

2003 FISHERIES MANAGEMENT ACT AND COMPLIANCE OF FISHERMEN IN LAKE
VICTORIA, IGOMBE FISHING VILLAGE TANZANIA

A Thesis Presented To the School Of
Postgraduate Studies and Research
Kampala International
University

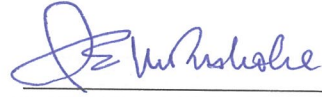
In Partial Fulfillment of the Requirements For
The Award of the Degree of Masters of
Business Administration

By
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SEPTEMBER, 2011

DECLARATION A

"This thesis is my original work and has not been presented for a degree or any other academic award in any University or Institution of Learning".



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Date



DECLARATION B

"I confirm that the work reported in this thesis was carried out by the candidate under my/our supervision".

Dr. Sumil

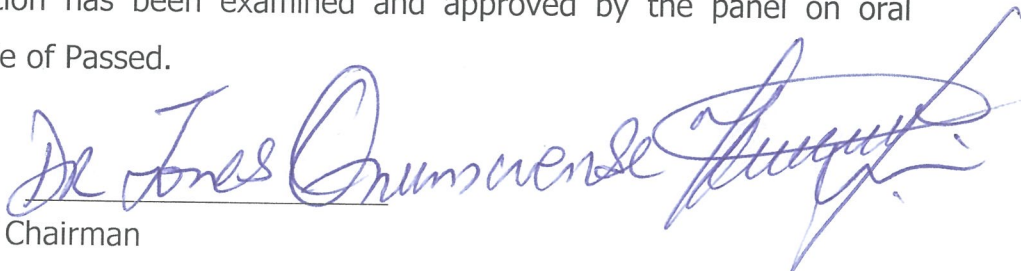
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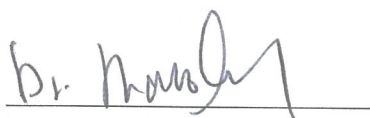
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APPROVAL SHEET

This thesis entitled " 2003 Fisheries' management Act and compliance of fishermen in Lake Victoria, Igombe fishing village Tanzania "prepared and submitted by Kaizilege Emmanuel Rushoke in partial fulfillment of the requirements for the degree of Masters of Business Administration has been examined and approved by the panel on oral examination with a grade of Passed.



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DEDICATION

I dedicate this work to all people who have given me moral and financial support in my postgraduate studies

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I thank the Almighty God for blessing me through this work. The researcher also acknowledges the guidance of my supervisor Dr. Sumil without tireless effort; this would not have been a success and is indebted to the lecturers for their support and guidance during my postgraduate studies.

The researcher is fully acknowledges the patience and understanding of my family members, my wife Josephina, my daughters Erica and Elina and son Elivis, who had to put my absence and seemingly lack of due attention during the duration of writing theses. I heartily thank them.

In a special way thank all the people who have supported me financially. May the Almighty God bless you. Last but not least I thank patience for typesetting this work and for her good and kind services throughout the courses

ABSTRACT

The main purpose of this study was to investigate the 2003 Fisheries' Management Act and compliance of Fishermen in Lake Victoria, Igombe Fishing Village Tanzania. A comparison was done between various factors to establish reasons for the prevalent trend. Relevant literature was reviewed based on the study objectives. The study was based on descriptive survey method. A total of 150 respondents from the Igombe fishing community gave responses to Questionnaires that had close and open ended questions. The study followed a paradigm of non experimental descriptive research which was a correlation study research design. Data was analyzed using frequencies and spearman's correlation coefficient to determine the level of compliance. The major findings study revealed were low levels of education, fishing illegalities, the fish act has lived out its objectives, political interference and high costs of recommended fishing equipment contributed to a negative correlation to the compliance of the fishermen in Tanzania and hindered the implementation and enforcement of the fish act in Igombe fishing community. The study recommended that there should be; All Laws including the Fish Act are dynamic depending on emerging issues. The Fish Act is outdated. As such, there is need to review the Law periodically to address the going concerns that emerge from time to time. There is urgent need for increased staff levels for implementation and enforcement of the fisheries law, and to develop human resources capacity in fisheries management, monitoring, controlling and surveillance, and that of other stakeholders to support government efforts. There is need to increase the capacity of the Department of Fisheries Resources in enforcement and prosecution of illegal, unregulated and unreported fishing and illicit trade in immature fish coupled with acquisition of equipment like patrol vehicles and communication gadgets needed for efficient enforcement of regulations in the Fish Act.

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CHAPTER ONE

THE PROBLEM AND ITS SCOPE

Background of the Study

In Western and Southern Africa the national-level legal frameworks began in the late 1990s to shift toward supporting co-management. Legislation in those years moved forward in Malawi, Zimbabwe, Mozambique, South Africa, Cote d'Ivoire and Benin Raakjær and Sverdrup (1999). In general the organization of government fisheries management and research services has not reflected any move towards co-management Donda, (2001), Hara and Raakjæ (2003). Only limited empowerment of the local fishing population can be observed in existing co-management efforts. Hara and Raakjær (2003). It is too simple to argue that the top-down implementation of co-management in Africa is attributed to a lack of political will, the situation is more complex. In fact, local co-management groups themselves often place great emphasis on their role as enforcers of government rules. Debates between local committees and government officers about the level of appropriate policing authority are common. Community-based organizations doing enforcement work related to issues including and beyond resource management is hardly an alien model in Africa. On Lake Victoria, for example, beach leaders, political parties and local voluntary crime fighters, all of whom make some rules but who are mainly enforcement groups for wider institutions, are a much more common model of local organization than autonomous resource management groups. Wilson (2002)

One of the most commonly heard criticisms of the community based natural resource management has been the treatment of rural communities as homogeneous (Wilson, 2003b). Within fishing communities' particular fishing rights or techniques are rarely the basis of a local identity Magrath (1989). Fishery conflicts usually express other kinds of divisions such as ethnicity. Malasha (2002), gender (Medard and Wilson, 1996), colonial domination (Malasha, 2002) and class (Malasha, 2002). This last category includes the very common conflicts between large scale and small scale fishing boats and operations (Platteau, 1989; Poiosse, 2002; Sene, 1985). Questions of security

and net theft are also significant problems and can be the main rationale for local organizing (Wilson, 2002).

Over the past 50 years, there has been a gradual evolution of global fisheries policy. Initially (1950-1980) fisheries production was expanded by 6% p.a. through a technocratic and productionist approach, reaching over 100 million tons in 1996. This was followed (1980-1990) by a phase of problem recognition, change and adjustment as over-exploitation became a serious problem and fisheries resources were transferred more to state control (1982, Law of the Sea Convention and declaration of 200-mile Exclusive Economic Zones). Since 1990, new perspectives on fisheries policy have emerged including more multi-disciplinary work, leading to the FAO Code of Conduct for Responsible Fisheries (1995) and calls to use these guidelines in developing new fisheries management systems. However, the necessary changes required to manage fisheries more effectively have been slow in coming. In many Developing Countries, fisheries policy still emphasizes expansionist and production-oriented objectives (as opposed to more broadly based ones), and fisheries management systems, often constrained by limited financial and personnel capacity, have been unable to control exploitation at all. In the worse cases, the fisheries are characterized by free and open-access conditions, accompanied by illegal, unregulated and unreported (IUU) fishing, resulting in severe overexploitation and resource degradation. In such circumstances, the fisheries sector cannot contribute effectively to national development. At times, the challenges to improved fisheries management may seem insurmountable, but there are also examples of successful fisheries management systems.

There is also a growing body of knowledge on the factors which affect fisheries management performance. Lake Victoria is the second largest fresh water body in the world that is endowed with enormous fresh water fishery resource. It has a total surface area of 68,870 km² and a total catchment/basin area of 180,950 km². The lake water is shared by Kenya, Tanzania and Uganda but the lake basin covers parts of Kenya (21.5%), Tanzania (44%), Uganda (15.9%), Rwanda (11.4%) and Burundi (7.2%). The Lake and its basin are endowed with a variety of natural resources that are of local, regional and global benefits. In addition to its environmental values such as

maintaining the hydrological cycle, the Lake supports hydro power generation and water transport. The Lake is the largest inland water fish sanctuary and a source of drinking, industrial and irrigation water. However, these benefits have for a long time been threatened by environmental degradation due to human activities as manifested by reduced fish stocks, decline in biodiversity, increased sedimentation and nutrient loads, wetland destruction and loss of littoral habitats and disposal of wastes from industrial, municipal and mining activities. The strategic location of the lake and the geographical distribution of the basin amongst the five Partner States provide a strong reason for development cooperation among the Partner States. Lake Victoria Research Initiative (VicRes) contributes to the achievement of the cooperation through collaborative research activities that address the challenges of development, livelihoods and natural resources management.

In Tanzania, Fisheries resources are essential for food and income. However, poverty is widespread and fishing households are vulnerable to loss or mismanagement of the fisheries resources. Fisheries management performance has been generally weak so far due to a lack of enforcement capacity, limited resources and lack of coordination between institutions involved. In an attempt to encourage greater participation in fisheries management by local level stakeholders, government has attempted to devolve power to local beach management units (BMU) and beach management committees (BMU). However, success has been limited in both countries. This has been attributed to a lack of support from the national Fisheries Departments concerned, conflict between the members of the BMU themselves, and mistrust between district extension staff and BMU managers. To overcome these problems in the future is going to take time, more dedicated investment, and mechanisms to build trust and understanding between the stakeholders involved [FMSPProject No. R.8196]

Statement of the Problem

For a long time, there have been attempts to generate information to guide policy on sustainable management of Lake Victoria and the basin. Given that

sustainable development hinges on informed decisions, in 2001 the East African Partner States (Burundi, Kenya, Rwanda, Tanzania and Uganda) signed an agreement with the Department for Research Cooperation of the Swedish International Development Agency (Sida/SAREC) to establish a research fund "The Lake Victoria Research Initiative (VicRes)." In 2002 VicRes came into existence as a research programme implemented by the Inter University Council for East Africa. The programme's core activity is to fund research in the East African region as part of the Lake Victoria Development Programme (LVDP), which focuses on environmental restoration and improvement of the livelihoods of people in the Lake Victoria Basin (LVB). Since then, staff from universities, research institutions and firms involved in research has been supported to undertake multidisciplinary, gender sensitive and regional research to enhance the scientific understanding of the poverty-environment nexus through generation and dissemination of information and technological innovations. VicRes has been implemented in Phases, an approach that allows incorporation of lessons learned, gaps identified and emerging issues in development, environment and natural resources. Considering that the development challenges facing the Lake Victoria Basin cannot be solved through short term interventions, Phases I and II of VicRes were envisioned as the beginning of long term efforts to build and enhance the capacity for sustainable development of the LVB. Despite the history of fisheries management often characterized more by failure than success there are possibilities for improving fisheries management performance in the future by adopting new approaches. Research programmes such as the VicRes have helped to identify and analyze the entry-points as described before. However, the further development of new approaches to fisheries management will need to overcome at least three challenges in the future as; resistance to change within fisheries management organizations, developing new fisheries management systems based on appropriate diagnosis and solutions to problems and disseminating and building capacity in new fisheries management approaches. In this study, the manner in which research can contribute to addressing these future challenges will be explored through the identification of a series of research priorities.

Objectives

General

To establish the challenges faced by the local fisheries management Igombe Village for curbing illegal fishing activities in the basin of Lake Victoria, Igombe Village in Tanzania.

Specific Objectives

- i) To determine the Profile of respondents in terms of age, gender, educational level, length of experience of fishing business.
- ii) To establish the extent of 1994 Tanzania Fisheries policies management Act in Igombe Village, Tanzania.
- iii) To determine the level of compliance of fishermen on the Tanzania Fisheries policies in Igombe Village Tanzania.
- iv) To establish if there is a significant relationship between the extent of the 1994 Tanzania Fisheries Act and the compliance of the fishermen Igombe Village.
- v) To recommend ideas and strategies to further improve the compliance of fishermen in Igombe Village, Tanzania based on the findings of the study.

Research Questions

- i) What is the Profile of respondents in terms of age, gender, educational level, length of experience of fishing business?
- ii) What is the extent of 1994 Tanzania Fisheries policies management Act in Igombe Village, Tanzania?
- iii) What is the level of compliance of fishermen on the Tanzania Fisheries policies in Igombe Village Tanzania?
- iv) Is there a significant relationship between the extent of the 1994 Tanzania Fisheries Act and the compliance of the fishermen Igombe Village?
- v) What ideas and strategies to further improve the compliance of fishermen in Igombe Village, Tanzania based on the findings of the study?

Null Hypothesis

There is no significant relationship the local fisheries management and illegal fishing activities.

Scope of the Study

Geographical Scope; Kenya, Tanzania and Uganda are direct neighbours encircling the shared Lake Victoria where the three borders meet at a single point. The lake itself is increasingly becoming a symbol of unity and strong cooperation between the three Partner States however the researcher will focus on the Tanzanian side of Lake Victoria.

Theoretical Scope; the study explored the theory of the barometric pressure on fishing feeding activity as one of the more interesting theories.

Content Scope; the study focused on; (i) To determine the Profile of respondents in terms of age, gender, educational level, length of experience of fishing business, (ii) To establish the extent of 1994 Tanzania Fisheries policies management Act in Igombe Village, Tanzania.(iii) To determine the level of compliance of fishermen on the Tanzania Fisheries policies in Igombe Village Tanzania. (iv) To establish if there is a significant relationship between the extent of the 1994 Tanzania Fisheries Act and the compliance of the fishermen Igombe Village.(v) To recommend ideas and strategies to further improve the compliance of fishermen in Igombe Village, Tanzania based on the findings of the study

Time Scope; the study was carried out from June 2010 to July 2011.

Significance of the Study

In spite of the importance and central role of the fishery sector in Tanzania in terms of providing for people's livelihoods and its increase role in contributing towards the national coffers, this field still remains one of the least studied subjects by social scientists and more so from a gender perspective. As Asowa-Okwe (1994) noted, fishing which is one of the oldest of human productive activities has received the least attention from social scientists and principally the bulk of the

literature on fisheries has been a product of endeavors of physical or biological scientists.

