class system, as opposed to viewing them as the deserving winners of a free-market.

It was in the first place put clear that the study aimed at assessing the contribution of fisheries co management on access to and quality of social services. This subsection therefore presents the data collected for the purpose of measuring the access to and quality of education at Ihale, Chabula and Kigangama villages respectively. Hereunder figure 4.11 shows data collected through focused group discussions, key informant interviews and document analyses. The data collected through focused group discussions with local fishers indicated that 14 (14%) respondents at Ihale village said that there is no any relationship between education affairs and the execution of the villages BMU committees’ responsibilities. One local fisher at Ihale village was of the view that the BMU committee is exclusively made up of fishers, so it is impossible for an institution made up of fishers to engage in other non fisheries matter.

Figure 4. 11: Access to and quality of education services in the local fishing communities; village wise responses



Source: Researcher, 2014

The information presented by figure 4.11 is village wise categorized; wherein substantiation entails both collective village wise responses and the grand total for all three surveyed villages. The facts are according to interpreted responses from individuals as it continues hereunder;

Data obtained through focused group discussions indicates that 18 respondents at Chabula village said that BMU committees have made lives harder than before its formation at the village. They went further saying that they used to get pupils school fee through fishing activities but currently access to their traditional sources of income has been restricted by the BMU institutions. This is in line with what Mwita (not real name) said:

Yes the BMU committees' implement surveillance in the Lake Victoria basin but the majority of the fishers are forced layoffs as fishing is their only means of earning a living when I was teen we used to catch abundant fishes of all sorts in this lake Victoria but the invasion of the sector by commercial investors has incriminated the poor local fishers while in real sense they do nothing to halt the fisheries resource sustainability.

Certainly Mwita implied that resource sustainability in the fishing communities is achieved at the expense of the fishers' livelihoods, and if this is the case the poor fishing communities are necessarily chained into a vicious cycle of poverty. As Simon (1995) argues that for there is no alternative employment for the fishers, fisheries act as an employer of the last resort. Fisheries generally have low entry barriers and relatively high exit barriers. Because of this factor, the sector concentrates individuals with low opportunity costs.

According to Anon (2003) the statute and guidelines of the BMU institution acts like an access institution into the fishery of the Lake Victoria. As access institutions BMU committees create access restrictions by installing access rights. In their responses respondents at Kigangama and Chabula villages also explained that such access restriction limits use rights to certain areas, species, technologies and activities possibly for certain times, or certain groups. Thus the BMU committee denied the fishers access to their resources.

The findings show that the poor local fishers are not comfortable with the introduction of the fisheries co-management system. These poor people find no other alternative livelihoods at their reach. Since fishers regard the BMU institutions as access restriction and they have failed to afford the entrycosts, these poor people are left out on unemployment pay ultimately. Thus, fisheries co-management system provides neither adequate incentives nor effective deterrence for fishers to benefit from the sustainable fisheries management as well as improving their lives from fishing employment.

Table 4. 4: Respondents’ distribution on whether the fisheries co-management contributes to access and quality education in fishing communities

Village/name	Fishers		H/Officer		Teachers		DFO		Police		Total %	
	Yes	no	y e s	n o	yes	N o	y e s	n o	y e s	n o	Y e s	No
Chabula	4	18	-	-	5	-	3	1	1	3	9	18
Kigangama	9	13	2	3	-	5					1 1	21
Ihale	8	14	2	-	-	5					1 0	19
Total	21	45	4	3	5	1 0	3	1	1	3	3 4	62
Grand Total	66		7		15		4		4		96	

Source: Researcher, 2014

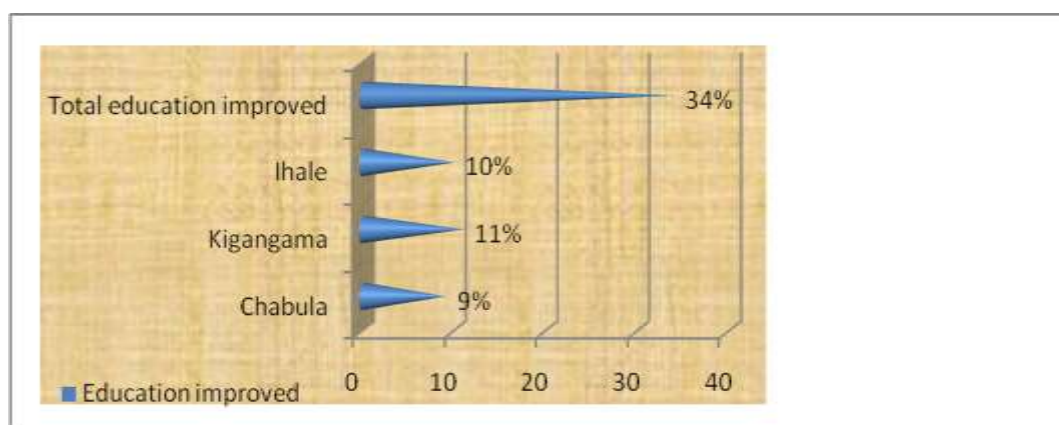
Data from focused group discussions indicated that 13 (13%) respondent at Kigangama explicitly commented that in fact that access rights constrain the livelihood options of some but protect those of others. In this way the BMU institution limit use rights of other fishers at the village, especially the most poor and enhance those of others, thus create inequity as many poor parents fail to even raise some money for their children school fees.

On the other hand 8 (8%) respondents, 4 (4%) respondents and 9 (9%) other from Ihale, Chabula and Kigangama villages respectively argued that the BMU committees contribute to general social economic improvement in their villages. Respondents from Ihale village for instance referred to a five pits toilet built at Ihale primary school by the BMU committee. They went further explaining that the BMU committee contributed about 100 school desks at Ihale Primary school. The Chairman of Ihale village acknowledged that the BMU committee for restricting all children of school age from being registered as fishers but very occasionally during their holydays a child can go to fish.

