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FOOD SECURITY AND POVERTY ALLEVIATION THROUGH IMPROVED VALUATION AND GOVERNANCE OF RIVER FISHERIES IN AFRICA

FISHERIES CO-MANAGEMENT IN MALAWI: AN ANALYSIS OF THE UNDERLYING POLICY PROCESS

MALAWI

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LIST OF ABBREVIATIONS

ASPS:	Annual Sector Policy Statement
BVC:	Beach Village Committee
CBNRM	Community-Based Natural Resource Management
CPR	Common pool resource
DC	Developing Country
DoF	Department of Fisheries
FCMA	Fisheries Conservation and Management Act
GoM	Government of Malawi
LFMA	Local Fisheries Management Authority
MAFRI	Malawi Fisheries Research Institute
MCF	Malawi College of Fisheries
MGDS	Malawi Growth Development Strategy, the Fisheries Policy
MK	Malawi Kwacha currency
MMNRE	Ministry of Mines, Natural Resources and Environment
MSY	Maximum Sustainable Yield
NEAP	National Environmental Action Plan
NFAP	National Fisheries and Aquaculture Policy
NGOs	non-governmental organizations
NSSD	National Strategy for Sustainable Development
PFM	Participatory Fisheries Management
PFMP	Participatory Fisheries Management Programme
PRSP	Poverty Reduction Strategy Paper
SADC	Southern Africa Development Community
SEA	South East Arm
USD	United States Dollar currency
VNRMC	Village Natural Resource Management Committee
WSSD	World Summit on Sustainable Development

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SUMMARY

This paper reviews the participatory fisheries management policy processes that have taken place in Malawi and proposes some key policy options for sustainable management of Shire river fisheries resource. The overall aim of the policy process is to identify and understand the factors which shape and affect the policy process by documenting and analysing the overall fishery policy environment that characterises the Zambezi basin with specific reference to Lower Shire fishery. This is due to poor performance of national policies with respect to such central issues as economic development and poverty. Consequently, it is likely that the benefits from utilisation of the natural resources will be threatened with overexploitation. This pattern of resource decline, which is common in some water bodies in Malawi such as Lakes Malombe and southern part of Lake Malawi and the Lower Shire River, will lead to competition and conflict between resource users thereby reducing socio-economic conditions and increased poverty. It is important to conduct a policy analysis to generate appropriate information that will be used to review the current fisheries policy processes at national level.

The analysis is conducted through a desk-based review of secondary information by use of official documents, grey literature, and various reports from governmental and non-governmental organizations to identify and assess how policies are designed and implemented at the district level through the beach village committee, association and district assembly, and at the national level through the Department of Fisheries. The author's experience on the policy and its performance is also another source of information for this analysis.

Fisheries management policies in Malawi have been guided by the conservation paradigm that is a biologically based philosophy that focuses on the protection of fish stocks and has its roots in the concepts of Maximum Sustainable Yield. The approach to fisheries management has, therefore, been government centred, with the Department of Fisheries as the only management authority. Three management systems including traditional fisheries management, centralised and co-management are being practised in Malawi.

The primary objective of the National Fisheries and Aquaculture policy is **"***to enhance the quality of life for fishing communities by increasing harvests within safe, sustainable yields***"** from the national waters of Lakes Malawi, Malombe, Chilwa, Chiuta, and Shire River and other smaller river systems and from small natural and man-made water bodies. As a secondary objective, it aims to improve the efficiency of exploitation, processing and marketing of fish and fishery products. The policy has sub-policies in extension, research, participatory fisheries management, training, enforcement and riverine and floodplains.

In terms of fisheries co-management (sometimes also referred to as Participatory Fisheries Management in Malawi), Malawi is advocating for this approach as the most appropriate method to manage the fish resources in the lakes of Malawi. Co-management is legislated by the new Fisheries Conservation and Management Act of 1997. In this approach, co-management is based on establishing effective local fishing community institutions that will work jointly with Government in fish resource management. This arrangement is intended to share rationally the responsibility and authority in managing the fish resources. This sharing of responsibility cuts across the entire community and will include the full participation of men and women with their capabilities as dictated by the local fisheries by-laws. The overall goal of the fisheries co-management sub-policy is to establish and sustain the co-management

of fisheries resources between the Department of Fisheries and key stakeholders (e.g. fishing communities, traditional leaders) in order to achieve sustainable exploitation of aquatic resource management for the artisanal fisheries.

Policy development in the one-party era was primarily government centred. The process of policy development looked at issues of policy research, development theory, sectoral profiles and constraint analysis and outlined the mechanism by which the information may be collected in order to update an Annual Sector Policy Statement. This statement was ensuring that sectoral policies were in-line with National Development Policy, the macroeconomic climate and cross sectoral policies of relevance. However, some of the sectoral policies were not developed to take into consideration the recent changes in the understanding of the sector, macroeconomic policy changes or changes in the policies of other sectors.

The fact that the policy development process was government centred, the process was relatively faster as there were only a few stakeholders that were consulted if any at all. The technocrats in the concerned ministries developed the policies. In so doing, there was very little transparency and consultations in the process. The current policy in use by the Department of Fisheries was developed in the multi-party era, where issues of transparency are advocated. The policy development process required the assimilation of information from the Fisheries Bulletins, Research Papers, National Development Documents and cross-sectoral documentation, conducting stakeholder consultations, identification of policy and strategy conflicts and development of harmonisation mechanisms for these. The final output at this level was the production of an Annual Sector Policy Statement which identified priority objectives and strategies. This was reviewed through a formal Policy Review and changes were made accordingly in the preparation of the policy.

In future identification of policy issues should be a collective effort with participation of various stakeholders and Department of Fisheries alone. Improved governance system for fisheries or natural resource management is recommended. In some cases resource user committees can have responsibility to manage fisheries, forestry, water and wildlife without treating each differently. This will minimise conflicts between sectors. There is need to improve governance of the natural resources at district and national levels for an effective participatory, transparent and a process that is accountable. This may take a longer time as this would involve capacity building at district level and change of attitude among local people.

Various sectoral and multi-sectoral policies impact on the lives and livelihoods of the Shire River communities. The relationship between the fisheries policy and its sub-policy on participatory fisheries management will be considered in this section. Several sectoral policies are related to management of the commons such as land, wildlife, diversity, water, forest and fish in the Lower Shire. In addition the decentralisation policy becomes a central theme as it entrenches governance issues in the management of the fisheries resources Table 4 below outlines the key policies.

In broader sense the policies are congruent with the fisheries policy or the co-management sub-policy where they promote conservation or proper utilisation of the fisheries resources through reduction of soil erosion and siltation, protection of habitats, and pollution in the river. They also have a common interest with the NFAP where they promote community participation in development activities. The cross-cutting policies, the National Gender Policy and National HIV/AIDS Policy are relevant for fishing communities. The Gender Policy promotes participation of women in fish-related activities. The HIV/AIDS Policy is necessary for the fisheries sector due to migratory patterns of the fishers and fish traders from one place to another.

The policies are incongruent where they encourage pollution through improper waste disposal, soil erosion through environmental degradation with deforestation and bad farming practices. They are divergent where they promote centralised management of the natural resources such as the National Parks and Wildlife policy. The Gender Policy may contradict with a provision in the Labour Act that limits participation of young boys and girls in fishing.

The situation can be improved if planning of the natural resources is done at district level. The introduced district development plans should be encouraged to ensure that the policies are congruent and address issues that affect livelihoods of the fishing communities. Fore example Lower shire is vulnerable to floods and drought, any projects that aim to address the problem should be conducted in a comprehensive manner as various sectors will have to play a role for food security while at the same time ensuring that lives are not threatened with floods drought. If vegetable growing is promoted it should not be done in such a manner that it will encourage soil erosion but measures such as storm drains or contour bunds may be constructed to reduce high water flow. Planning for any projects should be done at district level with participation of the communities and elected members of the assembly who are accountable to the villagers. Therefore governance should become a key element in the development of policies that are harmonised.

Since Shire River is shared between Malawi and Mozambique, transboundary issues should be considered. The Southern Africa Development Community (SADC) Protocol provides for community participation in the management of shared resources (Article 7). The Fisheries Conservation and Management Act also recognizes the need for internal cooperation in fish resource management. If ratified, the SADC Protocol can provide necessary guidance for sustainable utilization of Lower Shire fisheries resources between Malawian and Mozambican fishing communities that cross the broader frequently as a coping strategy during drought period.

INTRODUCTION

The small-scale fisheries contribute substantially to food security and livelihoods of people in countries that are endowed with the resources. With 20% of Malawi's surface area (118,484 km^2) covered by water, fish is the one of the commonest sources of animal protein supply for the population. The fish resource is estimated to account for over 60% of animal protein supply for many Malawians (Kent 1987). Over 55,000 fishers directly earn their income from fishing operations and nearly 300,000 people are engaged in various fisheries-related activities in Malawi (Department of Fisheries 2003).

Fishing can be done on part- or full-time basis, and several types of gear and craft, both traditional and "modern," are operated. Apart from actual fishing, fish processing and marketing are an important source of income earnings and households support for many. Women often play an important role in these activities. Ancillary industries like boat building and maintenance, boat engine servicing and net manufacturing offer employment opportunities to some people, both in rural and urban areas. Given the economic importance of the sector, it is no surprise that, governing the maintenance of fish stocks for the small-scale sector is a continuing challenge, especially in areas with increasing human populations that exert pressure on natural resources (Njaya 2007). In this article, it is asserted that in order to meet this challenge a policy shift is needed that facilitates the co-management of fishery resources.