Since the livelihoods of people in fisheries communities are heavily dependent on the state of fish stocks, these communities have a clear, direct stake in the sustainability of fisheries based on these stocks. The co-management approach has therefore focused on the development of institutional and legal mechanisms to improve fisheries governance through the formation of BMUs to ensure that these stakeholders, particularly the marginalized poor, are able to engage in, and influence decision-making processes relating to fisheries management.

A number of other groups are dependent on fishing and related activities, including boat owners, traders, processors, gear producers and boat builders. These, together with a wider population of fish consumers, are all target beneficiaries who will gain from a more secure resource base and improved facilities and services at fish landings and in associated fisheries communities. There are also other beneficiaries who provide various services to fisheries stakeholders; these include credit providers, shop-keepers and government services involved in the sector.

Principal institutional stakeholders include fisheries departments and research institutes, training institutes and NGOs. These will benefit through either improved physical capacities or enhanced human resource skills, or in some cases through both. Private industry associated with fish processing and export is also a major stakeholder, including its employees, and one which benefits greatly not only from improved fisheries resources management, fish quality and market efficiencies but also by being integrated into decision-making management structures.

CHAPTER TWO

LITERATURE REVIEW

Concepts, ideas and Opinions from Authors

According to FAO outlines formal definitions of;

'Monitoring' the collection, measurement and analysis of fishing activity including, but not limited to: catch, species composition, fishing effort, by-catch, discards and area of operations. This information is primary data that fisheries managers use to arrive at management decisions. If this information is unavailable, inaccurate or incomplete, managers will be handicapped in developing and implementing management measures.

'Control' involves the specification of the terms and conditions under which resources can be harvested. These specifications are normally contained in national fisheries legislation and other arrangements that might be nationally, sub regionally, or regionally agreed. The legislation provides the basis for which fisheries management arrangements, via MCS, are implemented.

'Surveillance' involves the regulation and supervision of fishing activity to ensure that national legislation and terms, conditions of access and management measures are observed. This activity is critical to ensure that resources are not overexploited, poaching is minimized and management arrangements are implemented

Theoretical Perspectives

The effect of barometric pressure on fishing feeding activity is one of the more interesting theories. In short, the theory proposes that a dropping air pressure brings on feeding activity; rising pressure turns the fish off feeding, high pressure results in the fish moving to shallower water, and low pressure results in fish moving to deeper water. This article will provide an overview on barometric pressure, summarize various theories about why atmospheric pressure affects fishing activity,

and then summarize in tabular fashion the generally accepted fish behaviors with various barometric patterns.

Barometric pressure is the measure of the weight of the atmosphere above us. A barometer is used to measure air pressure. The earliest barometer consisted of a glass vacuum tube inserted into a container of mercury which was exposed to the pressure of the air. Increased air pressure would force the mercury up the tube in a height proportional to the pressure. The height was measured in inches (inHg) or in millibars (1 inch = 33.864 millibars). Although new types of barometers are now used, these measures are still in place. In general, 30 inHg or 1016 millibars is considered to be normal air pressure. In normal weather, 30.5 is considered extreme high, and 28.5 is considered extreme low. The measures are taken at sea level, a higher elevation has fewer atmospheres above it, and so a correction factor against the normal measure is needed depending on altitude.

It is believed that the effect of barometric pressure is greater in shallow water than deep, probably due to the pressure of the weight of the water in deep water being so high, that the air pressure above it is not relatively significant. The principal theory is that the effect of changing pressure on the swim bladders of fish makes them uncomfortable or dis-oriented. In this theory, the fish will move to feel well, or they feel bloated or full. With a lowering barometer, it is believed these fish move into deep water seeking higher water pressure and ride out the low pressure around structures. The theory suggests that just prior to change from a high to a low, fish will bite like crazy until the low hits and then stop. The difficulty with this theory is that water is 900 times denser than air, and generates significantly more pressure than air. In fact, a 3 foot wave will produce a variation of pressure more significant than can be expected from a change in atmospheric pressure through a dramatic change, and the wave effect is happening every few seconds, rather than the hours or days that the atmospheric changes takes to occur.

Frankly, given that the pressure of water depth is such a significantly greater factor than the pressure of atmosphere, it seems likely that the weather conditions created by changes in barometric pressure, such as clouds, rain and wind, have more effect on fishing than the barometric pressure alone. So in the opinion of the author, barometric change is a good indicator of fishing change, but it's not because of the pressure change by itself, as much as what other weather conditions are likely to occur because of the pressure change. Table 1 summarizes the barometric pressure, and observations on fish activity and fishing techniques.

Table 1
Barometric Pressure

Pressure Trend	Typical Weather	Fish Behaviour	Suggested Fishing Tactics
High	Clear skies	Fish seek cover; look for logs, weeds in shallows. If water too warm, will stop biting.	Fish structure close to surface, with shallow crank baits, poppers, etc..
Rising	Clearing or improving	Fish start to move out of deeper water. After a day or so, go to normal feeding.	Fish with brighter lures and near cover, moving from deeper water to shallower water.
Normal and stable	Fair	Normal activity.	Experiment with your favorite baits and lures.
Falling	Degrading	Most active feeding.	Range of different methods. Surface and shallow running lures may work well.
Slightly	Usually	Fish seek deeper water,	Use deep running lures

lower	cloudy	with water temp maybe also slowing them down. May need to settle before feeding again.	at a moderate speed.
Low	Rainy and stormy	Fish move to deeper structures, may not feed.	Fish deep structures, vary your methods.

Adapted from David (2005)

Related Studies

Policy Frameworks of the Management Bodies

The current National Fisheries Sector Policy and Strategy Statement (MNRT, 1997) was adopted by the Government in 1997 and are based on the overall objectives of the Government, including poverty reduction, creation of employment opportunities, increased food security, increased economic growth and sound environmental management. The main objective of the Fisheries Sector Policy is to promote conservation, development, and sustainable management of the fisheries resources and are addressed by the following 13 Policy and strategy statements:

Enhanced resource management and control mechanisms; efficient resource utilization and marketing; enhanced applied/strategic research; improved knowledge of fisheries resource base; Aquaculture development; Community participation; and Inter-sector collaboration and regional and international co-operation.

The fisheries policy fits quite well to other national policies. For example it takes into consideration the Poverty Reduction Policy (Ministry of Natural Resources and Tourism 1997, p.5), government reforms and the devolution of fisheries management with the local governments (Ngwilizi, 2001). It is argued that although the current government system is decentralized, power is still concentrated at the centre that is the central government within the ministries (Masalu, 2000, p. 492).

In 1998, the Fisheries Division developed an Implementation Plan (MNRT, 1999), which reflected the National Policy. This forms a basis for implementation of the Policy. Although this was a positive move towards the improvement of the sector, the Plan lacked empowerment capabilities as it is not consistent with the Fisheries Act No 6 of 1970.

In the process of operationalizing the Fisheries Policy and Implementation Plan, a step further was taken. This involved making a thorough study of the national fisheries which was conducted with the assistance of the Japanese Government and culminated in 2002 with the Master Plan on Fisheries Development (2002). In the Master Plan, fifteen priority projects were indicated, seven of which specifically targeting the coastal fisheries (2003). Although not all encompassing, the study managed to bring out potential problems and identified those areas, which if dealt with effectively would bring about positive changes in the industry.

In recognizing the special issues related to the coastal fisheries and to the marine prawn fishery in particular, the Division of Fisheries instigated the development of a Prawn Fishery Management Plan with the assistance of the FAO ([UN FAO TCP/URT/0168](#)). In following a participatory approach, a series of workshops were held in which representatives from the small-scale, newly developing mid-scale and industrial sectors as well as representatives from District and National Governments; drawing on experiences from other national projects with experience in community-based management of natural resources. A draft plan was approved by the participants and is in the process of being finalized by the Division of Fisheries. The Prawn Fishery Plan mirrors the Master Plan in that it identifies issues related to the management and development of the coastal fisheries, such as research needs, increased control on fishing effort, and assisting in processing and marketing within the small-scale sector. The Prawn Fishery Plan highlighted the need to establish a National Prawn Fishery Management Advisory Committee as an apex body to advise the authority on the prawn fishery at national level. At the local/village level, it was considered very important to

establish what was referred to as Village Resources and Environment Management Committees (VIREMACO).

Other relevant policies; In the Marine sector, there are several policies relevant to fisheries and may influence the development of this sector. Such policies include:

National Tourism Policy, 1999; National Forest Policy, 1998; the Wildlife Policy of Tanzania, 1998; the National Investment Promotion Policy, 1996; National Environment Policy (MNRT, 1997) and Agricultural and Livestock Policy, 1997

Coastal areas are known for their potential in attracting tourist activities. These activities along the coast claim areas that are vital for the coastal ecosystem to sustain coastal resources including fisheries. Construction of tourist hotels may lead to clearance of mangrove area known to be important on the sustainability of the marine ecosystem and those fisheries that rely on such habitats. In this case, the fisheries policy on its own may not be adequate in addressing issues pertaining to the sustainability of the prawn fishery.

Likewise, the Investment policy may not take into consideration the question of the maintenance of coastal marine environment in its promotion of development. Such promotion may lead to excessive deposition of industrial effluence and negatively affect the marine ecosystem and thus the fish resources there in. In this case, an Environment Policy becomes an extremely important tool in maintaining the natural environment through, for example, the requirement of Environmental and Economic Impact Statements before the approval of development plans. Such a policy is in advanced drafting stage in Tanzania.

Apart from the above policies, there has been an effort to develop guidelines to ensure environmental sustainability when undertaking new economic activities and include:

Mari culture Investment's Guide (2001); Guidelines for Coastal Tourism Development in Tanzania (2003); Investors' Guide to Tanzania (1998), this provided relevant information for investors but also investors are guided to consult relevant ministries where technical information to facilitate their investment is required.

LEGAL FRAMEWORK

The 1970 Fisheries Act repealed the Fisheries Ordinance Cap 295 (Mongo, 2000) that was enacted during the colonial regime. The Fisheries Act No 6 of 1970 sets a legal framework within which the fish resource would be managed, conserved, protected by protecting breeding sites, nesting sites as well as prohibiting destructive gears. Harvesting rights are defined in the Fisheries Act No 6 of 1970; however this Act has been reviewed and replaced by the new Fisheries Act No 22 of 2004. (see appendix)

Since 1975, efforts have been made to manage marine reserves through Marine Reserves regulation of 1975. However it was not until 1994 that the Marine Parks Unit was established under the Marine parks and Reserves No 29 of 1994. Through this Act, two marine parks have been established and several small islands declared as marine protected areas, particularly around Dar es Salaam. In 1995 Mafia Island Marine Park was established followed by Mnazi Bay Marine Park in 2000.

Further steps are being taken to review principal regulations to accommodate new development in the industry and cater for the legal requirements of the new Act and the Fisheries Policy of 1997. It is important to note that an element of harmonizing the regulation has been considered to put into consideration the international obligations, requirements with reference to FAO Fisheries Code of Conduct (FAO, 1995). Even at local level, the Local Government authorities have considered the harmonization of legal framework particularly when developing by laws in areas where the managed resources are shared. This is important since fish does not recognize political boundaries.

Management of fisheries resources has been the responsibility of the government (Ministry of Natural Resources and Tourism 1997, p.19). The main Fisheries Act and regulations thereafter empower government personnel to manage the fisheries resources in Tanzania. It is in accordance to this Act, that the government and its agencies oversee fish resource management and development. Under the current government structure, the Ministry of Natural Resources and Tourism formulates policies, laws and revises fisheries legislation. It has the role to ensure that the resources are managed in a sustainable way and optimally utilized for the benefit of the people. Adapted from Bulayi (2001), the formal government institutional set-up and decision-making mechanism for Tanzania fisheries is shown in Figure 1. This system involves long lines of communication and it is complex. Other government departments, which provide support services to fisheries management, include Tourism, Forestry and Wildlife. The roles and responsibilities of "participating institutions" in implementing and monitoring the National Fishery Policy are clearly defined in the Policy and Strategy Statement and are crucial in the process of making effective contribution towards coastal resources management.

Monitoring, Control and Surveillance (MCS); In Tanzania, a national MCS programme, involves law enforcement agencies and other stakeholders including communities in monitoring fisheries activities. The core functions of MCS as stipulated in the law include issuing fishing licenses, prevention of illegal fishing and the enforcement of fishing gears and other restrictions particularly in inland waters.

Fisheries enforcement is done both at national and local levels where the local authorities are involved. Generally the costs associated with implementation of this mechanism are too high to be met by the government alone. In the process, Fisheries patrols have been organized and conducted in near and offshore marine waters. In both inshore (prawn fishery) and offshore waters where large vessels are involved, observers programme has been developed and implemented. In this respect, the monitoring of the prawn fishery is done through such a programme in the three specified zones. In

recent years the Government has considered developing system, which would involve fishing communities in implementing MCS.

Effectiveness of the Policies of the Management Bodies of the Lake Victoria Basin Fisheries

The fisheries sector in each EAC Partner State operates under the wider umbrella of national development frameworks. In all three Partner States, significant developments have taken place through revision and updating of their national Poverty Reduction Strategy Papers (PRSPs). The PRSPs provide the strategic frameworks which guide national development through Medium Term Expenditure Frameworks (MTEF) and national sector plans and budgets. All three States are striving to achieve the Millennium Development Goals (MDGs). Sector plans, and national and regional projects within these plans, must be closely aligned to the wider development objectives and strategies set out in the PRSPs and must clearly demonstrate their contributions to poverty reduction and economic growth.

In Tanzania, the National Strategy for Growth and Reduction of Poverty (NSGRP), 2005-2010 focuses on poverty reduction and stresses that economic growth is necessary but not sufficient for poverty reduction. To achieve this equity issues must be addressed under an enabling environment of good governance. The NSGRP recognizes the significant contribution that natural resources play in economic growth and poverty reduction and highlights the need to address unsustainable exploitation of these resources and to introduce improved co-management of resources by involving communities. One of the key aims of the NSGRP is to diversify rural livelihoods to relieve increasing pressure on common property resources. An issue of direct relevance to capture fisheries is the need to promote improved utilization of nutrient rich foods (e.g. fish), particularly in rural areas. This is viewed as being even more urgent given the increased prevalence of HIV/AIDS amongst vulnerable groups such as fisheries communities. The use of child labour in the agricultural sector is identified as a major

concern; again this is of particular relevance to fisheries. The NSGRP is committed to deepening decentralisation, strengthening the capacity of local governments and establishing effective participation of civil society in decision making, equitable representation in institutions, and fair and accountable systems at all levels within and outside Government. All sectors are expected to revisit their respective sector development plans to ensure close alignment and coherence of these plans to national prioritized development goals.