Responding on the interview 5 (5%) teachers at Ihale primary school said that the BMU committee supported the school by building a toilet and provided 100 desks. However these teachers commented that the challenges facing primary education at the village are early school boys and girls drop out school. The assistant head of school said that boys drop outs are mainly associated with indulgence in fishing activities as a means to complement their family resources while girls drop outs are associated with early pregnancies leading to pre mature motherhood responsibilities.

Based on this fact it is clear that education has had not significantly improved at the village. Among the objective of fisheries co-management is improving the income and livelihoods of the fishing communities; however the findings reveal that many boys drop out schools with a reason that their parents urge them to supplement family incomes by involving in fishing activities. Thus, parents prepare these young boys for intergenerational transferred poverty as they ultimately drop out schools. Figure is interpreted as village wise responses on the contribution of fisheries co-management on improving education in the fishing communities.

Figure 4. 12: Access to and quality of education services in local fishing communities; village wise responses



Source: Researcher, 2014

The information presented by figure 4.12 is village wise categorized; wherein substantiation entails both individual village wise responses and the grand total for all three surveyed villages. The findings indicate that only 34% of the total

respondents said that the fisheries co-management has had improved the access to and quality of education services in their respective villages. In fact this statistics are too weak to be judgmental on contribution of fisheries co-management on poverty reduction amongst the fishing communities in the Lake Victoria basin. In contrast 60% of the respondents were of the view that fisheries co-management has had no contribution on poverty reduction among the local fishing communities in Lake Victoria basin. These facts are according to interpreted responses from individuals as it continues hereunder;

In their views 3 DFO staffs said that Fishery co management has reduced the social cost in the fishing communities at the same time enhancing the social benefits. One DFO staff said that many children used to drop out schools indulging into fishing; this has been at least reduced. He added that the BMU committee has at least reduced the tragedy of the commons problem by introducing compulsory registration system to all fishers with the condition that only people above eighteen years age qualify for registration thereof.

This in fact has not only encouraged children school attendance and improved performances but also raised transitions to secondary school education. Likewise 1 police officer said that practical contributions of the BMU institutions on socio economic wellbeing in the fishing communities are directly observed through the village governments programmes but indirectly experience through diminishing number of children less than eighteen years of age in the fishing sector. This man certainly meant that instead of being in underpayment fishery employment, children less than eighteen years of age attend schools as a result of autonomous exclusion from fishing activities by implementing fisheries co management through BMU institutions.

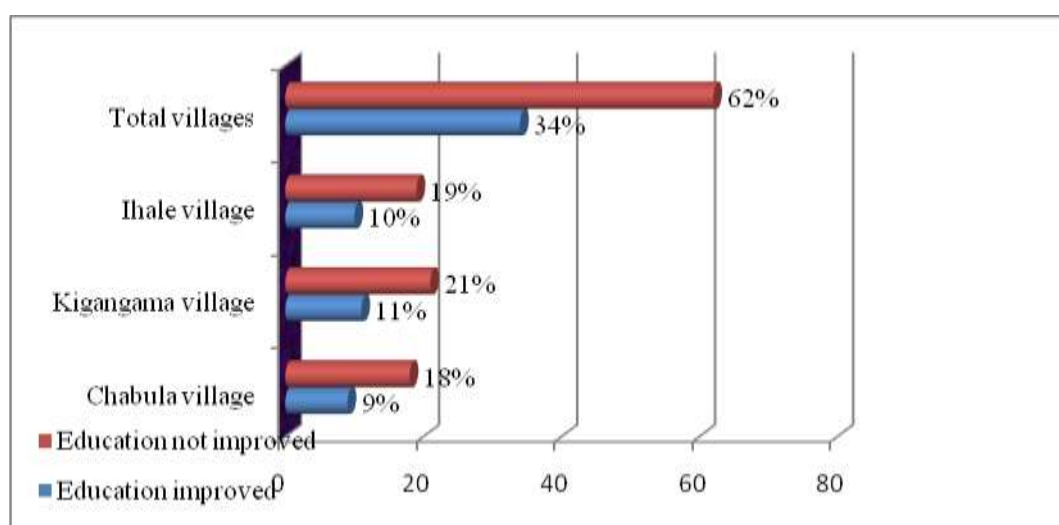
On the other hand (5%) 5 teachers at Chabula and (5%) 5 other at Kigangama villages respectively said that the BMU committees do not contribute on educational improvement in their villages. One teacher at Chabula village out rightly said that the construction landing site centers on the beaches has become an incentive to sexual

business or prostitution. He said that the trends show that early pregnancies and HIV/AIDS infections are scaling up among families on the beaches.

Data collected from the health staffs at Bukome health center a referential to Ihale village indicated that 2 (2%) respondents said that the public health was enhanced then personal hygiene has certainly improved, thus the BMU committee at Ihale village is indirectly reinforcing learning process. In the same veins 2 (2%) respondents at Kigangama village health center commented that when income increases parents' guidance on their school age children is efficiently done.

But they could not connect their argument with the roles of BMU committee. In contrast data collected from a nearby health center at Kitongo village a referential to Chabula said they are unaware of other roles of the BMU committee because its operations do not cover their work place. In fact the two villages are far apart especially when a visit is made on foot. Since they gave non directional responses, the data were assumed invalid and insignificant to this sturdy. The general response is demonstrated on figure 4.13 showing the perceptions of the respondents on the impact of fisheries co-management on education in the fishing communities.