The challenges of sustaining supply of fish in Malawi are mainly due to human population pressure, multi-species fishery characteristics, technological changes, limited or lack of alternative income sources to fishing, and erosion of traditional and customary practices that has been experienced after colonialism. Cross-cutting issues such as poverty, limited political will, economic stagnation and prevalence of HIV and AIDS pandemic also negatively affect the sector. Consequently, annual fish production for Malawi has been declining from over 70,000 tonnes in 1980s to just around 50,000 tonnes since the last decade (DoF 2000).

Since the colonial rule in late 1800s, centralized fish resource regime has been applied in many African countries as a 'traditional' form of management got eroded. However, in 1990s, a debate on institutional arrangements and governance reforms emerged in southern African water bodies in Malawi, Mozambique, Zimbabwe and Zambia in response to fish resource decline (FAO 1993; Bell and Donda 1993; Sowman et al. 1998; Hachongela et al. 1998; Lopes et al. 1998). The open access and common property nature of the small-scale fisheries are among various reasons for the resource decline. To address these problems, some forms of institutional arrangements were recommended. These include state, communal, and private property regimes.

In pursuant to these recommendations and policy advocacy on community participation in development projects mostly by external donors, fisheries co-management arrangements were initiated in some water bodies. Participatory fisheries management programmes were initiated on Lakes Malombe, Chilwa and Chiuta in Malawi between 1993 and 1995 (Bell and Donda 1993; Hara 1996; Njaya 2002). Community participation in decision-making processes regarding resource monitoring and control through formulation and enforcement of fisheries regulations is a key element in these initiatives. On the other hand, the state is largely involved in creating an enabling environment through formulation of an appropriate policy and legislative frameworks. In Malawi, the Fisheries Conservation and Management Act (FCMA) and National Fisheries and Aquaculture Policy (NFAP) containing a participatory fisheries management (PFM) sub-policy and were approved in 1997 and 1999, respectively. In other African countries like Tanzania and Uganda, fisheries policies that recognise community participation were formulated in 1990s while Zambia and Mozambique are yet to have theirs approved. However, there are still some steps left to have the policies and legislations implemented.

Neiland (2003) notes that national policies in many Developing Countries (DCs) relating to central issues such as economic development, poverty alleviation, food security, conservation and sustainability have often performed poorly. Consequently there is overexploitation of the resources due to unsustainable management. This pattern of resource decline, which is common in some water bodies in Malawi such as Lakes Malombe and southern part of Lake Malawi and the Lower Shire leads to competition and conflict between resource users thereby reducing socio-economic conditions and increased poverty.

This paper reviews the co-management or PFM (as it is widely known in Malawi) policy processes experienced in Malawi and proposes some key policy options for sustainable management of fisheries resources. The review is based on the guideline questions drawn from policy analysis framework developed by Keeley (2001). While there are several definitions of a policy, this paper recognises the following: 'policy' is *'a course of action proposed or adopted by those with responsibility for a given area (in government) and expressed as formal statements or positions'* while a 'policy process' involves *both the design and implementation of actions and interventions by government*, across the full range of national sectors such as industry, services, agriculture, fisheries, health and infrastructure (Keeley 2001). While the policy review generally focuses at national level a specific reference is made in relation to the project area, Lower Shire.

I. Objectives

The main objective of the policy process is to identify and understand the factors which shape and affect the policy process by documenting and analysing the overall fishery policy environment that characterises the Zambezi basin with specific reference to Lower Shire fishery. The specific objectives of this paper are to:

- analyse Malawi's participatory fisheries management policy profile
- assess performance of the policy
- propose key policy recommendations for sustainable management of the Shire river fishery that plays a key role in alleviating rural poverty and food security in the area

The analysis is conducted through a desk-based review of secondary information by use of official documents, grey literature, and various reports from governmental and non-governmental organizations (NGOs) to identify and assess how policies are designed and implemented at the district level through the beach village committee, association and district assembly, and at the national level through the Department of Fisheries (DoF).

CHARACTERISTICS OF THE FISHERIES SECTOR

I. Description of Malawi's fisheries

The main source of fish production is Lake Malawi (24,208 km^2), producing almost 40-50% of the total annual landings. Other water bodies include Lakes Malombe (390 km^2), Chilwa (1,800 km^2) and Chiuta (200 km^2), and Lower Shire River (820 km^2). The fisheries are broadly divided into two categories, namely small-scale and commercial.

The small-scale sector is the largest component of the fisher and accounts for about 90% of the total landings. It also encompasses subsistence fisheries that are pronounced in all water bodies where most fish caught is for consumption and little sold for cash economy. In the subsistence category gear types operated include fish traps, hook and line, fishing baskets and spears while in the small-scale fisheries category beach seines, open water seines, gillnets, and hooks are used. The fishing craft includes planked boat with or without engines and dugout canoes. In 2005, 15,303 fishing vessels were counted in the country of which 73% were dug-out canoes, 23% boat without engines and the rest being powered boats.

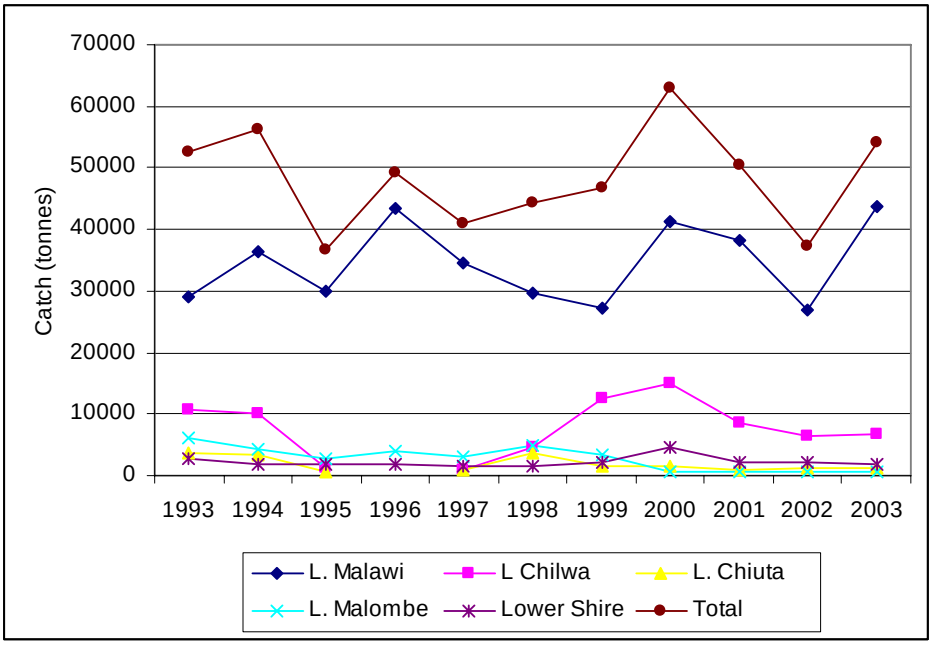

Figure 1: Estimated annual fish landings (metric tonnes) water bodies in Malawi (Department of Fisheries 2003)

The commercial sector is divided into large scale and small-scale commercial. The large-scale commercial is mechanised fisheries and generally operates trawls, purse seine and lift nets. They are confined to the southern part of Lake Malawi. It comprises 5 pair trawls, 9 stern trawls. The sector contributes approximately 10% to the total national landings. It contributes approximately 10% to the total national landings.

The fisheries have experienced considerable decline in the 1990s after a relative stability in the preceding years. The catches have declined from an average of 60,000 metric tonnes in the period of 1976-1990 to 49,000 metric tonnes in 1993-2003 (Figure 1). This decline is mainly caused by a combination of complex factors some of which include localised overfishing in some inshore stocks of Lake Malawi, climatic influence that results in drying up of Lake Chilwa and weak capacity to enforce fisheries regulations. Conversely, in the last decade, the number of fishermen, fishing gears and fishing crafts has increased by 27%, 124% and 30%, respectively.

II. Fish marketing

Fishing and fish trading (Agnew & Chipeta 1979) have been increasing since the Second World War in response to the rapid increase of the population between 1945 and 1966. The introduction of nylon thread in 1958 by machine in a Blantyre factory instead of using fibres of local plants was a remarkable innovation in the history of the fishing industry. The increased population against declining catch trends has largely contributed to increasing trends of fish imports (Figure 2) mainly from the Southern African Development Community (SADC) countries.

Fishing, processing and marketing constitute a principal occupation for many fishing communities including women in Malawi. Most of the fish sold to distant markets is in dry

form for easy storage. Fish is processed in various ways. Sometimes, part of the catch is smoked in traditional open pits or in small smoking kilns made out of bricks. Bigger fish are sometimes split or rolled before smoking. This method is mainly used for cat fish (rolled *mlamba*) and split *Oreochromis* species (*chambo*). The major portion of the *chambo* production is either sold as fresh fish by private traders, using ice.