Building and Strengthening Civil Society Organizations; BMUs were first established in Tanzania on Lake Victoria with the support of the Lake Victoria Environmental Management Project (LVEMP) which built on landing site committees established as a result of the EU bans on Nile perch exports in the late nineties. The way that BMUs were set up varied between landing sites and there were no clear guidelines or regulations for their establishment, structure or operation. As a result, BMUs were not socially inclusive, comprised only a small number of people and were not founded upon democratic elections or principles.

In Tanzania, the DFR, in partnership with the ILM project, recognized the opportunity that the concept of BMUs in Uganda and Kenya offered and began a systematic process to establish fisheries co-management in Uganda based on BMUs. This involved the participatory development of national BMU guidelines and law over a two-year period. As part of the ILM project, over 205 BMUs were formed on lakes Kyoga, George and Edward in accordance with the national BMU Guidelines and BMU legislation. All BMUs received systematic training in how to operate as a BMU and in financial management and fisheries management. Through NGO involvement and donor support, a small number of BMUs were also established at landing sites on lakes Albert and Victoria in accordance with the national guidelines and law.

The experience gained by DFR and ILM in building BMUs in Tanzania was later systematically applied by the LVFO, with support from the IFMP project, on Lake Victoria. In 2004, the LVFO agreed to develop harmonized guidelines for the establishment and operation of BMUs on Lake Victoria. The guidelines were supported

by the development of national BMU legislation in each Partner State. The Ugandan national BMU guidelines provided a solid starting point for developing the Lake Victoria Guidelines and national BMU regulations in Kenya and Tanzania. The IFMP project went on to support LVFO in reforming BMUs on Lake Victoria in Kenya and Uganda and forming BMUs for the first time on the lake in Tanzania. By the end of 2006, the establishment process was complete and a total of 1,087 BMUs were established on Lake Victoria. This was an historic moment for the lake which paved the way for fisheries co-management. All BMUs were then trained in operating as a BMU and in financial management. BMU training continues under the IFMP project.

Reshaping and Strengthening Government Fisheries Institutions; In Tanzania, the DFR and ILM project collaborated closely in developing strategies to strengthen fisheries institutions at all levels and to ensure that they were well-linked at macro-meso-mico levels. It was agreed that at local level, the most effective way to strengthen the public-private partnership between BMUs and Government was to build the capacity of local government fisheries officers in parallel to BMUs and to use them as agents of change in establishing the BMUs. This was undertaken and completed successfully on lakes George, Kyoga and Edward. The same process was adopted two years later at regional level by the LVFO and the IFMP project on Lake Victoria. The process involved training of fisheries officers to serve as change agents as part of an extensive awareness creation programme so that each landing site was reached by a trained officer, usually a fisheries officer, but sometimes officers from other sectors, such as community development.

At a lake wide level (meso-level), DFR and ILM worked with Local Governments in fisheries and other sectors (e.g. wetlands, wildlife, forestry, NEMA) over a two year period to create the first Ugandan lake management organization (LMO) on Lake George called the Lake George Basin Integrated Management Organization (LAGBIMO). This new institution was based on existing institutional mechanisms which allowed district governments to form associations. It went further by incorporating BMUs in all its structures. Although the process of forming LAGBIMO was supported financially and

technically by the ILM project, the resultant structure was decided by its stakeholders. The project cautioned against building a structure too large that it becomes unaffordable but the warning was not heeded (see Section 5.3). The funding of LAGBIMO was agreed to be from contributions by its members, i.e. local governments and BMUs. The process was later repeated on Lake Kyoga where the Lake Kyoga Integrated Management Organization (LAKIMO) was formed in 2003. Here, despite being a much larger lake, the institutional building process took less time because of lessons learned from Lake George. A major difference between the lakes was in the number of BMUs, on George there were only 8, whereas on Kyoga there were 192. This meant that BMUs had to form associations at higher levels to enable democratic representation at the highest lake wide level in LAKIMO. These LMOs provide institutional linkages between central and grassroots fisheries management institutions and bring together national institutions, local governments and communities who have a stake in lake resources.

In all three Partner States, there are intentions to reform fisheries management structures at national level to improve efficiencies in service delivery, retain direct control of revenues raised from the fisheries sector and broaden stakeholder representation in decision-making bodies on how these funds are utilized for management and development. In Tanzania, this process covers only marine fisheries whilst in Kenya and Uganda, it covers inland fisheries. The ILM project provided technical support to DFR in developing the proposed structure, functions and financing of the Tanzania Fisheries Authority (TFA). Technical support was also provided by the IFMP to promote UFA and to help the Department of Fisheries design the Kenya Fisheries Development Authority (KFDA). These new Authorities, when established, will link closely with the LVFO and other lake management organizations. Approval has been given by Government for the establishment of UFA but its legal establishment is dependent on Parliamentary approval of the new Fisheries Bill.

Developing and Harmonizing Enabling Laws; The development of supportive legislation providing legal identity and power to fisheries institutions at micro-meso-macro levels was regarded by national fisheries institutions, ILM and IFMP as being essential for the establishment of a functional fisheries co-management system. This involved the development of BMU regulations in each partner State, the updating of national Fisheries Acts, developing legal recognition for regional lake management organizations e.g. LVFO through its Convention and, in Tanzania, LAGBIMO and LAKIMO through their Constitutions; legal empowerment of new Fisheries Authorities e.g. UFA and KFDA. With regard to national Fish Acts, Tanzania has developed and recently updated Act in 2003, Tanzania is awaiting submission of its Fisheries Bill to Parliament and Kenya is in the process of finalizing an updated Fisheries bill for submission to Parliament. ILM and IFMP provided technical support in drafting Bills in Uganda and Kenya respectively. Legislation empowering community BMUs in Uganda was enacted in 2003, BMU regulations were approved in Tanzania in 2005 and Kenya has developed a very detailed set of highly supportive BMU regulations awaiting submission for approval. The ILM project supported Uganda whilst the IFMP supported Kenya and Tanzania in these legislative developments. On Lake Victoria, the IFMP project is supporting LVFO harmonize a variety national laws relating to fishing gears, fishing methods, licensing procedures, gazetted landing sites, control of fishing effort in order to improve management.

Collection and Analysis of Information for Planning and Management; Regular collection of monitoring information to assess the state of fish stocks and understand the environmental, social and economic impacts of management measures is an essential component of any fisheries management plan. The means of collecting such information can vary greatly depending on many factors but size of the system is one of the key influencing factors. On the relatively small Lake George, the ILM project established a fisheries information collection and analysis system which closely involved the communities themselves.

On the very much larger Lake Victoria, a wider range of fisheries surveys were established using regional Standard Operating Procedures for trawl, hydro-acoustic, gill-

net, light-fishing and periodic census surveys. Communities were involved in catch assessment surveys but not as closely as on the smaller lake. Lake Victoria also provided a more reliable time series of data upon which to base fish stock assessment. The IFMP project provided technical assistance to develop an innovative Fisheries Management Decision Support Tool (FMDST) to help managers take important management decisions secure in the knowledge that data upon which the decision was based, were collected and analyzed in manner agreed across the three Partner States. This was viewed as particularly important by the LVFO given a history, prior to IFMP, of disputed data and conflicting views on stock status.

Participatory Control of Access to Fisheries; With increasing human populations, the open access nature of fisheries has attracted many newcomers to lake fisheries resulting in at least a doubling of fishing effort on many lakes over the past decade. Since the mid-1990s, there have been signs of decline in many of the dominant fisheries, with classic indications such as declining catch per unit effort, a reduction in age/length at maturity, higher mortality, and an increased proportion of immature fish in the catches. The ILM project worked on two very different lakes with regard to access control. Lake George was a "controlled" lake with a limit on the number of fishing boats and nets allowed on it by central government. This system had been in place since the fifties and there widespread dissatisfaction with the way it operated. In contrast, on the larger, Lake Kyoga there was no limit on boat or gear numbers. As part of deepening decentralisation, the DFR delegated responsibility for fisheries licensing to local governments and ILM seized the opportunity to help DFR go further by involving BMUs in the licensing process and to use licensing as a local management tool. A system was established that vetted all applicants, provided allocations to women and crew as well as the traditional dominant boat owners and spread access by allowing only one boat license per household and favored locally resident households rather than outsiders. The new system had massive impact on peoples' attitudes and perception, and for many people this was the first time that they realized the potential power of the

new co-management system on their livelihoods. The new participatory system of licensing positively addressed key governance, poverty and gender issues.

Sustainable Financing of Co-Management Institutions; Sustainable financing of fisheries institutions at all levels is essential for their functioning and survival. Funding by Government is seriously inadequate in Kenya and Uganda, highlighting the urgent need for fiscal reforms within the fisheries sector. In Tanzania, the Fisheries Division established a Fisheries Retention Scheme deriving funds from levies and royalties on fish exports from Lake Victoria (Nile perch) and marine waters. It uses these funds to support priority fisheries programmes. More recently, a Deep Sea Fisheries Authority has been established in Tanzania which will retain revenue from the marine fisheries EEZ to be used for management and development purposes. In Uganda and Kenya, the national fisheries institutions are intending to establish more autonomous national Fisheries Authorities with powers to directly retain revenue generated by fisheries and use it to fund fisheries activities.

All sources of revenue for fisheries management which are, or will be, generated directly from fisheries will be based on a "User Pays Principle". This principle is being applied to the fish export industry in the three Partner States. Studies on establishing a Fish Levy Trust by levying a fee on the export of Nile perch from Lake Victoria were undertaken with support from LVEMP and a regional synthesis report made recommendations for regional harmonization. In July 2006, a levy on the export of fish and fish products was agreed for the first time in Uganda but has yet to be implemented. Once implemented, the next step will be to agree on how funds are distributed between institutions and programmes and who will take decisions on these funding allocations. The User Pays principle also applies to the revenue generating powers bestowed upon BMUs through regional and national BMU guidelines and national legislation. In two countries, Uganda and Tanzania, in addition to revenue raised by BMUs through charging user fees, the District Local Governments operate fisheries tax collection systems that are tendered out to private individuals as a means of raising local tax revenue. The funds raised in this way are not normally reinvested in

fisheries management or development but diverted to other priority development programmes such as health and education.

Participatory Enforcement of Fisheries Rules and Laws; As fishing effort increases and catches per fishermen decline, fishermen often resort to illegal methods and gears to maintain their catches and incomes, inevitably catching smaller, often immature and less valuable fish. Actions to address this issue were similar under ILM and IFMP involving the establishment of transparent, accountable patrol operations undertaken at inter-district level and involving BMU representatives in patrols. On Lake Victoria, given its size and international boundaries, patrol activities were also undertaken at national level. It was, however, realized by the IFMP project that even this participatory approach may not be enough to significantly reduce widespread illegal activities. The project is therefore currently adopting a "carrot and stick" approach. In addition to the punitive patrol approach, the project is introducing incentives and rewards for achieving local reductions in illegal activities by BMUs and Local Governments. It is also exploring practical and cost effective ways to transform illegal fishing operations into profitable legal enterprises.

The Coping and Transformative Strategies Adopted By Fisheries

As far as coping and transformative options are concerned, fishermen respond differently to situations. Assmo (1999) states that people's formation and involvement in social groups or movements is seen as a survival strategy that most often demand access to modernity. While there is a dearth of literature on the gendered coping mechanisms under situations of commercialized fisheries, some studies on coping strategies under other situations exist. For instance Madanda (1997) and (2000) while studying household food security found that men and women cope differently in situations of hunger. For example whereas men easily worked for food, women had to obtain permission of their spouses. Some men did not allow their wives to work for food considering it a public shame. Bangura (1994) who observed that individuals and households cope through income

diversification strategies also defined coping strategies as “ways ordinary individuals and households organize themselves to make a living.” Hence, it is pertinent to establish how changes generated by commercialized fisheries are being responded to by women and men.

On the other hand however Gibbon (1993) shows that communities often organize ... beyond just one function. Thus beyond coping it is useful to establish how women and men are changing or influencing the new situation namely the way they are transforming it and with what alternatives which we refer to as transformative efforts. The transformative strategies are understood within the broader women’s empowerment debate that involves change at individual level, intermediate and structural levels and is also context specific (Wieringa 1994 and Kabeer, 2001)

In summary, none of the studies reviewed above make comparisons of the fishing communities around Lake Victoria. Further apart from Olinga (2000) who looks at gender considerations in resource allocation and fisheries development, most of the others studies consider fishing from largely a sociological viewpoint, a natural science based angle or from a “neutral” perspective. Fisheries management bodies are not taken as an integral core variable in the studies. None indeed focuses on the challenges faced by Fisheries management bodies. This research study thus builds on these gaps to present a comparative picture in a situation of the fisheries sector in Tanzania.

CHAPTER THREE

RESEARCH METHODOLOGY

Research Design

The study followed a paradigm of non experimental research which was a survey research because it involved soliciting responses from the respondents once and for all. In order to save time and costs the researcher employed a descriptive correlation study design.

Study Population

The study targeted 240 respondents in Igombe fishing village in Tanzania.

Sample sizes

From the target population of 240 Fishermen, Slovenes' Formula of 1978, was considered to calculate a representative that would be able to give accurate views concerning compliance of fishermen. The sample size was 150 based on the computation.

$$n = \frac{N}{1 + Ne^2}$$

Where n = the sample size

N = Population

e = the level of significance and this is 0.05.

Sampling Procedure

Simple random sampling was used in order to avoid biasness and stratified random sampling technique was used to select the samples according to their levels of compliance.

Research Instruments

Questionnaires; Structured questionnaires were administered by the principal researcher and research assistants to 150 respondents consisting of various

categories of the fisher community chosen randomly from the fishing village. This type of formal interview was useful mainly for comparative purposes since all the respondents answer the same set of questions, which supports a comparative analysis of certain variables of relevance to the research.