Figure 4. 13: Total access to and quality of education service in local fishing Communities; collective responses interpreted



Source: Researcher, 2014

The information presented by figure 4.13 is cumulative village wise categorized; wherein substantiation entails both collective village wise responses and the grand total for all three surveyed villages. The findings establish that 62(62%) of the total respondents said that fisheries co-management has had no significant contribution on improving the access to and quality of education services in the fishing communities in the Lake Victoria basin. In contrast only 34 (34%) of the respondents accredit the fisheries co-management for improving the access to and quality of education services in the fishing communities in Lake Victoria basin.

Based on these statistical evidences it clear that the fisheries co-management has had not contributed significantly on poverty reduction amongst the local fishing communities in the Lake Victoria basin The facts are according to interpreted responses from individuals as it continues hereunder;

As it was observed at Kigangama village, 3 health staffs said that most of the BMU committee members do not want to participate in affairs other than surveillance on the lake. One respondent said that perhaps the BMU committees think that issues of education, health and environmental sanitation are none of BMU committees' responsibilities, she lamented. Another man went further saying that it's sufficient to say that the BMU institutions have impoverished many fishers because of a forced abstain from seining fishing method before providing them with enough education thereof.

This is in line with 3 police officers who said that the BMU committees are exclusively envisioned to make surveillance roles in the respective fishing communities in Lake Victoria. However solid evidences from live observations by the researcher indicated that the same traditional fishing gears as restricted by the BMU regulations are still practiced and of course seining is the most dominantly used in the fishing communities even at the presence of the BMU committee members.

In general, the statistical evidences as shown in figure 4.13 do not provide seminal persuasion on educational improvement in the local fishing communities in Lake Victoria basin. It is the fact that all villages responses that accredited the fisheries co-management for improving education in the local fishing communities is only 39(39%), this number is insignificant as compared to 62 (62%) those who said that the fisheries co-management has had not improved the education status in the local fishing communities in the Lake Victoria basin. In fact if education has not been improved, poverty has been also not reduced.

Karoly 2001 in Austin and Mack (2006) point out that training and education raise the human capital and help children escape poverty. They further argue that although early Intelligence Quotients gain fade out as children grow, later benefits appear in increased school attainment, decreased crime and delinquency rates, and economic success.

Regarding investment in school-age children and older youth, Karoly compared the types of interventions, such as improvement of school quality and access, dropout preventions, school-to-work transition programs, youth employment and training program, and their effectiveness. According to Karoly parents who were poor were related to less schooling of their children, ultimately leading to adult poverty when the children became adults.

Data collected through interviews and focused group discussions show that there are persistent dropouts of primary school pupils in the local fishing communities in the Lake Victoria basin. The fisheries co-management system has had no much positive contribution on educational improvement in the fishing communities. Masanja and Ndalawha are pupils at Ihale primary school (coded names) but are among the people on the below photo as shown on figure 4.14 on a week day. Thus, as school dropouts are experienced in these communities, these children are deferred poor adults in the long run.

Figure 4. 14: Undersized Nile perch fished through illegal seining nets at Ihale beach



Source: Researcher, 2014

4.6 Fishing Communities Compliance with the Laws and BMU Regulations

The study also aimed to assess the contribution of fisheries co management on fishers' compliance with fisheries law as well as the BMU rule and regulations. In an effort to ascertain this fundamental objective as per the National Guidelines for Establishing Community Based Collaborative Fisheries Management in Marine Waters of Tanzania data were collected as follows;

Several focused group discussions were held at all three BMU committee centers. Data from focused group discussions at Ihale village indicated that 16 respondents said that the rules are not observed while 6 respondents said that the fisheries laws and BMU regulations are affected and compliance is thereof is observed. Again 17(17%) respondents at Kigangama said that the fisheries laws the BMU committee regulations are regressive towards the poor fishers thus cannot be complied with.

Speaking on discussions the non boat owner fishers said that the BMU committee members are the same members who participate in the illegal fishing methods, thus their actions and activities are the same. One respondent furiously heralded that most seining nets and timba nets are possessed by the BMU committee members, he went further adding that;

“Secondly, one of the roles of the BMU committee is to enforce fisheries laws but the BMU committee has interpreted this as allowing those who can pay bribery to fish and those who cannot pay are stopped as being illegal as noticed in our village”.

In his views this man concluded that the fisheries laws and BMU regulations seem to be discriminative and rarely the poor fishers comply with them. Indeed it is possible that these BMU committee members do not have enough understanding on the roles and the objectives of establishment of a fisheries co-management institution, in the same vein they may be trends of early school dropouts such that have little knowledge of their future livelihoods. It follows that if these are the actual trends, these people are necessarily unable to effect and implement the fisheries co-management regulations on others fishers. Thus, the knowledge foundation on which fisheries co-management system is founded does not support its implementation and fail to link poverty reduction goals with both their personal and institutional responsibilities.

Table 4.5: Respondent contribution on fishers’ compliance with fisheries laws and The BMU regulations

Villages	Fishers		Teachers		H/officer		DFO		Police staff		Total (%)	
	yes	No	yes	no	yes	no	yes	no	yes	no	Yes	No
Ihale	6	16	2	3	-	2	2	2	1	3	8	21
Kigangama	5	17	-	5	-	3					5	25
Chabula	7	15	-	5	-	3					7	23
Total	18	48	2	13		8	2	2	1	3	23	74
Grand total	66		15		8		4		4		97	

Source: Researcher, 2014

In fact this was confirmed by what was revealed through participant observation. Seining is practiced on the landing sites, where the BMU institutions have established their operation offices. Of course in this way implementation of the fishery co management through BMU committees not only promote inequity in the