Malawi's fish product exports are less than imports (Figures 2 and 3). From 1997 to 2005 fish exports have ranged from 0.1 to 256 tonnes with an average of 86 tonnes per annum. The highest fish exports quantity of about 255 tonnes was recorded in 2005. Fish imported into the country has fluctuated between 560 tonnes recorded in 1997 to 2,808 tonnes in 1999 with an average value of 1416 tonnes. This shows that the domestic fish production levels cannot meet the demand of the country.

Generally, from 1997 to 2000 the values of fish exports were less than those earned from imported fish products (Figures 2 and 3). However, since 2002 the trend has changed with highest values of fish exports being higher than those from imports although quantity records show that fish exports are generally less than the fish imports. This shows that fish products from Malawi are of higher quality since most of them are re-exports of marine products. The re-exports constitute over 80% of the total products exported especially since 1997 which mainly include frozen shrimps and prawns, trout salmonid, cod fish and flat fish and dried *kapenta* and *dagaa* (Njaya 2002). Since 1997, the country earned the highest fish export value of about MK160 million (about USD1.4 million) in 2004 while fish imports values have shown a steady increase with highest value of MK117 million (about USD 1 million) recorded in 2005.

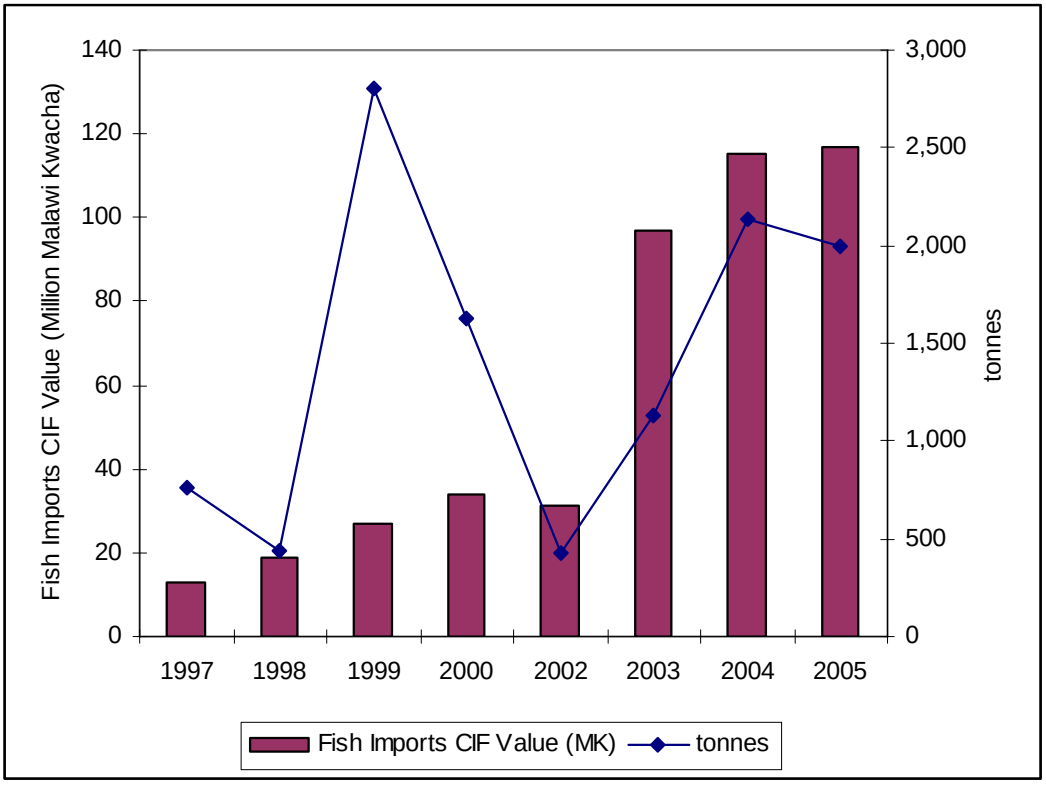

Figure 2: Fish imports quantity (tonnes) and value (Million Malawi Kwacha) for Malawi (National Statistics Office 2004)

In terms of aquarium trade, Malawi exported a total of 5,099 units of aquarium fish at a value of approximately MK 4 million in 1997, and in 1998 a total of 33,408 units was exported at a value of MK3 million while in 1999 a total of 40 821 units of aquarium fish was exported at a value of K8 million. On imports, it was indicated that a total of 25,200 unit live fish was imported into the country, and almost nothing in 1998 and 717 units at a value MK51652 (NSO 2002; Njaya 2002). The aquarium fish was exported to various countries like Belgium, Denmark, France, Germany, Japan, Netherlands, Portugal, South Africa, Sweden, Switzerland, United Kingdom and the United States of America.

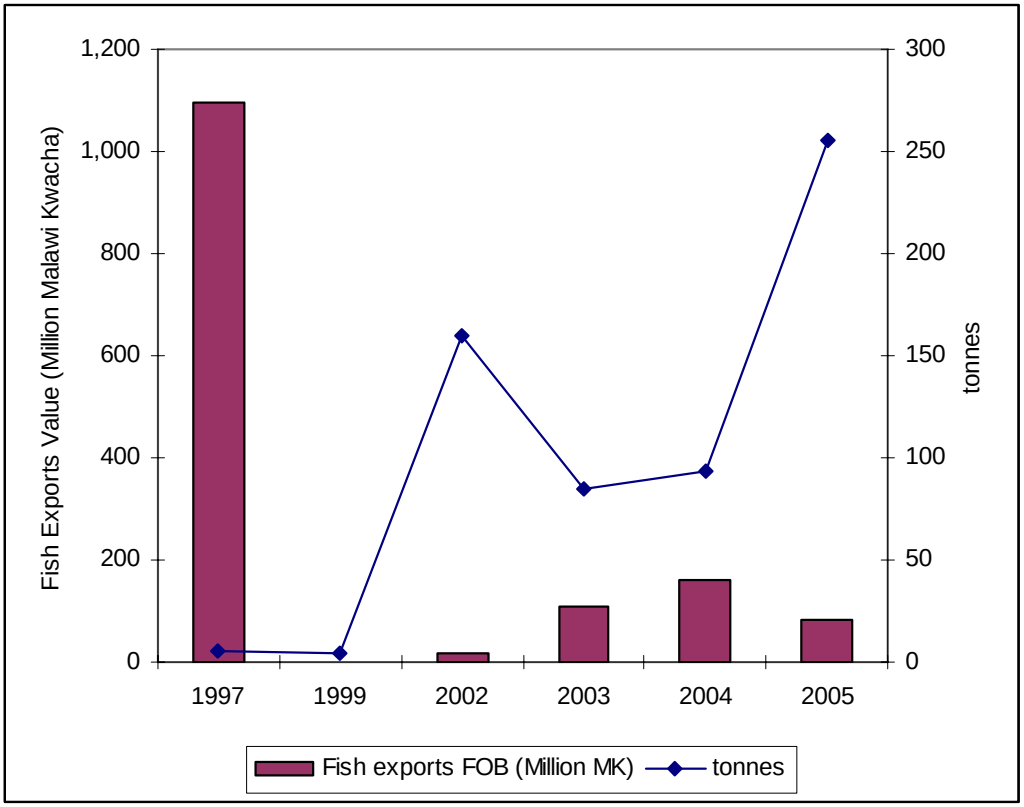

Figure 3: Fish exports value (Million Malawi Kwacha) and quantity (tonnes) for Malawi (National Statistics Office 2004)

III. Description of the project area: Lower Shire River

The study area includes Chikwawa and Nsanje districts (Figure 4). In terms of fisheries management, the area is divided into five minor areas. These include Elephant Marsh (518 km^2), Ndinde Marsh (155 km^2), Lagoons around Chikwawa (3.9 km^2), Bangula Lagoon (18 km^2) and Shire River (337 km^2) (Ratcliffe 1971). The Shire River is the main outflow of Lake Malawi and flows approximately 450 km from the lake to Mozambique, where it drains into Zambezi River. About 95% of the Shire River is located in Malawi and the rest in Mozambique. Its reach can be divided into the upper, middle and lower sections. For the purpose of catch data collection, the area is divided into 8 minor strata as shown in Table 1.

The Lower Shire River, which stretches from Kapichira Falls to the end of the border with Mozambique ($34^{\circ}50'$-$35^{\circ}17'$S) is one of the seventeen major floodplains in Africa, covering an area of more than 820km^2 of marshes at peak floods. It sustains an important river-floodplain fishery in this country accounting for approximately 5-15% of Malawi's fish catch since it

fish is heavily dependent on the perennial marshes and seasonal floodplains of the Shire River. Elephant and Ndindi marshes are the main fishing grounds covering an area of 650 km^2. The Shire fishing sector provides livelihood for about 4,000 people as gear owners or fishing crew members (Fisheries Department, 2003). The fishery is mainly subsistence in nature with small-scale commercial operations.