Validity and Reliability of the Instruments

Validity; After constructing the questionnaire, the researcher contacted the supervisor and three other experts. Hence, the researcher established the validity of the instrument by the use of expert judgment. Some of the items that were recommended to be removed from the instrument were removed. Then the researcher made appropriate adjustments until the instruments were declared valid.

Reliability; There are two common methods of assessing questionnaire reliability. The method selected for this study was internal consistency method. This method involved a single pre-test group and indicated the degree to which the items in the questionnaire are inter-correlated. In this study, the split half reliability or sub divided test was calculated to further ascertain the coefficient of internal consistency. The test scores were split into two subsets, placing odd numbered items in one sub set and the even items in the other sub set. The scores were then computed for each individually using the Pearson product moment formula. Overall, the questionnaire had a CVI index of 0.8 which was above 0.7, thus it was acceptable as valid. Following the calculations, the results revealed a product moment which meant that the instrument was 80% reliable. This rendered the instrument appropriate for use.

Data Gathering Procedure

Before going to the field the researcher obtained an introduction letter from office of the director Postgraduate Studies. This introduced the researcher as a student attempting to carry out an academic research. The researcher sought permission from the concerned authorities of the Fishing community to access the respondents and to be introduced to them. To ensure promptness and accuracy some of the questionnaires were administered by the researcher and others administered by the research assistants that the researcher employed. The data was analyzed and a

draft report prepared on the same from primary and secondary sources that was submitted.

Data Analysis

The data was cleansed in order to screen the un wanted data from the data that carried meaning to the study. This was then late coded under themes that give more meaning to the data that was collected. The results were then presented in form of table and percentages for easy comprehension and later deductions were made from the analyses. The questionnaire items are scored 4 for the most favorable response (Strongly Agree); 3 for a favorable response (Agree); 2 for a fairly favorable response ("Disagree") and 1 for unfavorable response (Strongly disagree). The spearman's rank correlation was used to compute the relationship between the compliance of the fishermen towards the 1994 Tanzanian Act of fishing. In order to understand the analysis of the data collected from the respondent, the following numerical values and interpretation were utilized for the obtained means

Mean Range	Response mode	Interpretation
3.20 – 4.00	Strongly Agree	High
2.51 – 3.25	Agree	Moderate
1.76 – 2.50	Disagree	Low
1.00 – 1.75	Strongly Disagree	Very low

Ethical Considerations

To ensure that ethics is practiced in this study as well as utmost confidentiality for the respondents and the data provided by them, the following were done: (i) coding of all questionnaires; (ii) the respondents were requested to sign the informed consent; (iii) authors mentioned in this study were acknowledged within the text; (iv) findings were presented in a generalized manner.

Limitations of the Study

The limitations that may hinder the validity of this study may be as follows:

1. Intervening or confounding variables which were beyond the researchers control such as honesty of the respondents and personal biases. To minimize such conditions,

the researcher requested the respondents to be as honest as possible and to be impartial/unbiased when answering the questionnaires.

2. The research environments were classified as uncontrolled settings where extraneous variables might have influenced on the data gathered such as comments from other respondents, anxiety, stress, motivation on the part of the respondents while on the process of answering the questionnaires. Although these were beyond the researcher's control, efforts were made to request the respondents to be as objective as possible in answering the questionnaires.

3. Testing: The use of research assistants might have rendered inconsistencies such as differences in conditions and time when the data was obtained from respondents. This was minimized by orienting and briefing the research assistants on the data gathering procedures.

4. Instrumentation: The research tools were non standardized hence a validity and reliability test was done to arrive at a reasonable measuring tool.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

Analysis of Research Question one: The Profile of respondents in terms of age, gender, marital status and educational level

The respondents interviewed had some commonalities in terms of; age, marital status, education, and gender; their fishing practices were diverse, thus making the groups far from being homogeneous. Despite the commonalities, the participants came from a variety of classes, educational and fisheries management levels hence having varying amounts of information on; cultural, social, educational and most importantly, fisheries management and development within and outside Igombe Village. See table 1 for the details about characteristics of the respondents.

Table 1: Shows profile of respondents in terms of gender, age, marital status and educational level

Profile	Description	Frequency	Percentage
Sex	Male	116	77.3%
	Female	34	22.7%
Age	Below 20 years	12	08.0%
	20 – 25	25	16.7%
	26 – 30	61	40.7%
	31 – 35	30	20.0%
	36 – 40	18	12.0%
	Above 40	04	02.6%
Marital status	Single	31	20.7%
	Married	92	61.3%
	Widow/widower	17	11.3%
	Separated /Divorced	10	06.7%
Level of Education	No School formal Education	67	44.7%
	Primary	52	34.7%
	Secondary	22	14.7%
	Diploma	07	04.6%
	Degree	02	01.3%
	Post graduate	00	00.0%

Age; Almost 97% the respondents were below the age of 40. Among them, 25 were between the ages of 20 and 25, 61 were between 26 and 30, 30 were between 31 and 35, 18 were between 36 and 40, and 4 were above the age of 40 years representing 16.7%, 40.7%, 20%, 12%, and 2.6% respectively. The results show that fishing activities are mostly done by people of between the age of 20 and 40. This seemed to suggest that it is the age bracket when most people are very energetic and active given that fishing activities require a lot of energy and commitment. A small numbers of respondents below the age of 20 years that conforms to the fact that persons below the age of 18 are not allowed by law to go fishing as a management measure that BMUs have vigorously enforced and those above 40 years are naturally ruled out by both; lack of enough energy and a mindset that fishing is for youths.

Sex; Nearly all respondents interviewed were males. Out of the 150 respondents interviewed, only 34 were females representing 22.7%, while the males were 116 representing 77.3% of the total number of respondents interviewed. The findings reflected that it is men who dominate the fishing industry and this seem to suggest that fishing is a male dominated activity basing on the above percentages. There is a naturally constructed gender division of labor in most activities that require a lot of energies and this is true with the fishing industry. This echoes MAAIF's 2003 view that women have traditionally been excluded and men at almost all levels dominate the fisheries sector and this domination, together with the lower status in many cultures around lakes, mean that women have not benefited from fisheries resources. Traditionally, Women did not engage in actual fishing but of late, they participate in fisheries beach management practices such as being members on the BMUs as provided for in the BMU formation guidelines, fish processing and selling, among other selected areas. The results further show that it is men who entirely work as fishing crews and could be associated with the belief that women have bad omens and therefore not allowed to enter any fishing boat. Men also own most fishing boats, are the majority on the BMU, are boat and net makers and repairers, and do fish mongering and fish processing. It appears that women's low participation in the fishery is due to cultural

Table 2
The Extent of 2003 Tanzania Fisheries Policies Management Act

S/N	Statements	Mean	Interpretation	Rank
1	Implementation of the Fish Act has been efficient at reducing fish malpractices	2. 66	Moderate	1
2	Fishermen in Igombe Village landing site use the recommended fishing gear.	1.21	Low	5
3	Demonstration of appropriate fish gears and fishing methods have been frequently done to fishermen on this landing site	1. 23	Low	4
4	I have been trained on how to comply with the Fish Act.	1.40	Very low	3
5	Directorate of Fisheries Resources in Igombe Village has carried out sensitization meetings with the fishermen on how to comply with fishing regulations	2. 11	low	2
6	Our BMU has carried out sensitization meetings with the fishermen on how to comply with fishing regulations in Igombe Village	1.10	Very low	7
7	The mass media is used to mobilize the fishermen against fish malpractices.	1.18	Very low	6

The highest mean was 2.66 of the respondents that agreed that fishermen on study landing sites used the recommended fishing gear (Table 2), 1.21 of the respondents disagreed that implementation of the Fish Act had been efficient at reducing fish malpractices while 1.23 mean of the respondents disagreed that demonstration of appropriate fish gears and fishing methods had been frequently done to fishermen on landing sites. 1.40 mean of the respondents were trained on how to comply with the Fish Act, 2.11 mean indicated that BMUs had carried out sensitization meetings with the fishermen on how to comply with fishing regulations and that, the Department of Fisheries Resources had carried out sensitization meetings with the fishermen on how to comply with fishing regulations (1.10). This information indicates that implementation activities for the Fish Act were carried out on various fishing sites

but without a successful achievement. then also, 1.18 mean of the respondents should have disagreed with the statement that the mass media being used to mobilize the fishermen against fish malpractices. In regard to the role of the BMUs, the Commissioner for Fisheries added;

"Over the last five years, the Department of Fisheries resources established a co-management program on all landing sites. Consequently, BMUs have helped to supplement the few trained fisheries personnel to implement fisheries management measures like sensitization of the fishermen. However, delegation of Fisheries Management especially in regulation and enforcement without adequate capacity building has created a problem." Respondent: Commissioner for Fisheries.

This implies that although BMUs have been useful in implementation of the Fish Act, they haven't had enough capacity building to enforce the Law. Indeed, one LVFO official also reiterated the above observation that;

"The persons leading BMUs for most of the areas have been part of the fishing community and most times are complacent to mal-fishing practices. Others lack capacity and knowledge in managing fisheries" Respondent: LVFO official

Despite the varied levels of skills and capacity of BMUs, information from Law enforcement personnel revealed that they carry out day-to-day surveillance of the fishery resources, are involved in conservation measures, improving the beach hygiene, participate in data collection, handle emergencies at the beach level and resolve conflicts.

Analysis of Research Question Three: What is the level of compliance of fishermen on the Tanzania Fisheries policies in Igombe Village Tanzania?

This section contains various statements about the level of compliance of fishermen on the Tanzanian Fisheries policies in Igombe Village in Tanzania. The respondents kindly expressed their opinions by ticking one of the given responses (4-Strongly Agree, 3-Agree, 2-Disagree and 1-strongly disagree) in front of each statement but the researcher during analyzed them according to table 3 that presents their average mean for easy interpretation of the findings.

Table 3
Determining the level of compliance of fishermen on the Tanzania Fisheries
policies in Igombe Village Tanzania

S/N	Statements	Mean	Interpretation	Rank
1	Several fishermen with illegal fishing gear have been arrested in Igombe Village landing site	3.58	High	1
2	There has been destruction of illegal gears/items, undersize fish by law enforcement personnel in Igombe Village landing site	3.52	High	2
3	Fishermen who land undersize fish have been arrested in Igombe Village landing site	3.38	High	3
4	Fishermen on landing site use the recommended fishing gear.	3.24	High	4
5	There are weak institutions and institutional processes for Monitoring, Control and Surveillance in Igombe Village landing site	3.20	moderate	5
6	Ensuring compliance to the Fish Act remains a challenge in Igombe Village landing site	2.66	Moderate	6
7	Mono-filament gillnets are no longer used for fishing in Igombe Village landing site	2.21	low	7

There were two main areas of disagreement regarding enforcement of the Fish Act. That mono-filament gillnets are no longer used for fishing on Igombe landing site as disagreed indicating a very low mean of 2.21 and that searches for immature fish, illegal nets/gears were common on landing sites of the respondents. Respondents complied with the following Fish Act enforcement measures which scored high average means (Table 3): that several fishermen with illegal fishing gear have been arrested on landing sites, that there has been destruction of illegal fishing

gears/items, undersize fish by Law enforcement personnel on landing sites, fishermen who land undersize fish have been arrested on landing sites and that fishermen on landing sites use the recommended fishing gear.

Analysis of Research Question four: Is there a significant relationship between the extent of the 2003 Tanzania Fisheries Act and the compliance of the fishermen Igombe Village?

This section contains various statements establishing if there is there a significant relationship between the extent of the 2003 Tanzania Fisheries Act and the compliance of the fishermen Igombe Village in Tanzania. The respondents kindly expressed their opinions by ticking one of the given responses (4-Strongly Agree, 3-Agree, 2—Disagree and 1-strongly disagree) in front of each statement but the researcher during analysis grouped into agree and disagree for easy interpretation of the findings.

Table 4
Pearson correlation coefficient showing the relationship between
Implementation and Enforcement of the Fish Act

		the Effectives of the Tanzania Fisher policy	Level of compliance to the Fish Act
The Effectives of the Tanzania Fisher Policy	Pearson Correlation Sig. (2 -tailed) N	1 150	-.152 .015 150
Implementation and Enforcement of the Fish Act	Pearson Correlation Sig. (2 -tailed) N	-.152 .015 150	1 150

There was a negative relationship between implementation of the Fish Act and the compliance of the fishermen towards the Fish Act ($r = 0.152$; $p < 0.05$) implying that better implementation of the Fish Act reduces enforcement activities for

compliance with the Act. The insignificance of the results as well as the low Spearman correlation ($r = -0.152$) were probably due to the fact that the terms "implementation and enforcement" appeared similar and were likely to have been confused by respondents.

In addition, the results may be attributed to the use of destructive and illegal fishing gears and methods have remained a challenge on Igombe landing site, illegal fishing equipment is usually seized on this landing site and, that controlling capture and trade in immature fish is still a problem on Lake Victoria among others. However, during the study, enforcement of several provisions of the Fish Act was observed; namely; destruction of immature fish confiscated from fishermen (see Figure 1, destruction of scoop nets by BMU staff (see figure 2) and destruction of illegal under-sized boats (see figure 3).



Source: Field data (photograph taken in 2011)

Figure 1: Destruction of immature fish confiscated from fishermen at Igombe Fishing site



Source: Field data (photograph taken in 2011)

Figure 2: Destruction of seine nets by BMU staff at Igombe Fishing site



Source: Field data (photograph taken in 2011)

fishers' numbers outweigh the number of BMU members. Provisions of adequate facilities to BMUs to enable them handle enforcement duties and introducing incentives for fishers who excel in adhering to set byelaws as motivations and luring the hard-to-change fishers as well.

Lastly, suggestions for future arbitration of fisheries conflicts according to the study included; training of BMU members in skills for arbitration and minimizing of conflicts, construction of court rooms for arbitrations, BMU members should be remunerated so as to motivate them.

with few alternative income sources has negative implications on the fisheries resource especially in terms of; fishing effort and management.