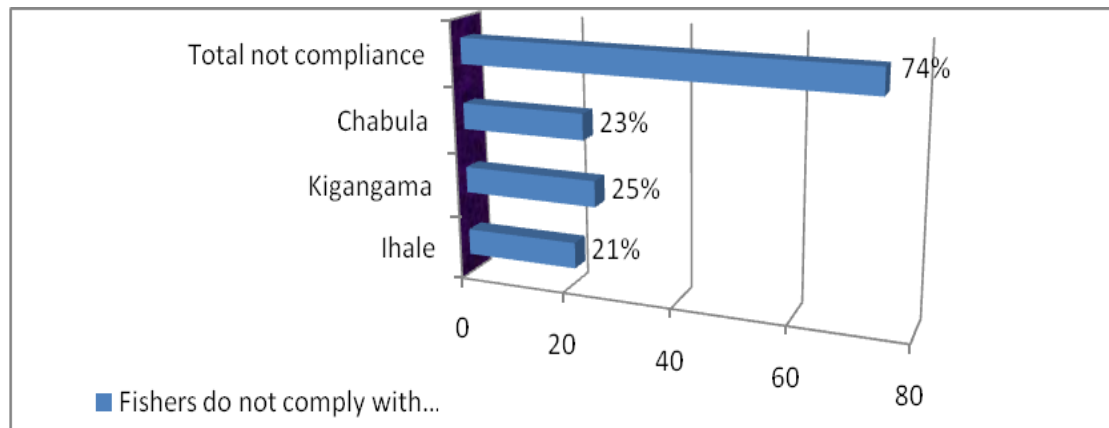
fishing communities but also deter compliance to the fisheries laws and the regulations.

URT, the Ministry of Livestock and Fisheries Development (2013) the audit office found that, there was an increase of use of illegal gears in Lake Victoria. In financial year 2010/2011 and 2011/2012 the increase of different types of gears was from 6,415 to 146, 657 respectively in all three regions of lake zone. This increment was contributed to the acute increase in the use of Beach seines by 368% from 394 to 145,302 because of high demand of local factory and communities and an increase of market forces for small size Nile perch in the neighboring countries of Congo, Rwanda, South Sudan and Burundi. Not all illegal fish dealers caught were subjected to court; the percentage of cases opened is inadequate.

In contrast 5 (5%) respondents at Kigangama said that the fisheries laws and BMU regulations are enforced and complied with the fishing communities. Responding on the discussion the village chairman said that a sharp decrease in the number of fishers at the landing sites is sufficient evidences that the laws and BMU regulations are complied with. However one anonymous further detailed that all fishers must at first register to BMU committee before engaging in the fishing activities.

Data from Chabula village however indicated that 15 (15%) respondents lamented that the fisheries co management through the BMU institutions has caused immense conflict at the villages because the implementation of the BMU committee duties rely on collecting money through indirect means by getting money from poor fishers as they (the BMU) issue them with fish movement permits (a document for transporting fish from the landing sites to the markets) that give them authority to leave the fishing villages and go to the markets to sell their fish. These claims are backed up with figure 4.15 village wise responses as you can see below.

Figure 4. 15: fishers do not comply with fisheries laws and the BMUs regulations



Source: Researcher, 2014

The information presented by figure 4.15 is village wise categorized; wherein substantiation entails both collective village wise responses and the grand total for all three surveyed villages. Figure 4.14 indicates that about 74 (74%) of the respondents commented that the fisheries co-management has had been unable to effectively enforce compliance with the fisheries laws and the BMU regulations. These facts are according to interpreted responses from individuals as it continues hereunder;

One veteran fisher as he named himself at Chabula village said that the BMU committees obtain money from the poor fishers using illegal means like arresting, selling and re-arresting the fishing nets. To keep up with money demand of the BMU chairmen and council members, the fishers fish more using illegal fishing means like seining nets and timbas as commonly known.

Bene, C. (2003) argues that this creates a vicious circle that goes on and on with a negative effect on the fisheries resource but enriching the BMU committee members. On the other hand 7 (7%) respondents said that the fisheries laws and BMU regulations are complied. Justifying their view these respondents said that many fishers have abandoned the traditional illegal fishing methods. To stimulate the discussion I asked whether those illegal fishing gears were voluntarily surrendered to the BMU committee. But they all declined.

Data collected from DFO staffs indicated that 2 (2%) of them said that the fisheries laws and BMU regulations are complied to while 2 (2%) other said the fishers and the BMU committees are the very persons violating the fisheries laws and BMU regulations. The later said when the DFO makes uninformed patrol in the fishing communities many seining nets and timba nets are regularly caught, they added that many a time one or more BMU committee members are caught all together with the other fishers practicing illegal fishing. In their comments these DFO staffs said most of the local fishers do not comply with the Fisheries laws and BMU regulations because evidences at the villages' market place show that undersized fishes surpass the recommended by catch volumes.

Interview with 5 (5%) teachers at Chabula village indicated all respondents said that the local fishers at the village do not comply with the fisheries laws and the BMU regulations. They further detailed that the BMU committee at the village is made up of the richest fishers whereby their wealth accrues to the use of seining and timba nets.

It is not surprising that the very fisheries surveillance institutions in the surveyed villages sell undersized Nile perches at the landing sites or buy them at the market places. This was observed during field surveys by the researcher in the surveyed area. The trends from key informant interview with the police officers indicated that 3 police staffs did not appreciate the fishers' compliance with the fisheries laws and the BMU regulations. This is in line with URT, National Audit Office (2013) the report puts it clear that BMUs have not effectively fight against illegal fishing on Lake Victoria; this is attributed by lack of enough support from other government institutions such as LGAs, Judiciary and Police Force, leaders from village government which are supposed to ensure that laws and regulations even in lake areas are adhered too.

Similarly, the Ministry of Livestock and Fisheries Development has not established a clear protection for the BMU officials while fighting illegal fishing in the Lake. The ability of BMUs in Monitoring and Control Systems is affected by a lack

of sustainable funding. These trends indicate that the fisheries co-management has had no significant contribution on poverty reduction among the local fishing communities in Lake Victoria basin.