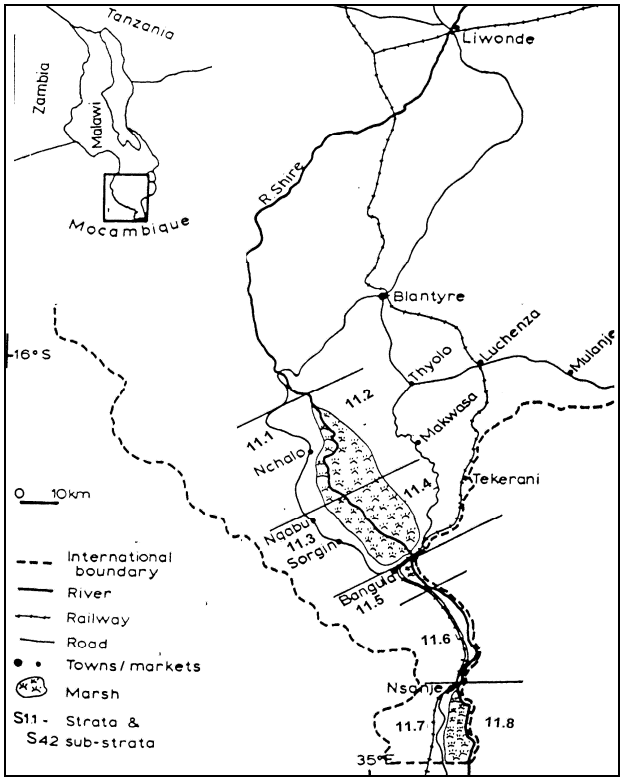

Figure 4: Map of Lower Shire River

The Lower Shire River, which stretches from Kapichira Falls to the end of the border with Mozambique (34°50'-35°17'S) is one of the seventeen major floodplains in Africa, covering an area of more than 820km^2 of marshes at peak floods. It sustains an important river-floodplain fishery in this country accounting for approximately 5-15% of Malawi's fish catch since it fish is heavily dependent on the perennial marshes and seasonal floodplains of the Shire River. Elephant and Ndindi marshes are the main fishing grounds covering an area of 650 km^2. The Shire fishing sector provides livelihood for about 4,000 people as gear owners or fishing crew members (Fisheries Department, 2003). The fishery is mainly subsistence in nature with small-scale commercial operations.

The fishery contributes about 11% to Malawi's annual fish catches. The majority of the poor rural households including female-headed households along the river depend on fishing as a key livelihood activity. Fishing is a source of employment, income and food security for these poor rural households. The fishery of the Lower Shire River is however highly vulnerable, with increasing fishing pressure leading to conflict between competing groups. In addition, its production is dependent on the quantity and quality of annual flooding regime, which is increasingly under threat due to both human and natural activities.

The fishery is multi-species and multi-gear in nature. The fish fauna of the Lower Shire River is essentially of Zambezi River Basin origin as more than 60 species are caught in this fishery,

but only three namely, Mlamba (*Clarias gariepinus*), Chikano (*Clarias ngamensis*) and Mphende (*Oreochromis mossambicus*) are of commercial importance (Willoughby & Tweddle 1978). These three contribute 90% to the total fish catch. The main fishing methods include seine nets, gill nets, fish traps, scoop nets, cast nets and encircling fish fence, and dug-out canoes and plank boats without engines are the main fishing crafts employed. The 2003 Frame Survey results indicate that the number of gear owners has doubled from 2394, crew members increased by 40% from 741, dugout canoes increased by 28 % from 938, plank boats without engines decreased by 96% from 45, gillnets increased by 58% from 2873, fish traps decreased by 5%, longlines by 223% and scoop nets decreased by 31% to 33 between 1999 and 2003. Generally fishing effort has been high since 1991. Fish production has fluctuated between 2,000 and 11,000 tonnes per annum. Total catches increased from 4,000 tonnes in the late 1970's to 11,000 in 1989, which was the peak. Catches dropped to 2,000 tonnes in 1992 and has remained more or less the same since then. The decline in effort is attributed to overfishing caused by increased effort and drought that started in 1991. The use of illegal gears such as mosquito nets has compounded the situation.

There is considerable co-management activity in the Lower Shire since 1996, and much of this has been spontaneous rather than DoF-led (Seymour 2005). Activities have included the banning of mosquito nets in certain lagoons and strong enforcement of local. Ten Traditional leaders formed an association which was active from late 1990s to early 2000s. It has remained weak since 2001 it has been weak due to lack of support from DoF. The Lower Shire has 31 BVCs that are distributed as follows:

Table 1: Distribution of beach village committees in the Lower Shire by district, Traditional Authority and Minor Stratum (Department of Fisheries 2007)

District	Minor Stratum	Traditional Authority	Number of BVCs
Chikwawa	11.1	Makhwira	1
	11.2	Kafisa	1
		Mlilima	2
Nsanje	11.3	Mbenje	4
	11.4	Mlolo	9
	11.5	Mbenje/Tengani	4
	11.6	Tengani	4
	11.7	Chimombo/Ndamera	5
	11.8	Malemia	1
Total			31

Malgré sa position géographique de pays continental, le Niger dispose d'un important potentiel piscicole estimé à 400.000 ha de plan d'eau douce : (fleuve Niger et ses affluents, Komadougou Yobé, Lac Tchad, 970 mares naturelles et 69 retenues d'eau artificielles (Schéma de mise en valeur et de gestion des ressources en eau, 1999), (Directions des aménagements et équipements ruraux agricoles et des ressources en eau, 2003).

IV. Fisheries management systems in Malawi

Fisheries have a number of characteristics that suggest that management will be necessary in order to avoid overexploitation of fish stocks. Fish are a renewable natural resource, varying in size according to growth, recruitment and mortality. The resource is reduced in size by either natural factors or human factors, such as degradation of both terrestrial and aquatic environment and fishing (Donda 2006). However, Smith (1995) asserts that significant reduction in fish resources is attributed to the fishing activities carried out by man.

Fisheries management policies in Malawi have been guided by the conservation paradigm that is a biologically based philosophy that focuses on the protection of fish stocks and has its roots in the concepts of Maximum Sustainable Yield (MSY). This has, of late, been criticised in that some African's fishing areas are highly variable (Sarch & Allison 2000). The approach to fisheries management has, therefore, been government centred, with the Department of Fisheries (DoF) as the only management authority. Three management systems including traditional fisheries management, centralised and co-management are being practised in Malawi.

A. Traditional fisheries management

A historical background of the traditional fisheries management is not well documented. However it is known that before the colonial rulers, natural resource control was practised by traditional leaders. In some areas, like Mbenji Island on Lake Malawi, these traditional management systems are still being practised although not in their pure form. They are mixed with centralised management which makes them shift towards co-management regimes.

B. Centralised management system

In Malawi, the history of government centred approach to the management of the fishery resources dates as far back to the time the country was colonised by the British Empire. The first fishing regulations were introduced in 1930. Since then, the Department of Fisheries' management policies have been influenced by the principles of the conservation paradigm, i.e. a centralised biologically led approach. As such, one of its sectoral policy objectives has been to aim at maximising the sustainable yield from fish stocks that can economically be exploited from the natural waters (GoM 2001). To achieve its objectives, DoF, like any other government natural resource management authority, formulated management regulations based on biological research findings. The conceptual background to this approach is based on the theories of Maximum Sustainable Yield (MSY). This management approach has been centred at the national level, with lower degrees or none at all of resource user participation.

C. Participatory Fisheries Management

As part of the process of consolidating democracy and as a strategy for realising the country's development goal of poverty reduction, the Malawi Government expressed its desire to decentralise political and administrative authority to district level (GoM 1998). As a result of this, the late 1990s saw the Government of Malawi change its policy of centralised administration and management to decentralisation.

In line with decentralisation policy, by mid 1990s, there was a gradual shift in the fisheries management philosophy from the conservation paradigm to the social/community paradigm, i.e. focusing on fisher community involvement in fisheries management. As such, the Fisheries Act of 1973 was reviewed with the intention of including community participation in fisheries management. A new act known as Fisheries Conservation and Management Act,

1997, was then passed in parliament in October, 1997 to replace the 1973 Fisheries Act (GoM 1997).

A comparative analysis among the three shows that the traditional fisheries management is less costly as management decisions are made by the co-management programmes has remained a thorny issue for a long time. Traditional authority structures in the southern Africa are a legacy of colonialism. In both countries, traditional authorities are based on a lineage system of indirect rule that was introduced in the 1940s by the colonialists (Lopes et al. 1998; Nhantumbo et al. 2003). The main responsibilities of the chiefs included collection of taxes, fees and dues as demanded by the Portuguese in the then Portuguese east Africa (now Mozambique) and British in the then Nyasaland (now Malawi). After independence many African countries continued with the traditional authority structures but a review of their duties included control over their villages including settling disputes and allocating customary land. In many areas, development projects in Malawi have been implemented with support of the traditional leaders. There has, therefore, been a growing realization of traditional leaders as partners in co-management processes (Hara and Nielsen 2003; Hara et al. 2002).

Those concerned with the recognition of traditional institutions have advanced their ideas by indicating that it is the same way as transferring power to non-representative institutions (Ribot 2003; Lowore and Lowore 1999). Another argument is that while the traditional leaders may be important legitimate local institutions, they may become autocratic, unaccountable and undemocratic. In this context democratic participation of the grassroots is not achieved. These conflicting issues have resulted in confusion on the ground and hence resulted in frequent institutional arrangement changes that sometimes need money (Njaya 2007).