According to FAO (1996), fishermen when compared with other rural residents say farmers, have been found to have slightly higher fertility. This is in line with a set of conceit attitudes towards family formation, which point to earlier age at marriage and higher number of children desired. Given that most fishers are uneducated, they find no reason for educating their off springs and this is coupled with the need for acquiring cheap fishing labor force. The circumstances of fishing populations are of the kind typically conducive to high fertility: families with an abundant labor force are at advantage in the exploitation of fishery resources because of open access and a large offspring facilitates a strategy of diversification of sources of income, which is important because of the lavatory nature and low productivity of fishing. Populations with high levels of education see having many children as a burden which is the opposite with less or uneducated ones. There is a relationship between level of education in regards to attitudes, behavior of fishermen and their perceptions of changes in fisheries resources. People who show greater concern for environmental issues and the impact of population growth in the exploitation of these resources are those with some reasonable education.

The fisheries industry is yet to experience a different trend in terms of occupational mobility. In Malaysia, there was an overall decline in the number of coastal fishers; this decline is also reflected in an inter-generational occupational mobility out of fishing into other occupations in the service sector or into unemployment. Fore example, in the Philippines and Tanzania, the number of coastal fishers started to decline (FAO, 2003). A plausible explanation for these changes could be that in many countries, in the context of declining catches and income per fisher on the one hand, and economic growth and rising levels of education on the other hand, alternative and economically more rewarding employment opportunities have developed outside the fisheries sector, facilitating vocational mobility. Government policies aiming at a reduction and limitation of fishing effort, conservation, and the rehabilitation of fisheries

perch in Igombe Village, the fishermen use 3.5-inch or 2.5-inch mesh nets. Although the Fish (Immature Fish) Instrument, 2002 No. 73 was formulated for this purpose, it is illegal in that it was signed by the Chief Fisheries Officer (Commissioner for Fisheries) who is not authorized to make legislation and its enforcement was also found lacking. Consequently, the fishing vices have resulted into over exploitation. This was highlighted by Odada *et al* (2004) that overexploitation of the fisheries resources has occurred in Igombe Village. Mkumbo and Cowx (1999) further revealed that an increase in total fishing effort, efficiency of fishing gear and extension of fishing grounds to maintain the yield, with a progressive decline in catch per unit effort (CPUE) and mean size of fish caught.

Several factors attempt to explain the increase in fish illegalities on Igombe Village. Bwathondi *et al*. (2001) argue that the unrestricted access status of the landing site and lack of enforcement of existing legislation are linked to increasing and crippling fishing effort. This is another gap in the Fish Act that because there is no law to limit entry into fishing. Despite the gaps within the Law several attempts to stop fishing mal-practices were reported by Okware (2008, p14) that:

"...the operations done towards compliance involved; border operations to intercept containers of illegal gears imported; intelligence based land and water operations targeting hot spots for the capture and processing of undersized fish; operations in fish markets and impromptu road blocks targeting dealers in undersized fish and; BMU patrolling their areas with security agencies".

The study revealed that there is need for effective management of natural resource requires engagement of the resource users and attendant communities through sensitization as a starting point to achieve successful enforcement operation (FAO, 2001) Ntiba *et al*. (2001) points out that the people's lack of awareness and ignorance of their rights and obligations in bringing about a conducive environment for a sustainable fishery may also undermine their effective participation in the management of their natural resources and fisheries in particular. Therefore, empowering the communities through sensitization on the management measures and

statutory obligations is the first step toward effective management and consequently sustainable utilization of fisheries resources.

However, despite fishers and fisheries managers being sensitized and trained to some level in application Fisheries Law, the study found that illegal fishing activities continued to be reported and observed in various fishing sites around Igombe Village. A similar observation by Kabuye (2005) indicated that there is excessive fishing effort coupled with use of destructive fishing methods and illegal gears despite the knowledge of law against such activities. Kabuye (ibid) further observed that the fisheries of Igombe Village were dwindling and were at the time exploited at unsustainable levels due to lack of effective implementation and enforcement of the Fish Act (Cap. 197). Over fishing and the use of damaging or illegal fishing gear is only in part a reflection of the failure of Fish Act implementation strategies on the Lake, and is symptomatic of broader social, economic, and developmental dislocations such as poverty and lack of employment.

Study findings by Nabongo (2007) are also consistent with the results of this study that use of various fishing methods that impact the fisheries negatively including use of poison and explosives, barriers, pots and baskets, spears, dredges, traps, lampara, scoop nets, seine nets, trawl nets, trammel nets/ tangle net system, drifting or set gillnets of more than 30 MD, cast net and monofilament nets were on the rise and can be directly linked to inadequacies in the law and ineffective or lack of implementation of the very law.

Research findings revealed that several factors had contributed to negative correlation of the implementation of the 1994 Fisheries Act and compliance of the respondents to the efficient implementation and enforcement of the Fish Act in Tanzania. Political interference and high cost of recommended fishing equipment were the major hindrance to efficient implementation and enforcement of the Fish Act in Tanzania. Poor and inconsistent surveillance was also cited, while failure in controlling this kind of fishing were cited as significant challenges in such vast and open waters fisheries of Igombe Village. It can be also concluded that the causes for increased fishing illegalities are multi-dimensional, and that in addition to inadequacies of the

regulatory nature and community complicity, physical and technological infrastructure limitations are also a major hindrance to sustainable utilization of the fisheries resources. This is in agreement with Bwathondi *et al* (2001) who cites the lack or inadequacy of handling facilities, ice plants, storage facilities, sanitary conditions (including boats with containers) at landing sites as contributing to poor fish quality and consequently making it impossible to fisheries managers and enforce the provisions of the Fish Act that are premised on availability of such infrastructure.

Among key factors cited as most important in the level of compliance of fishermen on the Tanzania Fisher policy in Igombe Village Tanzania included the BMUs leaders and the Commissioner for Fisheries. In regard to the role of the BMUs, the Commissioner for Fisheries added; "Over the last five years, the Department of Fisheries resources established a Co-management program on all landing sites. Consequently, BMUs have helped to supplement the few trained fisheries personnel to implement fisheries management measures like sensitization of the fishermen. However, delegation of Fisheries Management especially in regulation and enforcement without adequate capacity building has created a problem". This implies that although BMUs have been useful in implementation of the Fish Act, they haven't had enough capacity building to handle fisheries issues effectively. In addition, the Fish Act, Cap.197 does not empower the Beach Management units to participate in licensing of fishing vessels though the BMU Rules enacted in 2003 clearly stipulate a number of functions for the BMU during licensing. Information from law enforcement personnel revealed that they carry out day-to-day surveillance of the fishery resources, are involved in conservation measures identification of breeding and nursery grounds and providing information of illegal fishers, improving the beach hygiene, participate in data collection, handle emergencies at the beach level and resolve conflicts.

Regarding enforcement of the Fish Act, 100% of the respondents agreed that several fishermen with illegal fishing gear had been arrested on landing sites, that there has been destruction of illegal gears/items, undersize fish by Law enforcement personnel on landing sites, fishermen who land undersize fish have been arrested on landing sites, that fishermen on landing sites use the recommended fishing gear,

controlling the use of destructive and illegal fishing gears and methods have remained a challenge on Igombe Village, illegal fishing equipment is usually seized on this landing site and that controlling capture and trade in immature fish is still a problem on Igombe Village among others. The reasons for prevalence of fish malpractices are partly provided by Othina (1999) that with the natural explosion of the Nile Perch and the boom in its export market, many more people who were never fishermen moved to cash in on the "lucrative" industry. The resulting competition may have pushed traditional fishermen to resort to the use of destructive fishing methods to sustain their level of livelihood and food requirements. A case in point is exemplified by the use of poison, which led to a ban on fishing and the export of fish in March 1999 (Ntiba *et al*, 2001), was probably largely due to rent-seekers.

The study results indicated that searches for immature fish, illegal nets/gears were not common on landing sites and, that mono-filament gillnets were widely used for fishing on Igombe Village. However, during the study, enforcement of several provisions of the Fish Act were observed; namely; confiscating of under size gill nets and arresting of culprits by the police officers, destruction of immature fish confiscated from fishermen, destruction of scoop nets by DFR staff and destruction of illegal under-sized boats. The information above therefore, indicates that the DFR together with local governments and BMUs have put considerable effort to enforce the Fish Act regulations.

The study examined the relationship between the effectiveness of the Tanzania Fisher policy and the compliance of the fishermen Igombe Village. The study revealed that there was a significant negative relationship between the compliance and enforcement of the Fish Act. This suggests that effective implementation of the Fish Act reduces enforcement activities for compliance with the Fish Act. Besides, when the whole fishing community understands the Laws/regulations, compliance level is expected to go up.

Conclusion

Implementation and enforcement of the Fish Act on Igombe Village is inadequate to ensure sustainable exploitation and conservation of fisheries resources. There were

several factors that contributed to the negative correlation to the compliance of the Fisheries Act, these included use of undersize gill nets, fish poisoning, catching immature fish, fishing in breeding grounds, lack of fish movement permits and landing at non- designated landing sites among others were used on Igombe Village. Despite sensitization and training of the fishermen and managers, illegal fishing practices are still observed on Igombe Village. There is an inverse relationship between implementation of the Fish Act with fish malpractices and resource destruction on Igombe Village.

Recommendations

In order to improve implementation and enforcement of the Fish Act to enable it to effectively control the exploitation and conservation of fisheries resources on Igombe Village (Tanzania), the following measures are recommended:

All Laws including the Fish Act are dynamic depending on emerging issues. The Fish Act is outdated. As such, there is need to review the Law periodically to address the going concerns that emerge from time to time.

The fisheries Subsidiary Instruments that are inconsistent with the Fish Act like the Beach Management Unit Instrument (2003), The Fish (Immature Fish) Instrument No. 73 of 2002, the Statutory Instrument No. 73 of 2001, should be formalized to enable the effective enforcement and avoidance of legal proceedings against the Department of Fisheries Resources. This should be in addition to having change in fisheries enforcement approach.

There is urgent need for increased staff levels for implementation and enforcement of the fisheries law, and to develop human resources capacity in fisheries management, monitoring, controlling and surveillance, and that of other stakeholders to support government efforts. There is need to increase the capacity of the Department of Fisheries Resources in enforcement and prosecution of illegal, unregulated and unreported fishing and illicit trade in immature fish coupled with acquisition of

equipment like patrol vehicles and communication gadgets needed for efficient enforcement of regulations in the Fish Act.

In order to reduce fishing pressure in Igombe Village landing site, there is need for getting fishermen out of the waters through a buyout system and there after sensitizing and retraining them to engage in downstream fishing activities such as processing and trading, and provision of supplies for fishing. In addition, the government should prioritize retraining of fishermen into alternative livelihoods such as fish farming, cage culture, boat making to enable them sustain their livelihoods.

REFERENCES

- Amin, E. M. (2005). Social Science Research, Conception Methodology and Analysis, University of Younde Cameroon.
- Armstrong, M. (1991). A Handbook of Personnel Management. (4th ed).London: Kogan Page Ltd.
- Asowa-Okwe, Charles (1994), "*Capital and Conditions of Fisher Labourers on Lakes Kyoga and Victoria Canoe Fisheries*" in Mamdani. M. and Oloka-Onyango J. eds Uganda, Studies in Living Conditions, Popular Movements and Constitutionalism, JEP Book No 2., JEP and CBR Kampala.
- Assmo, Per (1999), *Livelihood Strategies and Land Degradation: Perceptions Among Small- Scale Farmers in Ng'iresi Village*, Tanzania, School of Economics and Commercial Law, University of Göteborg, Göteborg , Sweden.
- Bangura, Yusuf (1994), "*Economic Restructuring, Coping Strategies and Social Change: Implications for Institutional Development in Africa*", Development and Change, Vol. 25 No. 4.
- Bulayi, E.M. 2001. *Cooperative Fisheries Management for Lake Victoria*. United Nations University-Fisheries Training Institute, Iceland.
- Bwathondi, P.O.J, Ogutu-Ohwayo, R. and Ogari, J. (2001). *Lake Victoria Fisheries Management Plan*. LVFRP/TECH/01/16, Technical Document No. 16, 64 pp. Edited by I.G. Cowx and K. Crean.
- Department of Fisheries Resources (2004), *Draft National Fisheries Bill*, DFR/MAAIF, Entebbe, Tanzania,
- Donda, S. J. (2001). *Theoretical Advancement and Institutional Analysis of Fisheries Co-management in Malawi: experiences from Lakes Malombe and Chiuta*. Unpublished PhD thesis. Aalborg, Aalborg University.
- FAO (1995). *Code of Conduct for Responsible Fisheries*. Rome, Italy.
- FAO, (1996). *Fishery Country profile, Tanzania*. FAO Fisheries Department. FID/CP/UGIA. Rev.1.
- FAO, (2001). *The International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing*.