One police officer said that the local fishers only seem to comply with the fisheries laws and BMU regulations on a day hours but engage in illegal fishing activities at nights. Explaining the real situation on the ground the police officer said that he used to make patrols on the beaches and he observes that in many fishing villages the people on the beaches run away to unknown where about when they notice that the police officers are approaching.

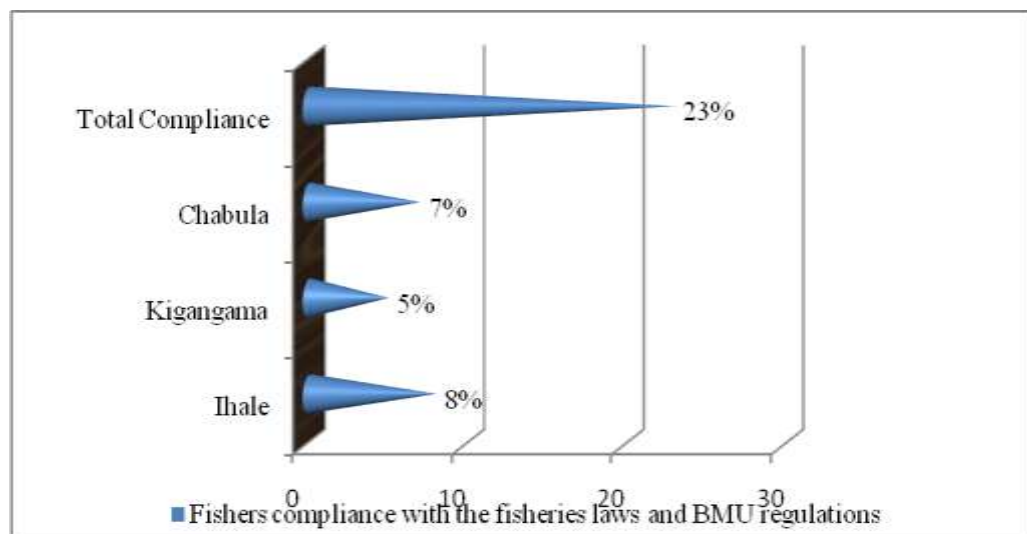
Again another police officer said that the local fishers were not sufficiently exposed to the rationale for implementing the fisheries co-management thus the fishing communities think that their livelihood is threatened by changing the right to access the fisheries resource to foreign investors. Sauper (2004) show that the Nile perch are fished and processed for export, all the prime fillets are sold to European super markets leaving the local people to survive on the festering carcasses of the gutted fish. The documentary sent a message to both the public and the Tanzania government as to why the local fish cannot be sold to the domestic market to counter the impending famine among the fishing communities.

BMU fails to produce rule compliance because the knowledge base on which the BMU institution is formulated is not grounded in the culture of the implementation bodies and the local people (Nunan & Scullion, 2004)

However 1(1%) police staff said that the local fishers do comply with the fisheries laws and the BMU regulations. On interview the respondent commented that the number of criminal cases has tremendously dropped since the fisheries co management was put in place. He added that theft and piracy incidences are seldom reported than before the introduction fisheries co management in the Lake Victoria basin. The respondent went further explaining that the BMU committee members know all the fishers at their respective villages, thus it has become easier to sit

together and warn those organizing illegal fishing activities in their villages. It can boldly asserted that the little has had been accomplished by the fisheries co-management to enforce the law and rules pertaining to sustainable management of the fishery resources. Figure 4.16 on the next page below provides no seminal persuasion on the fishers' compliance with the fisheries law and BMU committee rules in the fishing communities.

Figure 4. 16: Fishers do comply with fisheries laws and the BMUs regulations



Source: Researcher, 2014

The information presented by figure 4.16 is village wise categorized; wherein substantiation entails both collective village wise responses and the grand total for all three surveyed villages. Figure 4.15 demonstrates that only 23 (23%) of the total respondents accredit that the fisheries co-management has managed to effectively enforce compliance with the fisheries laws and the BMU regulations. In fact these statistical realities provides no decisive conclusion to affirm that the fisheries co-management has had contributed on poverty reduction among the fishing communities. These facts are according to interpreted responses from individuals as it continues hereunder;

An interview held at Ihale primary school with 5 teachers indicated that 2 teachers said that the Fisheries laws and BMU regulations are observed by the local fishers.

On the other hand 3 respondents said that the fishers do not comply with the fisheries laws and BMU regulations. One teacher further explained that the seining nets on the beaches are possessed by members in the BMU committees though employ local non BMU committee members to illegally use them. In fact the fisheries laws and BMU regulations still face critical challenges in their implementations.

ITV (2014) on 12 July 2014, evening national news segment it was reported that more than 400 seining nets, more than 150 timba nets and many other illegal fishing gears were gutted on fire in Mwanza city. According to the Mwanza region fisheries patrol manager the gutted gears were collected from Magu, Sengerema, Busega as well as Ilemela districts.