The centralised approach is envisaged to be cost effective in terms of time and resources in its establishment stages, but tends to be less sustainable and more costly over time (Donda 2006). The major costs of this kind of fishery management approach are the transaction costs (Hanna, 1995), and these involve the costs of gathering information, designing regulations, co-ordinating participants, monitoring conditions and enforcing regulations. In the short-run, this approach is said to be less time consuming and less costly to establish, because in the establishment phase, the approach relies on a small number of experts to gather the initial information, design the regulations, and involves very little participation by resource users. In the long run, the approach is more costly and less sustainable, because there is a shift in the transaction costs. The transaction costs of monitoring and enforcement are high since the approach creates an incentive to the users to sabotage the programme. Thus, this approach tends to create more problems than it solves. While it reduces the transaction costs of having to strike bargains with user communities, it sets up a barrier between the managers and resource users. As a result, poor communication between managers and resource users, dissatisfaction among resource users, low compliance by the resource users and less well informed fishery management decisions are expected.

In contrast, the guiding principle in participatory fisheries management or co-management is that it is a participatory approach between government agencies and user community in the management of fisheries resources. The two core elements in the approach are the authority to execute and the shared or participative decision making. In which case there is need for clear allocation of responsibilities between the co-managing partners and delegation of powers. This approach shifts the emphasis of fisheries management from being either government based or community based. As a result, this approach brings together the government and the user communities to manage the same resources for the benefit of the communities. Co-management strongly advocates for a more bottom-up approach, that is, most of the management and

development ideas originate from the communities themselves. However, co-management calls for a continued dialogue and understanding between the two co-managing partners.

In terms of costs, the approach requires an initial high cost due to the process required to set up institutions and the system, however, operational cost thereafter become lower. The other advantage with this approach is that the local fishers broadly accept the local notions of social justice, and legitimacy of the management system is ensured in the eyes of the local residents (Donda 2006).

V. Common fishing regulations

This section highlights management measures that are applied in various water bodies of Malawi. They were formulated either in centralised or participatory fisheries management arrangement.

A. Closed season and area

This regulation was designed mainly to protect Chambo (*Oreochromis* sp) during their spawning period. It is prohibited to use beach seines in the closed areas and during the closed season. The closed season runs from 1st November to 31st 1 October to 31 December and from 1 December to 31 March in Lake Chilwa every for all seine nets and. On Lake Chilwa no seining is allowed. This was a rule that was formulated by the local fishers and the government just approved it in the participatory fisheries management arrangement. On Mbenji island where some form of traditional fisheries management exist (although not in its pure form), the chief prohibits any fishing method from December to April every year.

B. Mesh size restrictions

This regulation was formulated to supplement the one on closed season and areas, in order to protect young fish from being caught before they are mature to breed. Minimum mesh sizes for various types of fishing gears are set based on the size at maturity information for the target species.

C. Minimum size of fish

Based on fish size at maturity information, this regulation was designed to supplement the mesh size restriction regulation by protecting young fish to enable it grow to maturity before being caught. Different fish species have minimum allowed fish sizes. For example, all species of *Chambo* have a minimum takeable size of 150 mm (6 inches); all other tilapia have a minimum takeable size of 100 mm; and all species of *Opsaridium* (*Mpasa*) have a minimum size of 300 mm.

D. Maximum headline length of fishing net

This regulation was designed to control fishing effort by limiting the size of the fishing nets. Each type of net has its own maximum permissible length depending on the water body it is to be used. For example the same gear, like *chambo* seine net, is longer in Lake Malawi (no restriction on the length) than in Lake Malombe (maximum headline length is 1000m).

E. Licensing of fishing gears

This regulation, which is an exception of the other four above, is usually intended to control the amount of fishing effort by limiting the number of gears licensed to fish. In so doing it regulates access to the fishery. However, this regulation has not been used as it should. It is strictly applied to the medium and large scale fishers only, whose numbers have been controlled by the use of this regulation. In the case of artisanal (small scale) fishers, although they are licensed, their numbers have not been regulated using this regulation.

VI. Introduction of Participatory Fisheries Management in Malawi

The Participatory Fisheries Management Programme (PFMP) was initially introduced in Malawi by the Department of Fisheries on pilot basis in Lake Malombe in 1993 (Bell and Donda 1993). There were both sets of internal and external factors within the Department of Fisheries that influenced it to go for participatory fisheries management in Lake Malombe. In brief, it can be said that the driving force behind DoF's going for co-management was its discovery that there was over-fishing going on in the South East Arm (SEA) of Lake Malawi and Lake Malombe. The problem was aggravated by the human population growth that resulted in increased fish demand, and therefore increased fishing pressure. This was coupled with environmental degradation that ended in high siltation problem in Lake Malombe. However, the problem was exacerbated by the weak capacity of DoF to enforce fishing regulations, hence, DoFs choice to involve the fishing communities in the management of the Lake Malombe fishery.

The main objective for the introduction of PFMP as developed by the DoF was to promote recovery of the fisheries of Lake Malombe and Upper Shire to a level that can sustain an annual catch of 10,000 tonnes. This was to be achieved:

Through co-operation, dialogue and negotiation between Department of Fisheries (DoF) and fishing communities. Initially, decision-making powers were to be retained in the hands of DoF, but would progressively be transferred to community-level organisations; and

Through promotion the formation of community-level organisations, i.e. beach village groups and committees (BVCs) and a lake-wide body: the Lake Malombe Fisherman's Association (LMFA). Their objective was, to assume communal management of the resource, to articulate the views of the fishing community and to act as a channel for dialogue and extension between DoF and fishing communities.

After the introduction of the PFMP approach in Lake Malombe, fishers in other water bodies such as Lake Chiuta and Lower Shire decided to copy the approach with their own initiative, and more or less at the same time, it was introduced in Lake Chilwa to facilitate its recovery after drying in 2005 (Hara, Donda, & Njaya, 2002).

THE POLICY PROFILE

I. Mandate of department of Fisheries

The GoM´s responsibility for the proper development and management of the fisheries of Malawi is mandated on the Department of Fisheries (DoF) through its headquarters in Lilongwe and its eight District Fisheries Offices. The Department of Fisheries is a branch of the Ministry of Mines, Natural Resources and Environment (MMNRE) and the Director of Fisheries is responsible to Principal Secretary of the Ministry. The DoF's mission, vision statement and goal are outlined in Box 1.

Box 1: Mission, vision and goal of DoF

Mission statement
To provide framework conditions and excellent services for the maximization of socio-economic benefits through sustainable utilization and management of capture fisheries and increased aquaculture production.

Vision statement
To be a dynamic, high performance, consultative and client focused Department that promotes, builds and ensures sustainable development, utilization and management of the fisheries resources in Malawi.

Departmental goal
The overall departmental goal is to "Provide professional services to ensure sustainable fisheries resource utilization and enhanced aquaculture through principles of good governance". For the next half decade, the Department of Fisheries plans to pursue the following goals:

(a) All fisheries are managed according to operational management procedures.
(b) Restructure, reorganize, and strengthen Department of Fisheries for effective internal, national, and international communication.
(c) Strengthen user institutional capacity for fisheries resource management and governance.
(d) Update legislation and policy in line with other national policies and legal instruments

Structural and policy rigidities have contributed to low improvement in living standards of the majority of Malawi's population. About 60% of Malawians live below [1]poverty line as social indicators show high mortality rate, high population density, household food insecurity, environmental degradation, high illiteracy rate, low education coverage, declining incomes, high unemployment rate, high HIV/AIDS prevalence rate and high gender imbalance (GoM 1995).

The economy grew by an average of 6% between 1964 and 1979. This was above the annual population growth rate of 2.9%. However, the economic growth rate reduced to an average of

[1] One USD per day

3% in the 1980s due to rise in energy prices, change in external trade routs, influx f refugees, drought and declining terms of trade. The economic growth rate reduced further in the 1990s mainly due to poor performance of the smallholder agricultural sub-sector as a result of vagaries of weather. Consequently the average economic growth rate registered 0.6% only (GoM 1995).

To achieve sustainable development the GoM has formulated a number of strategies that are contained in the National Strategy for Sustainable Development (NSSD) following the World Summit on Sustainable Development (WSSD) held in South Africa in 2002. In terms of fisheries, the strategies are developed to reduce poverty through sustainable development and economic growth and that has been stipulated in the Malawi's Vision 2020, Poverty Reduction Strategy Paper (PRSP) which translated in Malawi Growth Development Strategy, the Fisheries Policy, the Fisheries Act, the Community-Based Natural Resource Management (CBNRM) strategy, the National Environmental Action Plan (NEAP) and the Ministry of Mines, Natural Resources and Environment's and the Department of Fisheries Strategic Plans (now in need of review as they were from 2002-2006).

II. Objectives of the National Fisheries and Aquaculture Policy

The primary objective of the National Fisheries and Aquaculture policy is **"***to enhance the quality of life for fishing communities by increasing harvests within safe, sustainable yields***"** (Section 3, 3) from the national waters of Lakes Malawi, Malombe, Chilwa, Chiuta, and Shire River and other smaller river systems and from small natural and man-made water bodies. As a secondary objective, it aims to improve the efficiency of exploitation, processing and marketing of fish and fishery products. The policy has sub-policies in extension, research, participatory fisheries management, training, enforcement and riverine and floodplains. Highlights of major objectives and strategies of the sub-policies are as follows:

- **Extension** - to mobilise communities to participate; to facilitate formation of beach village committees (BVCs); to train community groups; to distribute extension messages on fisheries and environmental issues tied to needs assessment; to improve effectiveness of extension; to tie research to address actual fishing community needs.
- **Research** - to promote demand driven, service oriented research; to identify research programmes with the stakeholders (local fishing communities); involve fishing communities in data collection and research; conduct surveys to broaden knowledge about fishing communities.
- **Participatory Fisheries Management Sub-Policy** - identify stakeholders; promote formation of local fisheries management authorities; strengthen capacity; harmonise strategy with other community committees (forest, agriculture); establish distinct boundaries for fishing areas for local fisheries management authorities (LFMAs); provide legal agreements and procedures for participation; elaborate together with LFMAs appropriate fisheries management plans and conclude agreements; support LFMAs in participating in enforcement, research, and monitoring activities; develop and maintain capacity to monitor enforcement activities and the effects of by-laws.
- **Training** - develop and provide demand-driven courses for fisheries, and co-management to support user communities; identify training needs for user communities with built in procedures with extension services with fishing communities.