- Fisheries (General Amendment) Regulations, (1994) G.N. No. 369.
- Hara, M., and Raakjær Nielsen, J. (2003). Experiences with fisheries co-management in Africa. In D.C. Wilson, J.R. Nielsen and P. Degnbol (Eds.), *The Fisheries Co-management Experience: Accomplishments, Challenges and Prospects* (pp. 81-98). Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Gibbon, Peter (1993), "Introduction: Economic Reform and Social Change in Africa," in Gibbon Peter ed. *Social Change and Economic Reform in Africa*; Nordic Africa Institute, Uppsala.
- IFMP, 2005, Inception Report, January 2005, IFMP, LVFO, Jinja, Uganda
- IFMP, 2006, Annual Report, October 2005-September 2006, IFMP, LVFO, Jinja, Uganda
- ILM, 2001, Output to Purpose Report, ILM, Kampala, Uganda
- ILM, 2002, Output to Purpose Report, ILM, Kampala, Uganda
- ILM, 2003, Output to Purpose Report, ILM, Kampala, Uganda
- ILM, 2004, End of Project Review Report, ILM, Kampala, Uganda
- IUCEA/VicRes (2004). End of year Report
- IUCEA/VicRes (2005). End of year report.
- IUCEA/VicRes (2007). End of year report
- IUCEA/VicRes (2008). End of year Report.
- IUCEA/VicRes (2008). Phase III Proposal.
- IUCEA/VicRes (2009). Phase II report
- Kabeer, Naila (2001) "Resources, Agency, Achievements: Reflections on the Measurement of Women's Empowerment" in *Discussing Women's Empowerment: Theory and Practice*; SIDA Studies No. 3
- Kabuye, S. (2005). *Stake holder's Meeting for Civil Society Organizations working in the Lake Victoria basin during the Regional Civil Society Conference, 21 – 22 February 2005*, Kireka Sports View Hotel, Kampala, Uganda.
- LAGBIMO, (2003a), *The Constitution of the Lake George Basin Integrated Management Organization*, LAGBIMO, Kasese, Uganda
- LAGBIMO, (2003b), *Lake George Basin Management Plan*, LAGBIMO, Kasese, Uganda
- LAKIMO, (2003), *The Constitution of the Lake Kyoga Integrated Management Organisation*, LAKIMO, Soroti, Uganda

- LAKIMO, 2004, *Lake Kyoga Management Plan*, LAKIMO, Soroti, Uganda
- LVFO, (1994), *The Convention for the Establishment of the Lake Victoria Fisheries Organisation*, LVFO Secretariat, Jinja, Uganda
- LVFO, (1999), *Strategic Vision for Lake Victoria (1999-2015)*, LVFO Secretariat, Jinja, Uganda
- LVFO, (2002), *Fisheries Management Plan for Lake Victoria*, LVFO Secretariat, Jinja, Uganda
- LVFO, (2005b), *LVFO Harmonised Monitoring Control and Surveillance Guidelines for Lake Victoria*, LVFO Secretariat, Jinja, Uganda
- LVFO, (2006a), *LVFO HRD Strategy and Action Plan for Lake Victoria*, LVFO Secretariat, Jinja, Uganda
- Madanda, Aramanzan (2000) *Gender and Household Food Security in Bungokho County – Mbale District, Uganda*, Occasional Paper No. 3, Department of Women and Gender Studies, Makerere University.
- Madanda, Aramanzan (1997), *A Gender Assessment of Factors that Affect Household Food Security in Bungokho County – Mbale District* MA Dissertation, Department of Women and Gender Studies, Makerere University.
- Malasha, I. (2002). *Questioning the Relevance of Existing Fisheries Regulations under Co-management: The Case of Lake Kariba. The Commons in the Age of Globalization*, the 9th Biennial Conference of the IASCP, Victoria Falls, Zimbabwe, 17-21 June.
- Magrath, W. (1989). *The Challenge of the Commons: the Allocation of Nonexclusive Resources*. World Bank: Environment Department Working Paper #14.
- Medard, M., and Wilson, D.C. (1996). *Changing Economic Problems for Women in the Nile Perch Fishing Communities on Lake Victoria*. *Anthropologica* XXXVIII(2):149-172.
- Marine Fisheries Sub-sector Capacity Building Programme (2003); *Dar es Salaam Fisheries Infrastructure Improvement Programme; Fisheries Communities*

Development Programme; Fisheries Financial Support Programme; Fisheries Co-management Programme.

Ministry of Natural Resources and Tourism, (2003), *The Fisheries Act*, Fisheries Division, Dar es Salaam, Tanzania

Ministry of Natural Resources and Tourism, (2005), *National Guidelines for Beach Management Units*, Fisheries Division, Dar es Salaam, Tanzania, October 2005

Mkumbo, O.C. and Cowx, I.G. (1999). *Catch trends from Lake Victoria – Tanzanian waters*. In: Report on Fourth FIDAWOG Workshop held at Kisumu, 16-20 August 1999. I.G. Cowx and D. Tweddle (eds). LVFRP/TECH/99/07, The Lake Victoria Fisheries Research Project Technical Document No. 7, pp. 99-107.

Nabbongo, H (2007). *Implications of fishing gears and methods to the fisheries resource*. A presentation during a one day awareness raising workshop of the Judiciary and Police officers at Rider hotel, Mukono on 6th august 2007

National Strategy for Growth and Reduction of Poverty (NSGRP), (2005-2010), Dar es Salaam, Tanzania

Ntiba, M.J. Kudoja, W.M. and Mukasa, C.T. (2001). *Management issues in the Lake Victoria watershed*. Lakes Reservoirs: Res. Mgmt 6, 211-216.

MNRT, (1997). *Defined as the Fisheries Department, Local Government, Local Community, NGOs, Private Sector, Regional and International Community, and Government Agencies and Other State Machinery*

MNRT, (1997). *National Fisheries Sector Policy and Strategy Statement*, Dar-Es-Salaam, Tanzania. Ministry of Natural Resources and Tourism.

MNRT, (1999). *Fisheries Statistical Provisional Annual Report*. Dar-Es-Salaam, Tanzania. Ministry of Natural Resources and Tourism.

Mongo, L.M. 2000. *Custodial Management of Lake Victoria Fisheries Resources: The Design and Implication of Riparian Zones Based on Administrative Districts (Tanzania)*, Msc. Dissertation, University of Hull.

Odada, E.O., Olago, D.O., Kilindwa, K., Ntiba, M., Wandiga, S (2004). *Mitigation of Environmental Problems in Lake Victoria, East Africa: Causal Chain and Policy*

- Options Analyses. Royal Swedish Academy of Sciences 2004. *Ambio* Vol. 33 No. 1–2, Feb. 2004.
- Olinga, Forough Ehsani (2000), *Gender, Resource Allocation and Fisheries Development: The Case of Buvu and Lulamba Islands, Lake Victoria*, MA Dissertation, Department of Women and Gender Studies, Makerere University.
- Okwach, R. Mahatane, A and Katuramu, J (2005). *Status of Fisheries Surveillance, Law Enforcement and Monitoring Compliance to agreed measures for fisheries management*. Proceedings of the Regional stakeholders' conference, 24th – 25th February 2005, Entebbe, Uganda.
- Okware, P (2008). *Compliance to fisheries regulations and use of indigenous knowledge in fisheries management (2004 – 2008)*. LVFO regional workshop, Kampala, Uganda.
- Othina, A. (1999). *The status of the artisanal fishery of Lake Victoria, Kenya*. In: Lake Victoria Fisheries Research Project Phase II: Part 1 - Report on Third FIDAWOG Workshop held at the Triangle Hotel, Jinja, 29 March to 1 April 1999. D. Tweddle and I.G. Cowx (eds). LVFRP/TECH/99/06, Technical Document No. 6, pp. 73-78.
- Platteau, J.P. (1989). *The Dynamics of Fisheries Development in Developing Countries: A General Overview*. *Development and Change*, 20:565-597.
- Poiosse, E. (2002). *The Experiences of Co-management in Artisanal Fisheries in Mozambique: The Case of South Nampula Province*. The Commons in the Age of Globalization, the 9th Biennial Conference of the IASCP, Victoria Falls, Zimbabwe, 17-21 June.
- Raakjaer Nielsen, J., and Sverdrup-Jensen, S. (1999). *Summary of African Experiences*. The International Workshop on Fisheries Co- Management, Penang, Malaysia, 23-28 August.
- Republic of Tanzania (1964). *The Fish Act (2000)* Chapter, 197 Laws of Tanzania.
- Sene, A. (1985). Les conditions de travail dans la peche maritime piroguiere. *Anthropologie Maritime*, 5:143-149.
- The Master Plan on Fisheries Development in the United Republic of Tanzania", (2002), *Japan International Cooperation Agency and the Tanzanian Ministry of Natural Resources and Tourism*.
- UN FAO TCP/URT/0168 (A); *Capacity Building in Planning and Co-Management of the Tanzania Prawn Fishery*.

- Wieringa, Saskia (1994), "*Women's Interests and Empowerment: Gender Planning Reconsidered*"; Development and Change; Vol. 25 No. 4.
- Wilson, D. C. (2002). *Lake Victoria Fishers' Attitudes towards Management and Co-Management*. In K. Gehab and M.-T. Sarch (Eds.), *Africa's Inland Fisheries: The Management Challenge* (pp. 174-194). Kampala: Fountain.
- Wilson, D.C. (2003b). *The Community Development Tradition and Fisheries Co-management*. In D.C. Wilson, J.R. Nielsen and P. Degnbol (Eds.), *The Fisheries Co-management Experience: Accomplishments, Challenges and Prospects* (pp. 17-30). Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Zwieten, P.A.M. van, Njaya, F., and Weyl, O.L.F. (2003), *Effort development and the decline of the fisheries of Lake Malombe: does environmental variability matter? In Management, co-management or no-management?*

APPENDIX 1: QFTFC **Fisheries' Management and Illegal Fishing in Lake Victoria, Igombe Fishing Village Tanzania**

Note;

- The exercise is purely for academic purposes. Therefore, any information given shall be treated with due confidence.
- The researcher will maintain anonymity in quoting specific statements unless permitted otherwise by the person(s) concerned.

Please tick appropriate option in the box provided

1 Sex:

Male ☐
 Female ☐

2 Age:

Below 20 years ☐
 20 – 25 ☐
 26 – 30 ☐
 31 – 35 ☐
 36 – 40 ☐
 40 – above ☐

3 Marital Status

Single ☐ Widow/Widower ☐
 Married ☐ Separated/divorced ☐

4 Main Occupation

Fishing ☐ Law enforcer ☐
 Trading ☐ Administrator ☐
 Student ☐
 Others please (Specify).....

5 Academic Level

No formal Education ☐
 Primary level ☐
 Secondary level ☐
 Diploma ☐
 Degree ☐
 Post graduate ☐

6 This section contains various statements about the degree of effectiveness of Tanzania Fisheries policies to the compliance of Fishermen to the Fish Act in Igombe Village in Tanzania. Kindly express your opinion by ticking one of the given responses in front of each statement.

- Response made
4. Strongly agree
 3. Agree
 2. Disagree
 1. Strongly disagree

- Interpretation
- I agree with no doubt at all
 - I agree with some doubt
 - I disagree with some doubt
 - I disagree with no doubt at all

Statements	Responses			
	4	3	2	1
A. I have been trained on how to comply with the Fish Act.				
B. Directorate of Fisheries Resources in Igombe Village has carried out sensitization meetings with the fishermen on how to comply with fishing regulations				
C. Our BMU has carried out sensitization meetings with the fishermen on how to comply with fishing regulations in Igombe Village				
D. Fishermen in Igombe Village landing site use the recommended fishing gear.				
E. Demonstration of appropriate fish gears and fishing methods have been frequently done to fishermen on this landing site				
F. Implementation of the Fish Act has been efficient at reducing fish malpractices				
G. The mass media is used to mobilize the fishermen against fish malpractices.				

7 This section contains various statements about the level of compliance of fishermen on the Fisher policy and enforcement of the Fish Act in Igombe Village in Tanzania. Kindly express your opinion by ticking one of the given responses in front of each statement as interpreted before.

Statements	Responses			
	4	3	2	1
A. Ensuring compliance to the Fish Act remains a challenge in Igombe Village landing site				
B. Several fishermen with illegal fishing gear have been arrested in Igombe Village landing site				
C. Fishermen who land undersize fish have been arrested in Igombe Village landing site				
D. Mono-filament gillnets are no longer used for fishing in Igombe Village landing site				
E. Fishermen on landing site use the recommended fishing gear.				
F. There are weak institutions and institutional processes for Monitoring, Control and Surveillance in Igombe Village landing site				
G. There has been destruction of illegal gears/items, undersize fish by law enforcement personnel in Igombe Village landing site				

8 a) In respect to your experience, do you think BMUs are capable of successfully managing and developing fisheries resources in Igombe Village?

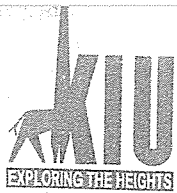
Yes ☐

No ☐

(b) If yes, why do you think so?-----

(c) If no, what are your suggestions?-----

Thank you for your cooperation



**KAMPALA
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Fax: +256- 41- 501974
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Website: www.kiu.ac.ug

**OFFICE OF THE COORDINATOR, BUSINESS AND MANAGEMENT
SCHOOL OF POSTGRADUATE STUDIES AND RESEARCH (SPGSR)**

June 2, 2010

**RE: REQUEST FOR KAIZILEGE EMMANUEL RUSHOKE
MBA/10059/81/DF: TO CONDUCT RESEARCH IN YOUR ORGANIZATION**

The above mentioned is a bonafide student of Kampala International University pursuing a Masters of Business Administration.

He is currently conducting a field research of which the title is **"1994 Fisheries Management Act and Compliance of Fisherment in Lake Victoria Igombe Fishing Village, Tanzania."**

Your organization has been identified as a valuable source of information pertaining to his research project. The purpose of this letter is to request you to avail him with the pertinent information he may need.

Any information shared with him from your organization shall be treated with utmost confidentiality.

Any assistance rendered to him will be highly appreciated.

Yours truly,

**Mr. Malinga Ramadhan
Coordinator
Business and Management, (SPGSR)**

MWANZA CITY COUNCIL

All letters send to the City Director

Director: 255-28-2501375

All Offices: 255-28-2540334

Fax: 255-028-2500785

E-mail: mwacity@thenet.co.tz



P.O .BOX 1333

MWANZA.

Ref. no.F.40/27 VOL II/515

10/06/2011

The coornator,

Business and Management (SPGSR),

Kampala Intenational University,

P.O.Box 20000,

Kampala.

**RE: PERMISSION FOR KAIZILEGE EMMANUEL RUSHOKE MBA/10059/81/DF.TO
CONDUCT RESEARCH IN MWANZA CITY.**

Please refer to your letter dated, June 2, 2011 concernig the abave heading.

Permiton is granted to kaizilege Emmanuel rushoke to conduct research at Igombe fishing Village regarding fisheries management and illegal fishing in Lake Victoria.

We will appreciate to have the copy of final report to wark on the findings and recommendations.

Looking forwards for further cooperation.

Omary Kamata

City Fisheries Officer

Mwanza.

CITY FISHERIES OFFICE
MWANZA

Cc. - Mr.Kaizira E.Rushoke –Report to city fisheries officer for assistant.

- Bugogwa (Igombe) Fisheries officer, Village excutive officer – Please assist him.