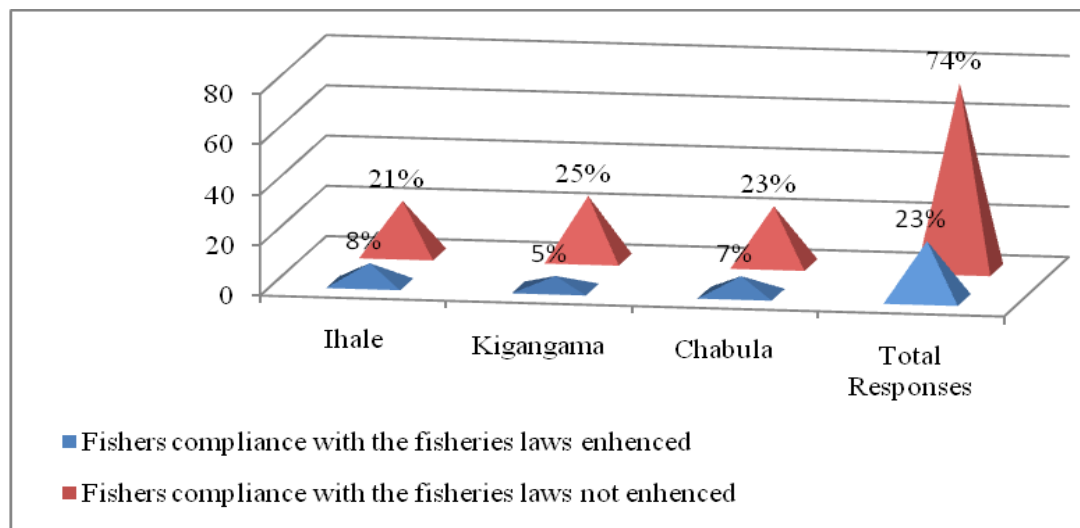
Again 5 (5%) respondents at Kigangama primary school and other 5 (5%) at Chabula village respectively said that the fisheries laws and BMU committee regulations have not changed the illegal fishing activities in the Lake Victoria basin. These respondents said that the undersized Nile perches are the only affordable for the poor local people not only on the beaches but also those up country communities. One teacher at Kigangama primary school said;

“local people in the villages always catch undersized Nile perches and it is the only fishes they can afford to buy for family consumption”.

BÉNÉ (2003) there is a connection between poverty, food insecurity, alternative jobs and natural resource degradation or fisheries overexploitation. The findings show that the fishing communities had been traditionally depending solely on fishery resources. This tendency of relying entirely on mono economy has resulted into depletion of the fishery resources threatening the livelihoods of those living on fishing employment. Indeed as the trends get irreversible the fishing communities continue to be stricken by poverty as no other livelihood choices. Similarly as the BMU institutions fail to abandon illegal fishing practices, it is likely that the poor fishing communities continue to unsustainably exploit the fishery resources leading to severe poverty in a long run.

Figure 4.17 ushers a broad picture on whether the fishers do comply with the fisheries law and regulations as well as the BMU committee rule or not. It can precisely be conceded that the compliance with the laws and rules managing the fisheries sector is unsatisfactory among the local fishing communities. Despite the daily surveillance on the lake shore as well as in deep waters, this study reveals a startling reality on the ground as statistics show below.

Figure 4. 17: Total compliance with the laws and the BMUs regulations in Fishing communities



Source: Researcher, 2014

The information presented by figure 4.17 is cumulative village wise categorized; wherein substantiation entails both collective village wise responses and the grand total for all three surveyed villages. The findings establish that 74(74%) of the total respondents said that fisheries co-management has had no significant contribution on improving compliance with the fisheries laws and the BMU regulations in the fishing communities in the Lake Victoria basin.

In contrast only 23(23%) of the respondents accredit the fisheries co-management for improving the compliance with the fisheries laws as well as the BMU rule and regulations in the fishing communities in Lake Victoria basin. Based on these statistical evidences it clear that the fisheries co-management has had not contributed

significantly on poverty reduction amongst the local fishing communities in the Lake Victoria basin because as the trends in illegal fish catch scale up, the possibility for poverty and vulnerability amongst the local fishing communities also scale up. These facts are according to interpreted responses from individuals as it continues hereunder;

As all interviewed health staffs said that the local fishers do not comply with the fisheries laws and the BMU regulations. Defending their view 2(2%) respondents at Ihale, 3 (3%) at Kigangama and 3 (3%) at Kitongo (a referential village to Chabula) out rightly said that they always buy the prohibited undersized Nile perches. They went further saying that at the local markets it is only the undersized Nile perch sold at affordable prices. All interviewed health staffs commented that illegal fishing is still practiced.

4.6 Chapter Summary and Conclusion

The study was set up to assess the contribution of fisheries co-management on poverty reduction amongst the local fishing communities in the Lake Victoria basin. Specifically the study aimed at identifying the roles performed by the BMU institutions in their respective villages. The findings reveal that the BMU institutions perform their roles as stipulated in the guidelines for establishment of the community based collaborative management units; however the findings put clear that these efforts have yielded little contribution on both poverty reduction and enforcement of fisheries laws and BMU regulations. Similarly the findings show that the fisheries co-management has little contribution on improving incomes of the local fishers and insignificant contribution on improving the education and health services amongst the local fishing communities in the Lake Victoria basin. In a nutshell, fisheries co-management is perceived as an economic drawback system by the local fishers in the Lake Victoria basin. In fact this is a necessary presumption amongst monoculture communities like the fishing community whose livelihoods solely depend on fishing activities. Any attempt to help them through interventions in the resource use is considered a threat to their livelihoods until resources are depleted or reach zero catch extent at optimum catch attempts.

As Banfield 1958 in Austin and Mack (2006) determined that the bulk of the blame for this poverty lay in a cultural trait he labeled ‘amoral familism’, which impeded the ability of individuals to engage in the political associations and create enterprises to promote economic development. Amoral familism is characterized by the incapacity of a cultural group to work towards any goal beyond the immediate material interest of the nuclear family. Rather than acting together for the common good, individuals possessing this ethos seek to “maximize the material, short-run advantage of the nuclear family, assume that all others will do likewise.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary of the Study

The study was set out to assess the impact of implementing fisheries co management on poverty reduction among the local fishing communities in Lake Victoria basin. The study deployed qualitative methods (interviews, focused group discussions and literature analyses) during data collection stage. A sample of 100 units was surveyed to accomplish this study. The community-based organization BMU was selected as the case study in order to investigate how it contributes to reduce poverty in the fishing community as a reflection of the current 7.5 GDP growth in Tanzania.