- **Enforcement Policy** - maintain an effective fisheries inspectorate to support local communities in the formulation and enforcement of regulations and by-laws; hold regular meetings with LFMAs; encourage joint patrols; encourage LFMAs to issue licenses
- **Riverine and Floodplain Fisheries Policy** - to involve riverine communities in the sustainable management of the riverine environment and adjacent floodplains and wetlands; apply the co-management approach practised in lakes to riparian communities.

III. Objectives of the Participatory Fisheries Management Sub-Policy

In terms of fisheries co-management (sometimes also referred to as Participatory Fisheries Management in Malawi), Malawi is advocating for this approach as the most appropriate method to manage the fish resources in the lakes of Malawi. Co-management is legislated by the new Fisheries Conservation and Management Act of 1997. In this approach, co-management is based on establishing effective local fishing community institutions that will work jointly with Government in fish resource management. This arrangement is intended to share rationally the responsibility and authority in managing the fish resources. This sharing of responsibility cuts across the entire community and will include the full participation of men and women with their capabilities as dictated by the local fisheries by-laws.

The overall goal of the fisheries co-management sub-policy is to establish and sustain the co-management of fisheries resources between the Department of Fisheries and key stakeholders (e.g. fishing communities, traditional leaders) in order to achieve sustainable exploitation of aquatic resource management for the artisanal fisheries. There are three specific objectives and 13 strategies that were put for effective implementation of co-management under the fisheries policy. These are:

Objective 1: To achieve the active participation of local fishing communities in the management of the fish resources.
Strategies:

- Identify key stakeholders in the small scale-fishing sub-sector.
- Promote the formation of local fisheries management authorities (e.g. BVCs) and higher level entities.
- Strengthen the capacity of local fisheries management authorities to enable them to participate effectively in fish resource management.
- Harmonise strategy with other community committees (forest, agriculture, water, etc.) and co-ordinate activities with other extension services.
- Establish and uphold distinct boundaries for fishing areas for local fisheries management authorities.
- Elaborate together with local fisheries management authorities appropriate fisheries management plans (objectives, measures and regulations in line with the Fisheries Act).

Objective 2: To provide legal instruments and procedures for the participation of local fisheries management authorities in the management of the fish resources.

Strategies:

- Conclude agreements for fisheries management plans between the Department of Fisheries and local fisheries management authorities.
- Support local fisheries management authorities to participate in enforcement, research and monitoring activities.
- Review fisheries subsidiary legislation in consultation with other relevant organisations.

Objective 3: To develop and maintain the capacity to monitor, support and conduct research on co-management within the Department of Fisheries.

Strategies:

- Monitor enforcement activities of Government and local fisheries management authorities.
- Report cases of corruption and make recommendations.
- Investigate the effects of by-laws.
- Describe conflict areas between all stakeholders and elaborate recommendations (sharing or exclusion).

The policy provides an integrated framework for fisheries and aquaculture development in Malawi. It aims at the optimal exploitation and utilisation of the fisheries of Malawi's water bodies and promotions of investment in both capture and culture fisheries. The activities of the Department of Fisheries are therefore, guided by the National Development Policy and NFAP through the Departmental Strategic Plan. The outstanding feature lies in the sharing of responsibility for fish resource management between the Department of Fisheries (DoF) and the user community.

IV. The Fisheries Conservation and Management Act of 1997

The Fisheries Conservation and Management Act (FCMA) of 1997, although passed in the same year as the Forestry Act, embodies a largely different approach to resources management. As characterized in the subsequently issued National Fisheries and Aquaculture Policy (Department of Fisheries, 1999) "that orientation was mainly focused on the needs of the fish resources themselves and the Department of Fisheries was seen as the guardian of those resources.

Virtually all powers and responsibilities associated with protecting and using fisheries resources are held under the purview of the Director of Fisheries including: vessel registration, fishing licenses, aquaculture permits, fishery management plans, prohibited fishing measures, administrative penalties, enforcement, designation of fishing districts, regulations and seizure and retention of illegal fish.

V. Operational problems associated with the fisheries policy and Act

The main problems of the FCMA are that it contains very simple provisions for participatory fisheries management outlined in Part III (Local Community Participation). Secondly it was

approved before the Local Government Act was approved in Parliament. Similarly, there are problems with the NFAP. It does not deal with decentralization programme. It also leaves out some major issues such as apportionment of resource access between small and large-scale enterprises. The subsidiary legislations, namely, Fisheries Conservation and Management Regulations, GN 32 and Fisheries Conservation and Management (Local Community Participation) Rules GN 26 of 2000 were both enacted 2000. As Seymour (2005) notes, there were some technical errors in the former while the latter had no indication of area of control of a BVC, and yet BVC empowered to exclude trawlers. These are the areas that need a review to deal with decentralisation and correct errors.

Trck (2000) further analyses the policy and legislation. Observations are made on the content of the NFAP which stands in stark contrast to the FCMA. It announces a general objective "*to enhance the quality of life for fishing communities by increasing harvests within safe, sustainable yields"* (Section 3, 3). It seeks to incorporate the socio-cultural and socio-economic conditions prevailing in the sector by using participatory approaches.

In the policy, the Department of Fisheries collaboration with other stakeholders in conserving and managing fisheries resources and may enter into agreements with…communities, the private sector, and NGOs (Section 4.1 Institutional Framework) is articulated unlike in the former policy that was basically demonstrating a centralised mechanism. The NFAP elaborates sub-sectoral policies in eight areas, extension, research, participatory fisheries management, fish farming, training, enforcement, riverine and floodplains fisheries, and fish marketing. In every one of these sub-sectoral policy, it articulates specific measures to foster participatory fisheries management or co-management.

Trick (2000:14) notes "this policy constitutes a solid charter for cooperative management between the Department of Fisheries and local fishing communities". The policy provides collaboration and not imposition. It seeks participatory development of fisheries management plans, encouragement of local licensing and enforcement. The Department of Fisheries intends to maintain a close, demand-driven relationship with its most important partner, the local fishing community.

The Fisheries Conservation and Management Regulations of 2000 provide support to the policy by encouraging co-management of fisheries resources. For example, there are provisions to empower BVCs so that they can scrutinise licenses, enforce fishing regulations, close seasons, enforce conditions, seize vessels, formulate and review regulations and undertake environmental conservation. The regulations establish organisational structure for BVCs and such key supporting documents as a model BVC constitution, license, and applications. These regulations support implementation of the community-based fisheries management.

The policy framework for fisheries management has been recommended by some scholars and practitioners (Trick 2000) but the Fisheries Conservation and Management Act needs a review to provide a stronger statutory basis for its innovations. Critical activities like demarcation of the jurisdiction of Beach Village Committee (BVC) management areas and legal transfer of ownership need legal sanction for more effectiveness. Some key notable legal instruments such as transfer letters, appointment of Honorary Fisheries Protection Officers and management agreements have not yet been concluded. These delays affect operationalisation of the policy and legislation failure to establish explicit roles and responsibilities for traditional authorities (TAs) in demarcating fishing areas and adjudicating disputes and violations. It would be necessary to establish clear roles of traditional leaders (TAs) to ensure performance and to guard against corruption. Other critical areas left out in this policy include

resource mobilisation for the Fishery Department and more capacity building at the community level.

Box 2 presents three case studies on the impact of the co-management policy.

Box 2: Case studies on the impact of the PFM policy on three sites: Lakes Malombe, Chiuta and Chilwa

Lake Malombe

It is the first site for participatory fisheries management or co-management in Malawi. It started in 1993 after FAO (1993) presented results of Chambo (Oreochromis sp) decline in the lake, Upper Shire and southern Lake Malawi. The co-management started before the development of the PFM sub-policy and approval in 2001. The PFM programme was developed to sensitize the user community about the problems associated with illegal fishing practises that destroy breeding habitats, and reduce non-compliance by promoting a participatory process in the formulation of regulations. Consequently, 30 BVCs were formed as user community representatives that became partners together with DoF in the programme.

The PFM policy has not addressed much of the resource decline problems due to, among others, weak capacity to enforce regulations, dominance of non-fishers in BVCs, power struggle between traditional leaders and BVCs and lack of support from district assembly. However the recent broad based co-management with inclusion of District assembly, Judiciary and other natural resource related departments at district level has given an opportunity for formulation of by-laws that address issues of stakeholder participation like roles of traditional leaders, District Assembly, Department of Fisheries, associations and BVCs; closed areas, closed seasons, minimum takeable sizes of fish restrictions that are extended to other fish species apart from Chambo, and gear and mesh size restrictions. There is also improvement in the composition of BVCcs as they are now composed of more resource users than before. Therefore the impact of the PFM sub-policy of 2001 and Fisheries Conservation and Management Act of 1997 have enabled formulation of by-laws to strengthen existing regulations and rules on Lake Malombe.