APPENDIX IV: CURRICULUM VITAE

Personal Profile

Name : Kaizilege Emmanuel Rushoke
Date of Birth : 14th October 1953
Tribe : Haya
Nationality : Tanzanian
Marital Status : Married
Religion : Christian
Cell Phone : +255784752396
E-mail : krushoke@yahoo.com

Educational Background

1999 – 2003 : Bcom . Open University of Tanzania
1997 – 1999 : Dip. Bus. Management- Glasgous UK
1981 – 1983 : Dip. in Fisheries Science. Dar.Tz
1974 – 1976 : Cert. in Fisheries Science – Bagamoyo TZ
1970 – 1973 : "O" level Certificate. Kigoma SS Kigoma TZ
1969 – 1962 : Maendeleo Primary School. Kigoma TZ

Working Experience

1976 – 1978 : District Fisheries officer Kasulu Kigoma Tz
1978 – 1979 : National Service Oljoro Arusha Tz
1980 – 1981 : Acting Regional Fisheries Officer Kigoma Tz
1983 – 2005 : Regional Fisheries Officer/Project Manager Kagera Tz
2003 – update : Tutor Nyegezi Fresh water Fisheries Institute Mwanza. Tz

THE FISHERIES ACT, 2003

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30 MAR 2006

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8. Relation between Ministry, local authorities and fisheries management authorities.

PART III

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PART IV

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SCHEDULE

- brackish or freshwater organisms, either caught from their natural or artificial environment as seed and kept until they reach the desired size;
- "aquatic flora" means all aquatic plants and other members of the aquatic plant kingdom including corals, spongers and weeds;
- "aquatic substrate" means any rock, stone, gravel, sand, shell, limestone, dead coral, whether or not removed from its natural location;
- "approval number" means a unique combination of letters and numbers assigned by the Director to a fish processing establishment located on land or a fishing vessel for the purpose of showing that the establishment or a fishing vessel has been inspected and conforms with the required layout and standards;
- "artisanal fisheries" means categories of fisheries that are of small scale and not commercially orientated, using relatively small amount of capital and in which fishers have usually a traditional involvement with fishing;
- "auditor" means a fish inspector authorized to check on compliance of quality standards regulations issued under this Act;
- "authorized associations" means any body of persons incorporated or not incorporated and includes a beach management unit declared so under this Act;
- "authorized officer" means the Director or any fisheries officer or a member of beach management unit or other person authorized in writing by the Director to exercise any power or to discharge any duty under this Act or any subsidiary legislation made under this Act;
- "batch" means a quantity of fish or fishery products obtained under practically identical circumstances;
- "beach management unit" means a group of devoted stakeholders in a fishing community whose main function is management conservation and protection of fish in their locality in collaboration with the government;
- "beach seine" means a fishing net designed to hang vertically in the water, the ends being drawn together to the beach while the foot rope drags through the fishing ground;
- "biological diversity" means the varieties of all forms of life;
- "buffer zone" means beach area measured immediately after the highest water mark and it extends landwards to 260 meters; the first 60 meters can be used on temporary basis while the next 200 meters can

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"coral" means a living or dead calcareous skeleton secreted by polyploid coelenterates of class Anthozoa;

"dam" includes any fixed obstruction used for the purpose of retaining or controlling the flow of water;

"defrosting" means the process of removing frost and ice from freezer and freezer store, refrigerated plate or coils, by the introduction of heat, or brushing and scraping;

"dehydration" means the loss of moisture from a frozen product through evaporation;

"Director" means the Director of Fisheries appointed under section 4 of this Act;

"disinfectant" means a chemical agent that renders an object free from micro-organisms without adversely affecting the object;

"enforcement officer" means an officer appointed by the Director to perform duties prescribed in Part VIII of this Act;

"estuary" means an area where river water mixes with sea water or lake water;

"export" means taking away of fish, fishery products and aquatic flora from the country to any other place outside Mainland Tanzania;

"explosives" means a dynamite or bomb; or blasting agent, detonators or any material used in the manufacture of explosives;

"fish" means all forms of aquatic or amphibious life including finfish, dolphin, whale, dugong, shell fish, turtles and includes spat, brood, fry, spawn, ova and young of all such fish, but does not include any aquatic or amphibious animal which the provisions of the Wildlife Conservation Act, 1974, apply or young of any such animal;

"fishery" means every area, locality or place or stations in or which fishing gear is used, set or place or located and also the area, tract or stretch of water in or from which fish may be taken by such fishing gear;

"fish dealer" means any person other than a fisher who sells, barter or offers for sale any fish or fish products, and including every person or body of persons whether incorporated or unincorporated, engaged in the buying, bartering, exposing for sale, preparing, processing, packing or storing, landing or transshipping, any fish or fish products, but does not include a hotel, restaurant, cafeteria or other similar establishment which the Minister may declare not to be a fish dealer for the purpose of this Act.;

"Fish establishment" means any premise or a vessel where fish or fish products are prepared, processed, frozen, packaged or stored, but does not include auction and wholesale markets in which only display and sale by wholesale takes place;

Act No.
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- "fresh product" means a fish product whether whole or prepared, which has not undergone any treatment to ensure preservation other than chiking and includes fish product packed under vacuum or in a modified atmosphere;
- "fresh water sport fish" means any fish exploited for leisure in lakes, dams or rivers and includes the young and the eggs thereof;
- "frozen product" means a fish product which has undergone a freezing process to reach a core temperature of-
18°C or lower, after temperature stabilization;
- "genetic resource" means genetic material of actual potential value;
- "genetically modified resources" means all stocks used for the purpose of aquaculture and other culture based fisheries after genetic alteration;
- "gill net" means a fishing gear made of thread with standard measurement of 26 meshes deep and ninety meters long used for capturing fin fish by gill operculum;
- "Government fishing vessel" means any fishing vessel belonging to or in the service of the United Republic of Tanzania;
- "good manufacturing practice" means a combination of manufacturing and quality control procedure aimed at ensuring that products are consistently manufactured to their specifications;
- "hazard" means a biological or chemical agent or physical condition with the potential to cause harm and includes any of the following-
- (a) contamination or re-contamination to unacceptable levels, with a biological, chemical or physical agent or a material, semi finished or unfinished products;
 - (b) or other undesirable microbial metabolites, generations of chemical, growth or survival of micro-organisms to unacceptable levels in raw materials, semi finished or finished products; and
 - (c) production or persistence to unacceptable levels, or toxins or other undesirable microbial metabolites;
- "Hazard Analysis and Critical Control Point (HACCP)" means approach used-
- (a) to assess the potential hazards associated with the production, processing, preparation and distribution of fish and the risk and severity of each hazard;
 - (b) to identify appropriate preventive, control or measures that can be applied to prevent, eliminate or reduce the hazard to acceptable levels;
 - (c) to provide assurance that the appropriate prevention, control corrective actions have been applied correctly;

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- "mollusc" means a large phylum of invertebrates without segments or limbs, usually having a mantle or folds of skin that secretes a shell; members of the phylum include lamellibranches, gastropods, cephalopods and scaphopods;
- "net" means fishing gear made of thread or wire or any other material designed to be used for the purpose of collecting, capturing, gathering, killing fish or aquatic flora;
- "owner" as applied to registered fishing vessel or gear, means the registered owner or holder of a fishing licence;
- "oyster" means any mollusc of any species of genus *Crassostrea*;
- "poison" means any natural or synthetic chemical used to kill fish;
- "processing" means cleaning, filleting, icing, packing, canning, freezing, smoking, salting, drying or otherwise preparing of fish or fish products for marketing;
- "product of aquatic flora" means anything made out, or composed wholly or partly of any aquatic vegetation;
- "registered tonnage" in relating to a vessel means the tonnage appearing on her certificate of registry;
- "responsible fisheries" means the principles and standards applicable to conservation, management and development of all fisheries and it covers the capture, processing and trade of fish and fishery products, fishing operations, aquaculture, fisheries research and integration of fisheries into coastal area management;
- "stakeholder" means a person or group of persons or institution whose interests are materially affected, either directly or indirectly, by fishing and fishing related activities subject to this Act;
- "sea fishery" means fisheries of the waters which are to the seaward of the high water mark
- "semi-industrial fishing" means the categories of fisheries that are small scale, commercially oriented, using small amount of capital but without traditional involvement;
- "surveillance" means checking and ensuring compliance with control measures imposed under this Act in fishing and related activity;
- "Tanzania fishing vessel or local vessel" means a fishing vessel registered or licences under this Act which is owned wholly by one or more persons each of whom is a citizen of the United Republic, or by a body corporate or incorporated under and subject to the laws of the United Republic and has its principal place of business in the United Republic also includes a Government fishing vessel;

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(3) The Director may from time to time issue and publish circulars and directives that are in conformity with the provisions of this Act for the purpose of enhancing implementation of this Act.

(4) Where the Director is required or empowered by this Act to make a determination affecting or likely to affect the rights of any person or the opportunity for any person to undertake any activity, shall give that person reasons for such decision.

(5) Any person aggrieved by the decision of the Director made in accordance with subsection (4) may within thirty days appeal to the Minister.

Registration,
licensing,
enforcement
officers
and Inspectors

5.—(1) There shall be appointed such officers to ensure efficient, effective and economical management and supervision of fisheries in accordance with the provisions of this Act.

(2) Officers appointed under this section shall be allocated or delegated such functions and shall be located in such offices or institutions as the Director shall consider appropriate for the proper management of fisheries.

(3) There shall be a central registry of fishing vessels registered in accordance with the provisions of this Act.

(4) For the purpose of this section the Director, shall be the Registrar of fishing vessels.

(5) Subject to the provisions of subsection (2), the Director shall appoint the following-

- (a) vessel registration and licensing officers;
- (b) enforcement officers; and
- (c) fish inspectors.

(6) Officers appointed under this section shall carry identification cards and be answerable to the Director.

(7) The Minister may by notice published in the *Gazette*, designate any person to be an authorized officer for the purpose of all or any provisions of this Act.

(8) The Director shall by notice published in the *Gazette*, and subject to such qualifications or exceptions as may be prescribed therein, delegate to such public officer, local authority, the exercise or performance of any of the functions conferred or imposed on him by this Act.

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(3) Where the Director is of the opinion on the basis of information given to him by any officer exercising functions under this Act or otherwise that a local authority with the responsibility to exercise functions in accordance with the provisions of this Act, Code of Conduct for responsible fisheries, aquaculture development, fishing operations, fisheries management, fish utilization and marketing has mismanaged the functions of this Act, the Director may—

- (a) serve a notice on that local authority requiring it to take the steps specified in that notice within the time specified therein to rectify and improve its fisheries management; or
- (b) serve a notice on that local authority requiring it to show cause, within the time specified therein, as to why the Director should not arrange that such functions of fisheries management as may be specified should be taken over by another local authority or by the Director for such period of time as may be specified in the notice;
- (c) in either case referred to in paragraph (a) or (b), upon making a written request to that local authority, appear before such local authority personally or his representative for the purpose of making representation; and
- (d) if in his opinion, the local authority has failed to show cause as required under paragraph (b) above, prepare and submit a report with recommendations to the Minister on the mismanagement of fisheries functions by such local authority and what action should be taken thereon.

(4) Where the Minister after considering the report from the Director referred to in paragraph (d) of subsection (3) is satisfied that, owing to the mismanagement, by any local authority of any of its functions in relation to fisheries, it is in the public interest that such local authority shall cease to exercise all or any management functions in relations to fisheries, the Minister shall make consultation with the Minister responsible for local authorities in respect of the mismanagement of such fisheries functions.

- (e) promotion of sound utilization of the ecological capacity of water based area as a means of generating income and food; (a)
 - (f) encouraging the involvement of stake holders in the planning, development and management of fishery resources; (b)
 - (g) improving fisheries statistical data collection and processing through assessment of the adequacy of the existing data collection, (c)
 - (h) facilitating the availability, accessibility exchange of fisheries information and storage; (d)
 - (i) facilitating initiatives geared towards availability of fisheries inputs; (e)
 - (j) pursuing continuation and introduction of fisheries integrated programme of effective management of coastal zone to meet the ecological and social economic needs of the present and future generation; and (f)
 - (k) strengthening of regional and international collaboration in the sustainable utilization, management and conservation of resources in shared water bodies by: (g)
 - (i) supporting responsible fishery practices within the country;
 - (ii) cooperation in the promotion of suitable fisheries practices;
 - (iii) ensuring responsible choice of species, sites and management of fisheries which could affect trans-boundary aquatic ecosystems;
 - (iv) consulting with neighbouring states before introducing non-indigenous species into trans-boundary aquatic ecosystems; 10
agency
 - (v) establishing database and information networks to collect and disseminate data related to fisheries activities to facilitate cooperation on planning for fisheries development at national, sub-regional, regional and global level; 11.—
other re
 - (vi) monitoring the impact of inputs used in fisheries: and (a)
 - (vii) discouraging the pollution of aquatic environment. (b)
- (2) The Director shall, based on the best scientific evidence available, adopt such appropriate measures to maintain or restore stocks at levels capable of producing maximum sustainable yield pursuant to relevant environmental and economic factors including: (c)

(2) Any person or group of persons who deprive a local community the access to fishing grounds without good cause, commits an offence.

Register of
aqua
farmers

12. The Director shall maintain a register of aqua farmers in the country.

Control of
genetic and
species
diversity

13. No person shall move or cause movement of eggs, fingerling, seed, exotic adult fish, genetically modified species from one water body to another without a written permit from the Director.

Use of
genetic
resources

14. The Director shall cause documentation of wild and genetically modified species to "establish a bench mark for assessing impact of aquaculture.

Monitoring
and control
of disease
in fish

15.—(1) Local authorities shall monitor the performance of aquaculture practices within areas which form part of their jurisdiction.

(2) Where in the opinion of any local authority any fish or fish products in any waters are infected with any epidemic disease, the Director shall, if he is satisfied with the opinion of the local authority give notice in writing to the owner of the waters therein requiring the destruction of all fish or fish products in the said waters or the taking of such other measures as the local authority may specify in the notice.

(3) Any person who receives notice served upon him under subsection (2) of this Act shall comply with the requirements set out therein at his own expenses, and in default of such compliance, the local authority may enter upon the area taken or cause to be taken such measures as may be necessary for complying with the requirement of the notice and any expenses incurred thereon shall be recoverable as a civil debt from the person who has been in default.

Protection
of trans
boundary
ecosystems

16. Subject to the existing regional and sub regional synergies, the Director shall initiate dialogue with riparian states to ensure that governments and aqua farmers are obliged to protect trans-boundary aquatic ecosystems from -

- (a) escapees of cultured species into shared water bodies; and
- (b) effluents that might affect trans-boundary aquatic ecosystems.