The poverty persistence amongst the small-scale fishing communities is certainly known and the scaling up fishing pressure has been tritely reported. However the findings revealed that fisheries co-management has had little contribution on both improving local fishers' incomes, access to and quality social services especially the public health and education.

Again the study reveals that the BMU institutions are ineffective in fisheries law enforcement as the situation at the ground indicates that there are frequent illegal fishing practices carried out both by the BMU committee members as well as other local fishers using illegal fishing gears such as seining nets and timba nets.

In a nutshell poverty is still a problem in the local fishing communities in the Lake Victoria basin. The fisheries co-management should therefore be reengineered in such a way that it is aligned to both the broad poverty reduction strategies especially the NSGRP I&II as well as to sectoral poverty reduction policies. Poverty reduction initiatives in the fishing communities should also be founded on the sociological context of the fishing communities as these people present a unique culture of poverty like large family size, alcoholism and single mother headed households. This are neither management nor structural issues but rather behavioral issues.

5.2 Conclusion

In a nutshell, overexploitation of the most world fisheries poses great challenges to the management of these resources. It was thought that fisheries co-management is the management approach that could curb and reverse the trends in Lake Victoria fisheries meanwhile improving the wellbeing of the fishing communities, but the findings of the study have indicated that the fisheries co management through the BMUs has contributed to poverty situation among the local fishing communities in Lake Victoria basin.

Despite the fact that fisheries co management was put in place since 1990's yet the illegal fishing methods threatens the sustainability of the fisheries resources and the fishers continue to survive on short term livelihoods. The BMUs are the organizations that bring together people involved in fisheries to work in collaboration with government and other stakeholders in managing the fisheries resources so as to improve the livelihoods of the fishing communities.

The study found out that there are a number of activities in fisheries resource management that are currently undertaken by the BMUs. Most of these activities are undertaken by the BMU committee members with relatively little support from other members in the fishing community. The BMU however has not been able to end the illegal fishing practices in the lake. Again the fishing communities have little knowledge about the nature and trends of the fish resource, and little incentives to effectively participate in the BMUs resource management activities hence local fishers use illegal fishing gears against the fisheries laws and the BMU regulations.

The BMU organizations were condemned for being weak in price negotiation with the fishery product processing plants a situation that compels the local fishers make decisions to implement the pre determined price choices of the processing plants. They are of the view that lives have become more difficult than before the co management

Although it is legally stated that the BMU organizations can participate in economic development activities for the benefits of its members, currently much effort of the BMUs is directed only on sustaining the fishery resources at the expense of local poor fishing communities in Lake Victoria basin. The poverty situation in these fishing communities has led them to choose the short-term priority of getting daily income to sustain their lives from the resource rather than the long-term objective of sustainable fisheries, as desired by both government and other development partners. Incomes have tremendously dropped and many fishers have automatically marginalized from benefiting the fisheries products. Majority of fishers have been arrested of engaging in illegal fishing practices, their fishing gears have been burnt leaving them helpless without any alternative means of earning money. Since these people are pure fisheries dependent and do not possess even a small farm plot, indeed their lives are startling.

Education service in the local fishing communities has not improved because the construction of beaches has had encouraged an ever increasing population along the landing sites, this has resulted into frequently reported cases of early pregnancies among primary school girl in all the surveyed villages. High school dropouts are among both boys and girls in the fishing communities. In fact education in the fishing communities is at odds with the increasing urbanization as a result of beach construction on the landing sites. Again parents and or guardians whose livelihoods depended on previous illegal fishing gears have failed to bounce back after the ban of the gears consequently they fail to pay for the school fees and other contributions as far as education needs are concerned.

The health services sector is also not well improved as far as fisheries co-management is concerned. HIV / AIDS is prevalent and a serious health problem in the fishing communities. It is too risky to live in a poor community yet over population like the fishing communities whereby prostitution has become an alternative income generating activity for young, youth and elderly women. The ramifications of which are high spread of HIV/AIDS, unplanned pregnancies, large family size and even single parenthood households as many die of AIDS. Again

there are no proper sanitation programs in the fishing communities, villagers do not have toilet at their homes rather hide themselves in bushes or shrubs for a long call of nature, they are used to fetch water from the lake and drink it un boiled hence susceptible to water born diseases. In short fisheries co-management is not connected to poverty reduction initiatives in the fishing communities but rather to ensure that illegal fishing gears are totally ended though this too faces more challenges as mentioned earlier.

The study was confined on a few selected areas which were assessed as to whether the management of fisheries resources through fisheries co-management system has had any significant impact on incomes, health services and education service in the fishing communities. Unfortunately the findings show that the education, water, health and environment sanitation have been irresponsive to the fisheries co management in the fishing communities. Since the sectors were not improved then poverty continues to hit the local fishing communities in Tanzania.

5.7 Recommendations

In the future however, the BMU institutions need to professionalize in both the sectoral policies and in fisheries resource management. This is important because the requirements for poverty reduction strategies need a sound managerial capacity of which is already stated that the BMU organizations lack such capacity and are uninformed of integrated policy implementation. The former is essentially important to provide the BMU committees with technical expertise to deal with issues relating to sustainable fisheries resource use while the later is intended to link fisheries co management with the broad National Strategies for Poverty Reductions such the (NSGRP II), the Medium Term Economic Frameworks (MTEFs) and specific sectoral policies. Thus improving local fishers' income as well as access to quality education and health services requires an informed management system on the prevailing government priorities towards poverty reduction initiatives.

Again an intensive and continuous community awareness raising and sensitization on the nature and trends of the fisheries resource, and responsibilities of the BMU

committee members in co-management arrangement is highly needed. This not only will place the local fishers in the position of resource ownership but also improve the fisheries management control systems. Awareness will enhance vertical accountability among fishers themselves and enable the local fishers to see new opportunities in the fishery sector hence increase in income and satisfactions, hence contributing to poverty reduction.