Lake Chilwa

The Lake Chilwa co-management started when the lake dried up in 1995/96. The government and local leaders designed some rules, like banning the use of poisonous plants *(katupe, Syzigium* species), and seines in river mouths and lagoons to protect remnant fish stocks. From 1996 to 1997, after the lake refilled and fish stocks recovered, the co-management programme was effective. However, after the stock recovered the fishers became sceptical about the roles of local leaders who still continued to formulate rules that were focusing on regulating seine operations, while the actual seine fishers were also sidelined within the BVCs, much in the same way as happened on Lake Malombe. The emerging scepticism undermined the initial success of the co-management arrangement. However based on the PFM sub-policy and the FCMA, there is reorganisation of the BVCs. The seine fishers sidelined in the previous arrangement are now participating in the co-management activities. They are able to enforce regulations and indirectly restrict access to migrant Malombe *nkacha* (open water seining) fishers by setting their own by-laws on fishing methods such as prohibiting use of paddles (*malemu*) and anchors (*nangula*) so that they cannot access open water stocks. They only allow traditional use of *miponda* (bamboo poles) to propel a boat or

dug-out canoe. This fishing method will restrict migrant fishers from Lake Malombe to operate in the lake.

Lake Chiuta

On Lake Chiuta, the community initiated the co-management process in 1996. They were against *nkacha* fishing and hence sought support from the government when they formulated a regulation regarding the ban of seining operations in the lake. However, at the same time traditional leaders based in Mozambique – also bordering Lake Chiuta - continued to allow seining in their waters. The effectiveness of the Malawian ban on seine fishing was undermined by the fact that many Malawians subsequently migrated to the Mozambican side of the lake to operate their seines from there. This also led to conflict between Malawian and Mozambican fishers. However it appears the current PFM sub-policy is not clear on transboundary issues although there is a provision in the FCMA on international relations.

UNDERSTANDING THE UNDERLYING POLICY PROCESS FOR PFM

I. Theoretical basis of co-management

Concepts that emerged from the debate about the problems with common pool resources (CPRs) governance include "*co-management*," "*governance*," and "*decentralization*." In Malawi, *co-management* is also conceptualised as a participatory fisheries management (Njaya *in press*). Sen and Nielsen (1996) define it as an arrangement where the power and authority to manage a fisheries resource is shared between user groups and government. Pomeroy and Viswanathan (2003) -- more particularly thinking of Asia – include other stakeholders beside users and government – e.g. non-governmental organisations – as well. Co-management is about the inclusive right to participate in making key decisions about how, when, where, how much, and by whom fishing will occur. A problem with the actual design and implementation of co-management arrangements is the fact that some users (e.g. outsiders, elites) may get a disproportionate say in the governance of the resources (Jentoft et al., 1997). Also, as with any form of collective action, free riding may occur. In general, co-management seems to be more feasible for small-scale fisheries (Njaya *in press*). This has to do with the fact that smaller group sizes, and the relative homogeneity of communities are more conductive to collective action (Olson 1965).

A second concept that appears to be gaining popularity in the literature, and that deserves attention in this brief overview is "*governance*". Governance refers to 'how power and decision-making is shared among different components of society' (Béné and Neiland 2005:7). These components include individuals as well as community-groups and organizations. Specifically, governance arrangements include legal, social, economic and political issues applied to the management of fisheries resources. There is need to create an enabling political environment that allows various stakeholders to exercise their powers and authorities over the management of fisheries resources through decentralised systems.

Decentralisation is a third concept with relevance for the search for feasible, participatory CPR governance arrangements. It refers to any act in which a central government systematically transfers part of its powers, authority, and responsibilities to local government structures or lower level institutions such as districts and community level committees or user

groups (Ribot, 2002; Pomeroy and Viswanathan, 2003; Béné and Neiland 2005). Democratic decentralisation reforms offer an opportunity to legally supported forms of popular participation in the management of fisheries, given that they establish the prerequisites for a fair and transparent system of electing user representatives in committees, which is crucial for the legitimacy of such community level representative institutions.

The main problems associated with the development of the PFM sub-policy are that its provisions are not widely known by the actors in the fisheries sector. During its formulation process, there was limited participation by resource users as workshops organised targeted local leaders and just very few fishers across the country. There has also been lack of harmonisation with other polices key notable ones being the Decentralisation Policy that was approved in 1996. The new policy and legislation is still bureaucratic as most of powers are vested in then Director of Fisheries and there is no role for District Assemblies. This is because the policy was formulated before the Decentralisation policy. Eventually this impacts on transparency, slow process on decentralisation (for example the drafted by-laws for Mangochi await approval of District assembly or councillors who are not yet elected even some devolution steps for fisheries functions are not yet concluded despite devolution plan being in place since 2002) limited participation of the resource users as they wait for along time for decisions from Department of Fisheries, and sometimes the PFM has been poorly focused as in many BVCs especially on Lake Malombe where financial inducements in form of allowances from meetings were considered incentives, were there were many (over 70%) non-fishers in 1990s and early 2000s but now the situation has improved through the development of a decentralised fisheries management arrangement, and limited participation of other sectors in the PFM by Ministries/Departments such as Agriculture and Irrigation, Forestry, Health, Judiciary, Marine and Wildlife.

II. Policy development process

Politically, Malawi became an independent state in 1964 from the British ruled federation of Rhodesia (Zimbabwe) and Nyasaland (Malawi). Malawi became a republic and a one-party state in 1966. The country then became a democratic multi-party state in 1994. The head of State is the democratically elected President, whose term of office is five years. The executive power is vested in the President and the legislative power in the National Assembly.

In terms of fishing, the first fishing regulations in Malawi, the then Nyasaland, were introduced in 1930, by adding a section (Section 3: Fishing Rules MP.437 of 1930) to the Game Ordinance (Chirwa, 1996). The ordinance statutorily enabled the Ministry of Mines, Natural Resources and Environment to implement, through the Department of Fisheries[2], regulations with regard to the sector. In 1949 the objectives of these regulations mainly aimed at controlling fisheries, to regulate commercial fishing, to assure its taxation, and to provide, as far as it was possible, an equitable return to the largest possible number of fishermen and all those engaged in the fishing industry.

By 1973, the Malawian political institutions noted the need to formulate a new Fisheries Act. It became necessary to take into account: a) the need to conserve fishing stocks to give a long term optimum catch; b) to adapt fishing methods regulations to modernised gear; and c) the dangers of pollution. Consequently, a completely new statute, namely the Fisheries Act, 1973, replaced the Fisheries Ordinance of 1949.

[2]The Department of Fisheries in Malawi was established in 1946 (Chirwa, 1996).

As part of the process of consolidating democracy and as a strategy for realising the country's development goal of poverty reduction, the Malawi Government expressed its desire to decentralise political and administrative authority to district level (NDP, 1998). As a result of this, the late 1990s saw the Government of Malawi change its policy of centralised administration and management to decentralisation.

Policy development in the one-party era was primarily government centred. The process of policy development looked at issues of policy research, development theory, sectoral profiles and constraint analysis and outlined the mechanism by which the information may be collected in order to update an Annual Sector Policy Statement (ASPS). This statement was ensuring that sectoral policies were in-line with National Development Policy, the macroeconomic climate and cross sectoral policies of relevance. However, some of the sectoral policies were not developed to take into consideration the recent changes in the understanding of the sector, macroeconomic policy changes or changes in the policies of other sectors. The fact that the policy development process was government centred, the process was relatively faster as there were only a few stakeholders that were consulted if any at all. The technocrats in the concerned ministries developed the policies. In so doing, there was very little transparency and consultations in the process.

The current policy in use by the Department of Fisheries was developed in the multi-party era, where issues of transparency are the order of the day. The policy development process required the assimilation of information from the Fisheries Bulletins, Research Papers, National Development Documents and cross-sectoral documentation, conducting stakeholder consultations, production development options for consideration by Senior Departmental Management, identification of policy and strategy conflicts and development of harmonisation mechanisms for these. The final output at this level was the production of an Annual Sector Policy Statement (ASPS) which identified priority objectives and strategies. This was reviewed through a formal Policy Review (PR) and changes were made accordingly in the preparation of the policy.

The present strategies of the Department of Fisheries reflect policy priorities established some time ago (late 1990s and early 2000) and may need to be reformulated in light of: development policy research, analysis of the current status of the sector, identification of sectoral development potential, constraint analysis, human resource potential, availability of development resources and strategy conflicts and harmonisation. Reformulation of the strategies will provide a framework to guide the Department's activities over the next few years but should also constitute the basis of an ongoing policy development and planning process. To achieve this, Guidelines on Sectoral Planning will need to be produced (in line with national development planning procedures).

In order for sectoral policy to develop, relevant information must be collected to assess the current impact of development initiatives and make necessary adjustments. The national context must be observed so that sectoral policy remains in line with national policy. Information is therefore needed from the national macroeconomic context, from within the sector itself and from other sectors of the economy. Information relating to the national scene may be collated from various sources. The National Statistics Office provides useful statistical information to support the development of policy documents.