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and local fishing communities which are highly dependent of fisheries resources for their livelihood are given due regard;

- (q) establishing effective mechanism for fisheries monitoring, surveillance control and enforcement, to ensure compliance with conservation and management measure as well as those adopted by regional or sub regional organizations or arrangements;
- (r) conducting joint surveillance, and enforcement in collaboration with other related agencies and fisher communities to ensure effective implementation of this Act;
- (s) facilitating the formation of community management units and authorized associations for the purpose of protecting and conserving fishery resources;
- (t) requiring all sport fishers to be licensed; and
- (u) regulate transshipment of fish or fish products to ensure compliance with all conservation and fishery management measures.

Beach
Manage-
ment units

18.—(1) The Director may enter into a management agreement with beach management units of the whole or part of or some specific fishery matter or activity within any water body or with any one or more local authorities having jurisdiction within the vicinity of any water body and deriving the whole or a part of their livelihood from that water body.

(2) A management agreement shall include the following-

- (a) statement of objectives of the agreement;
- (b) description of the area covered by the agreement;
- (c) description of the management activities to be undertaken;
- (d) rules governing the use of and access to other fishers;
- (e) duration of the agreement;
- (f) provision for revision of the agreement; and
- (g) provision for settlement of disagreement.

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- (a) fishing for prawns using cloth - KUTANDA UDUVI;
- (b) using rod and line or handline from the beach without using a fishing vessel whether for sport fishing, domestic consumption or sale, except in a declared trout stream or spawning ground; and
- (c) small cast nets

(3) For the purposes of this section, licences for internal fish trade shall be issued by the relevant authorities in charge of internal trade.

(4) The Minister may by a notice published in a *Gazette*, restrict fish establishment owners from carrying out fishing in specified water bodies.

(5) The Minister may, upon the recommendations of the Director, by order in the *Gazette*, restrict or prohibit fishing of any fish species or any kind of fish or dealing in fish products, aquatic flora or products of aquatic flora.

Conservation
of
fisheries
resources

23.—(1) The Minister shall, after consultation with such competent persons within the public and private sectors knowledgeable on environment issues, by order in the *Gazette*, declare the conservation of any critical habitat or endangered species.

(2) Any order referred to in subsection (1), may contain such exceptions and exemptions from its provisions in respect of such persons and such area as the Minister may provide in such order.

(3) If any critical habitat or endangered species referred to in any order made under subsection (1) ceases to be critical habitat or endangered species, the provisions of any such order shall cease to apply.

(4) Subject to any exception or exemption provided for in any order, no person may, without licence or lawful authority, fish, take or offer for sale any fishery product from any conserved area.

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PART VI

FISH QUALITY, MANAGEMENT AND STANDARDS

Conditions
for quality
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24. The Minister shall by notice published in the *Gazette*, impose conditions that are necessary for ensuring the right of consumers to safe, wholesome and unadulterated fish and fishery products by-

Prevention
of commer-
cial fraud

26. The Director shall establish and maintain effective systems to detect and prevent commercial fraud by requiring every batch and fish or fishery products placed on the market to have a sanitary work showing;

- (a) common name and scientific name of fish specie;
- (b) grade;
- (c) exact weight;
- (d) name, postal and physical address of processor;
- (e) date and place of manufacture;
- (f) the expiry date; and
- (g) origin of the product.

Fish
marketing

27. The Director shall in collaboration with other relevant government agencies and the private sector ensure hygienic fish marketing and distribution.

PART VII FINANCIAL PROVISIONS

Power to
Charge
fees

28.—(1) The Minister shall by notice published in the *Gazette*, prescribe fees for fishing vessel registration various licences, services, permits and export royalties.

(2) In determining the levels of export royalty for a particular fish and fishery product, regard shall be paid to-

- (a) the weight of the products; and
- (b) such other factors as may be prescribed.

(3) The Minister may by notice published in the *Gazette*, exempt certain fish and fishery products from being charged export royalty.

Fisheries
Develop-
ment Fund

29.—(1) There is hereby established in the office of the Director, a fund that shall be known as the Fisheries Development Fund.

(2) The Fund and resources of the Fund shall consist of-

- (a) any such sum as may be appropriated by the Parliament;

- (i) enable Mainland Tanzania to pay her membership fee and various contributions to relevant international fisheries organizations;
- (j) promote aquaculture activities and restocking of natural water bodies;
- (k) facilitate fisheries data collection; and
- (l) promote such other activities of a like nature to those set out in this section as will advance the purposes of this Act.

PART VIII ENFORCEMENT

Surveil-
llance unit

31.—(1) The Minister shall, after consultation with the Minister responsible for Home Affairs, establish a Surveillance Unit.

(2) The Unit shall consist of such number of persons as the Minister may determine based on advise of the Director.

Function
of the Unit

32.—(1) The function of the Unit shall be the protection of fish and its environment, fishery products and aquatic flora against unlawful dealers and generally the enforcement of the provisions of this Act.

(2) The Minister may, after consultation with the Minister responsible for Home Affairs and Minister responsible for Defence, by regulations published in the *Gazette*, provide for—

- (a) the organization and deployment of the Unit, the conditions and terms of service and the various grades, ranks and appointments of officers;
- (b) the duties to be performed by members of the Unit, and their guidance in the discharged of those duties;
- (c) the regulation of matters relating to discipline in the Unit;
- (d) the description and issue of arms, ammunition accoutrements, uniforms and other necessary supplies to members of the Unit;
- (e) matters relating generally to the good order and administration of the Unit.

Powers of
the Unit

33. The officers of the Unit shall have powers to —

article or thing, whether found on board any vessel or vehicle or in any building, place or premises and in respect of which appears to him that an offence under this Act or any subsidiary legislation made under this Act has been committed, or which appears to him to constitute evidence of any such offence having been committed;

- (d) arrest any person whom he, reasonable suspects of having committed an offence under this Act or any subsidiary legislation made under this Act or of being about to commit any such offence.

Seizure of
things used
for com-
mission of
offence

37. Whatever it is lawful under this Act for the Director or an authorized officer or a police officer to seize and retain any fish, fish product, aquatic flora or product of aquatic flora or other article or thing, it shall be lawful-

- (a) to seize and retain -

- (i) any receptacle other than a vessel or vehicle, in which such fish product, aquatic flora, product of aquatic flora or other article or thing is committed;
- (ii) any machinery including propellant machinery of a vessel or vehicle, implement, utensil, material or substance used for the commission of any offence under this Act or under any subsidiary legislation made hereunder;
- (iii) any book of account or other document which appears to him to contain evidence that an offence has been or is about to be committed under this Act or any subsidiary legislation made hereunder;

- (b) to direct any vessel or vehicle in which any fish, fish product, aquatic flora or product of aquatic flora or other article or thing is seized in accordance with the provision of section 40 or of paragraph (a) of this section, to proceed to such port or place in the country as may be convenient for unloading from the vessel or vehicle such fish, fish product, aquatic flora or product of aquatic flora or other article or thing seized thereon, and may then detain the vessel or vehicle for such time as may reasonably be required to effect the unloading;

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Forfeiture
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39.—(1) Where, upon conviction for an offence under this Act, or any subsidiary legislation made under this Act, the court is satisfied that any vessel or vehicle was used in the commission of the offence, the court may order such vessel or vehicle to be forfeited to the Government.

(2) No order made under subsection (1) shall be made if the owner of such vessel or vehicle satisfied the court that the vessel or vehicle was used without his knowledge or consent.

Power to
compound
offences

40.—(1) The Director or any authorized officer may, if he is satisfied that a person has committed any of the offence listed in the Schedule to this Act and if the person admits the commission of the offence and agrees in writing to its being dealt with under this section—

- (a) compound the offence by accepting a sum of money not exceeding one hundred thousand shillings;
- (b) order the release of any vessel or any other thing, seized in connection with the offence on payment of a sum of money not exceeding the value of the vessel or if the value of such a thing is small, such person be liable to pay a fine of not less than ten thousand shillings, provided that, any gear shall not be released.

(2) Where proceedings are brought against any person for an offence under this Act, it shall be a good defence if the person proves that the offence has been compounded under this section.

(3) Where any person is aggrieved by an order made under subsection (3), he may within thirty days of such order being made, appeal against such order to the High Court and the provision of the Criminal Procedure Act in relation to appeals shall apply *mutatis mutandis* to every such appeal as if it were an appeal against sentence passed by a District Court in exercise of its own original jurisdiction.

(4) Any authorized officer who compounds an offence shall submit to the Director a list of compounded offences.

(5) The Director shall, at every three months and in such form as, the Director of Public Prosecutions may direct, submit to the Director of Public Prosecutions a return of all compounded offences.

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(2) In addition to a penalty imposed in connection with an offence committed under subsection (1), the court shall order forfeiture of vessel and fishing gear to the Government.

Penalty for
violating
fish quality
standards

46. Any person, who does not comply with the fish quality and standards regulations made under this Act, commits an offence and upon conviction shall be liable to-

- (a) for supplies of fish establishment for export market, to a fine of not less than one million shillings or imprisonment for a term of not less than one year, for first offence and for subsequent offence a fine of not less than three million shillings or imprisonment for a term of not less than three years;
- (b) for internal market, to a fine of not less than fifty thousand shillings for first offence or imprisonment for a term of not less than one month and for subsequent offence to a fine of not less than one hundred thousand shillings and not more than three hundred thousand shillings or imprisonment for a term not less than three years;
- (c) for an exporter, in case of a first offence, to a fine of not less than five million shillings and not exceeding ten million shillings or to imprisonment for a term of not less than one year and not exceeding three years for subsequent offences, to a fine of not less than fifteen million shillings and not exceeding thirty million shillings or imprisonment for a term of not less than three years and not exceeding five years; in addition, the court shall order revocation of export licence or imprisonment for a term of not less than one year or more than two years.

Penalty
for other
offences

47. Any person, who contravenes the provisions of this Act other than those with specified penalties, upon conviction shall be liable to a fine of not less than one hundred thousand shillings and not more than one million shillings or to imprisonment for a term of not less than two years and not more than five years or to both such fine and imprisonment.

Abandoned vessel,
gear, fish
or fish
products

48.—(1) Where an authorized officer has reason to believe that, any fishing gear, vessel, fish or fish product has been abandoned for the purpose of avoiding prosecution, he shall apply to court for an order to dispose of the gear vessel, fish or fishery product.

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(2) The transfer of any biological resources, their derivative products intangible components from fisheries shall not operate so as to extinguish the sovereignty of Tanzania over those resources.

(3) Notwithstanding the provisions of subsection (2), the Director in collaboration with agencies responsible for scientific research, keep record on performance of all genetic resource exported outside the country.

(4) Without prejudice to the provisions of subsection (1), the right to determine and regulate access to genetic resources is vested in the Government and may be exercised by the competent authority in consultation with relevant organizations in accordance with the provisions of this Act or any other written law on biological resources.

52. No person shall undertake any development activities in this Act, without undertaking Environmental Impact Assessment in accordance with any other written laws of Tanzania.

53.—(1) The Director shall in collaboration with research institutions and other stakeholders outline areas that require research.

(2) Any person intending to undertake any research in fisheries prior to obtaining any permit or obtained from any other person(s) or organization shall be required to obtain a research clearance from the Director.

(3) An application for a research permit to which this section applies, shall be accompanied by a copy of the research proposal and include-

- (a) the name, qualifications and designation of the person applying for the clearance;
- (b) the names, qualifications and designation of any person whom it is proposed will assist or work with the person applying for the clearance;
- (c) the name, function and address of the institution or organization, if any, with which the person applying for the clearance is connected, either directly or indirectly and if a different institution or organization is funding in whole or in part the research, the name, address and function of that funding institution or organization;

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(7) Where the Director is satisfied after due inquiry or as a result of information given to him by a reliable source that any research is being conducted otherwise than in accordance with the terms of a research clearance, he shall forthwith withdraw the said research permit and issue a direction in writing to the person to whom the research clearance was granted to cease all activities connected with or arising out of the research.

(8) A person from whom a research clearance has been withdrawn under subsection (6), may appeal to the Minister.

Call for
research
informa-
tion

54. The Director may call for any research information obtained to be disseminated to the public.

Call for
informa-
tion from
licencee

55. The Director may for the purpose connected with the implementation of this Act, by notice sent in writing, or delivered by registered post, require any person holding a license under this Act to send or deliver to the Director within thirty days from the date on which the notice was sent or delivered, such documents and information that is required.

Exempti-
ons

56. Notwithstanding anything contained in this Act, the Minister may grant an exemption to any person or organization from all or any of the provisions of this Act or of any subsidiary legislation not inconsistent with the provisions of this Act in order to entitle the holder to engage in fishing and to do such other things as may be specified in the order for any of the following purposes:-

- (a) scientific research and display museums, zoo or similar establishments;
- (b) educational and cultural activities;
- (c) supply of food in case of emergency where no other adequate food supply is available; and
- (d) compliment.

Regulati-
ons

57.—(1) The Minister may make regulations for the better carrying out of the objects and purposes of this Act and may by such regulations, make provisions which, in his opinion, are necessary or expedient for the purpose of protecting, conserving, developing, regulating or controlling the capture, collection, gathering, processing, storage or marketing of fish, fish products, aquatic flora or products of aquatic flora.

- (m) providing for the protection of critical habitats;
- (n) preventing the obstruction and pollution of territorial waters;
- (o) controlling the import and export of fish, aquatic flora, fish products or products of aquatic flora;
- (p) determining and imposing closed periods;
- (q) limiting or controlling the number and size of fishing vessels;
- (r) regulating the marketing of fish, aquatic flora, fishery products or products of aquatic flora;
- (s) prohibiting, regulating or controlling the activities of foreign fishing vessels within territorial waters;
- (t) regulating the processing of fish, fish products or aquatic flora or products of aquatic flora;
- (u) prescribing conditions under which every processor of fish, fish products or products of aquatic flora shall comply;
- (v) prescribing specifications to which any factory building or other premises used for the purpose of fish processing, storage or sale of any fish, fish product, aquatic flora or product of aquatic flora shall conform;
- (w) controlling and regulating importation, manufacturing and construction of fishing gears;
- (x) regulating the structure, functions and powers of authorized associations;
- (y) regulating the remunerations and fringe benefits for the Unit;
- (z) providing for and regulating the conditions under which industrial fishing shall be undertaken;
- (aa) providing for and regulating the manner in which aquaculture shall be undertaken;