Based on the findings it is sufficient to comment that there is little government attention on the fishery sector; fishery co management using the BMU system should be strengthened in order to improve the contribution of the fishery sector to both house hold incomes and the overall national economy. The abysmal conditions in the fishing communities are a startling contrast from the image of a growing national economy at 7% GDP growth rate. Thus the 7% GDP growth rate should have a trickledown effect on the poorest fishers if the poverty reduction efforts are to be meaningful amongst the poor local fishers in the Lake Victoria basin.

This study provides a baseline from which further research can be conducted on changing livelihoods, attitudes and behavior of the local fishing communities as a result of the implementation of co management in the local artisanal fishing communities. The study was carried out over a matter of months and under severe financial austerity so there is a need for more longitudinal studies which would provide a deeper understanding of how fishery co management is proceeding, whether livelihoods are really improving and or fishery co management has had any impact on income, resource sustainability as well as on access to and quality social services within fishing communities in the Lake Victoria basin.

5.8 Policy implications

Unfortunately policy makers generally believe that economic growth can reduce poverty rates. However, this study has examined the relationship between Tanzania's economic growth at 7% GDP in 2013/2014 and poverty rates in local fishing communities, the findings reveal different trends. It is envisioned in the understanding of the author that GDP growth however great it may be, never can

alter the embraced cultures of poverty amongst the poor who have had been strategically positioned in the abundantly resource endowed community for years immemorial like the fishers. In order to effectively design and implement poverty reduction interventions in the local fishing communities, it is important to acquire a multi-level understanding of how these communities became poor and how related social problems impact future generations.

An immediate government intervention and investigation is needed to find out solutions to problems that impede poverty reduction efforts in the fishing communities. This should be done through examining the consistencies between the current poverty reduction strategies and the specific sectoral policies. For poverty reduction efforts to bear the desired results it is better that the obstacles and opportunities for development should be identified by the fishers themselves and strategies thereof should embrace their sociological context. This is a necessary approach as theoretical explanations on poverty include many variables as the causal agents of economic deprivation, such as individual characteristics, neighborhood effects and larger social systems. Bene, C. (2003), argues that examining how these sociological effects interact with fishing communities and with the poor to compound the problems associated with poverty is important.

The fisheries co-management system should be crafted consistently to poverty reduction strategies in the fishing communities. Opinions from the findings suggest that creating policies and actions towards reducing stakeholder vulnerability are necessary because the poorest among the fishing community members are most vulnerable as they are left on unemployment pay when the fisheries co-management is implemented. Similarly Allison and Ellis (2001) invariably put it that in many cases for the implementation of a co-management arrangement to reduce the gap between the desired and expected results is necessary, it is imperative to ensure that there is coordination within policies to ensure that poverty; vulnerability and marginalization of stakeholder groups are addressed.

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APPENDICES

Appendix I:

GUIDING QUESTIONS FOR FIELD SURVEYS

Interview questions for Teachers, Health Officers, Police officers and District Fisheries Officers

1. Do the BMUs truly represent fisher's community? How?
2. Are the BMUs legally registered? How?
3. What is the overall objective of BMUs?
5. How does the government-BMU partnership help local fishers raise their incomes?
6. Are there any significant improvements in fisher's incomes as per your own views? (How)
7. What does the government-BMU partnership do to support the special groups on the Lake Victoria (How)?
8. Are there any disabled persons in fishing activities on the lake? (How does the government-BMU partnership support them?)
9. Do you think the government-BMU partnership help improve education in the fishing communities? (How)?
10. On your own views how fishing activities affect school age children on the lake?
11. How does government-BMU partnership contribute to education affairs on the lake (how)?
12. What educational achievements can you account for as a function of government-BMU partnership on the lake?
13. Do you involve the BMU in controlling school age children from fishing activities? (How)?
14. How does the government-BMU partnership help improve health status on the lake?
15. Does the BMU involve health officers in controlling health problems on the lake? (How)?
16. Does the government-BMU partnership provide health awareness educational programmes on the lake? (How)?

17. What social group is mostly targeted by that health education programme?
(why)?
18. Do you the health officers involve the BMU committee in controlling
behavioral related health problems on the lake? (How

Appendix II:

Guiding questions Focus Group Discussions with BMU committee members and fishers (Villagers)

1. What do you know about BMUs?
2. What is the overall objective of BMUs?
3. Do the BMUs a true representation of fisher's community? How?
4. What were your expectations during government-BMU partnership formation on the lake?
5. How does government-BMU partnership help you raise income through fishing?
6. What was your income per month before government-BMU partnership formation on the lake?
7. What is your current income per month after government-BMU partnership formation on the lake?
8. Does the government-BMUs partnership provide affirmative support to fishers with special needs on the lake (How)?
9. What is the security situation on the lake? How does the government-BMU partnership deal with criminal issues?
10. What is the dominant social group in fishing activities on the lake? (why)
11. Are there any disabled persons involving in fishing activities on the lake?
12. What are the major fishing methods used by fisher?
13. Do you afford fishing by using the recommended government-BMUs partnership methods?(How)
14. What are your opinions with regards to the government-BMUs partnership regulations on the lake? (Why)?
15. How do you get your daily meal? (Has the government-BMU partnership helped you improve your nutrition?) Explain.
16. Do you have your own house/hut? How much did it cost you to build or buy it?

17. Does the government-BMU partnership help improve health status on the lake?(how)
18. How far is the health center from your home place? What transport do you use when sick?
19. What diseases are mostly prevalent here? (How do the BMUs help you to end the problems?)
20. Are there children of school age engaging in fishing activities? (Why?)
21. How does the government-BMU partnership help facilitate primary school education on the lake?
22. Where do you get safe water? How does the government-BMU partnership help you get safe water on the lake?
23. What do you opine in regards to the functions of the government-BMU partnership on the lake?