In line with decentralisation policy, by mid 1990s, a need to review the fisheries policy and legislation that was expressed in 1980s but the process started in early 1990s to accommodate the community participation element with a gradual shift in the fisheries management philosophy from the conservation paradigm to the social/community paradigm, i.e. focusing on fisher community involvement in fisheries management. Two types of meetings were held

during the policy formulation process: departmental and stakeholder meetings. The departmental meetings were held by professional and technical staff of the DoF while the stakeholder meetings were held with selected fishers and chiefs. As such, the Fisheries Act of 1973 was reviewed with the intention of including community participation in fisheries management. A new act known as Fisheries Conservation and Management Act (FCMA), 1997, was then passed in parliament in October, 1997 to replace the 1973 Fisheries Act (GoM 1997). Thereafter the National Fisheries and Aquaculture Policy (NFAP) was approved in 2001.

The aim of holding the consultative meetings was to gather relevant information and views from the fishers and local leaders on the course of policy action for improved management of the resource. The departmental meetings were held in districts with attendance of extension agents while the national consultative meeting was held in Mangochi in 1996.

III. Relations between actors

During the stakeholder analysis for Lower Shire the following stakeholders (Table 2) were identified. All the primary, secondary and tertiary stakeholders need to collaborate and support each through dialogue and interaction for an improved governance system for the management of the riverine fisheries resources.

In this context, the primary stakeholders fishers and fish farmers (both small-scale and commercial or whether operating at individual or in groups) are insiders with the primary aim of sustaining their livelihoods through an improved fisheries management regime. However, there is power struggle between the primary and secondary stakeholder group especially between the fishers and traditional leaders or some BVCs. This has been documented elsewhere (Hara et al 2002; Njaya 2007 *in press*). There relationship is also weak between the DoF and district assembly as issues of fisheries or environmental management issues are not seriously considered crucial for sustainable development by local district governments or assemblies. They rather consider infrastructural development projects such as school blocks, health facilities, water supply very important and not fisheries or forestry issues.

To improve the situation there is need for a decentralised fisheries management whereby a broad-based participatory fisheries management is advocated like the case of Mangochi (Lakes Malawi South and Malombe. In this case, the district assembly should take a leading r\ole in fisheries management issues through the Area Development Committees (ADCs) and Village Development Committees (VDCs). The BVCs should report to the assembly though the VDCs and ADCs. Fisheries resources should be considered a public good and any benefits that accrue from its utilisation through levies by district assemblies should be ploughed back to the fishing communities.

Table 2: Stakeholder analysis for Lower Shire (Food Security and Poverty Alleviation Project 2006)

Stakeholder Group	Name of stakeholder	Population
Primary stakeholders	Fishers	Numerous
	Smallholder fish farmers	Few
	Fishers clubs	Very few
	Commercial fish farmers	Very few
Secondary stakeholders	Beach Village Committees	Many
	Fish traders	Many
	Fish consumers	Numerous

	Fish processors	Few
	Department of Fisheries	Few
	Nutrition Rehabilitation Centres	Few
	School children	Many
	Ministry of Health	Few
	Lower Shire Fisheries Association	Few
	Boat/Canoe builders	Very Few
	Transporters	Many
	Ice plant operators Local leaders	Very few Many
External stakeholders	Smallholder farmers	Numerous
	Malawi Social Action Fund	Few
	Business persons (Groceries)	Few
	NGOs	Few
	Other government ministries and departments	Few
	Money lending institutions	Very few
	Marine Police and Judiciary	Very few
	Private companies	Few
	Politicians	Very few
	Professional hunters	Very few

IV. Possible policy spaces and policy options

Identification of policy issues should not be considered a DoF's responsibility only but rather a collective effort with participation of various stakeholders. Improved governance system for fisheries or natural resource management is recommended. This is where active participation of the poor fishers in decision-making processes will be necessary foe legitimacy of the process. There is need to involve several sectors that are relevant to management of the fisheries resources. For example, along the Shire River where Department of Forestry is facilitating a PFM through formation of Village Natural Resource Committees (VNRMS), DoF should also use the same forum to advocate formation of BVCs rather than same people belong to various user committees. Similarly, where a water way (such as the Shire-Zambezi Water Way Project) is being developed for transport there will need no need to consider establishment of artificial reefs as any objects placed under water may damage vessels. Therefore there is need to improve governance of the natural resources at district and national levels for an effective participatory, transparent and a process that is accountable. This may take a longer time as this would involve capacity building at district level and change of attitude among local people.

The DoF under the Ministry of Mines, Natural Resources and Environment (MMNRE), has had a devolution plan since 2002. The problem as, Seymour (2005) notes, was that the devolution plan was not thoroughly analysis as has been case with other departments due to funding problems. The task was internally done through a series of meetings identifying functions to be retained and which ones to be devolved to the assemblies. Table 3 shows the core functions that were devolved.

Table 3: Devolved functions of the Department of Fisheries (GoM 2002; Seymour 2005)

Core Functions	Proposed Devolved Functions	Proposed Retained Functions
▪ Licensing and registration of fishers ▪ Registration of fishing vessels ▪ Fisheries extension ▪ Regulation of fishing activities ▪ Policy guidance ▪ Civic education ▪ Fisheries research ▪ Enforcement of fisheries legislation	▪ Capacity development for effective fisheries management at district level ▪ Fisheries extension ▪ Licensing and inspections ▪ Community participation in fisheries management	▪ Legal and institutional arrangements in fisheries sector ▪ Generation of data including research for development of management plans ▪ Capacity building through training ▪ Cooperation between fisheries component and other ENRM components at all levels

The fisheries sector devolution plan appears not properly articulated as compared to other devolution plans. Therefore in case of future review of the NFAP and its co-management sub-policy, Seymour (2005:13-15) recommends as shown in Box 3.

Box 3: Recommendations for future policy review

Maintenance of policy and legal framework for the fisheries sector: This appears as the core functions "policy guidance" and "regulation of fishing activities" and as the retained function "legal and institutional arrangements" – should not the districts also have a role in determining local policies and by-laws within the limits of national policy? The core function "Enforcement of fisheries legislation" does not appear as either a devolved or retained function, although it is hinted at within the devolved function "Licensing and inspections". Is there a future role at all for DOF in law enforcement? Perhaps in monitoring compliance? Should the devolution plan indicate also the likely division of responsibilities between local government and CBOs?

The Local Government Act, 1998, is silent on the subject of specialist sectoral law enforcement, although the National Decentralisation Policy refers to "policy enforcement" as a function to be retained by line ministries. Fisheries enforcement would make little sense as a central government function.

Licensing and registration of fishers, registration of fishing vessels: It is appropriate that this be largely devolved to the district level, but it is understood that a decision has been taken to retain central government control over the licensing of large-scale commercial enterprises. This should be reflected in the devolution plan. The core function "civic education" does not appear as a devolved or a retained function.

"Training" does not appear as a core function, although it is shown as a retained function.

The core function "fisheries research" appears as the retained function "generation of data …". Has a decision been made on how the routine collection of catch statistics will be treated? The staff involved with this function are numerous and scattered throughout the nation's fishing waters, therefore it would seem logical to devolve most of this function. But the information generated is of national importance, and there should therefore probably be a strong corresponding role for the DOF in performance monitoring and the maintenance of data standards.

The core function "fisheries extension" is shown as one to be devolved, as would be expected. But a continued central government role in fisheries extension might also be useful, e.g. extension inputs from Malawi Fisheries Research Institute (MAFRI) and from Malawi College of Fisheries (MCF).

The devolved function "capacity development for effective fisheries management …" is explained in the more detailed DOF devolution plan as the allocation of adequate human resources to the districts to ensure successful performance after full decentralization. In this sense, "capacity development" is a strategy rather than a function.

The devolved function "licensing and inspection of fishing gears", as explained in the DOF devolution plan, includes two sub-components that have not previously been attempted: "control of fishing effort" and "establishment of quotas". Both of these are sophisticated and difficult management measures: indeed the consultant has not encountered any instance of quota management being successfully implemented anywhere in the world.

The function "community participation in fisheries management" does not appear as a core function, although it does appear in the list of functions to be devolved. This is a further function in which a role for the DOF could be argued, at least in the provision of guidance in management planning and in setting and monitoring standards for management plans and agreements

Seymour (2005: 13-15)

POLICY COHERENCE BETWEEN FISHERIES AND OTHER POLICIES

Various sectoral and multi-sectoral policies impact on the lives and livelihoods of the Shire River communities. The relationship between the NFAP and its sub-policy on PFM will be considered in this section. Several sectoral policies are related to management of the commons such as land, wildlife, diversity, water, forest and fish in the Lower Shire (Njaya and Chimatiro 1999). In addition the decentralisation policy becomes a central theme as it entrenches governance issues in the management of the fisheries resources Table 4 below outlines the key policies.

In broader sense the policies are congruent with the NFAP or the co-management sub-policy where they promote conservation or proper utilisation of the fisheries resources through reduction of soil erosion and siltation, protection of habitats, and pollution in the river. They also have a common interest with the NFAP where they promote community participation in development activities. The cross-cutting policies, the National Gender Policy and National HIV/AIDS Policy are relevant for fishing communities. The Gender Policy promotes participation of women in fish-related activities. The HIV/AIDS Policy is necessary for the fisheries sector due to migratory patterns of the fishers and fish traders from one place to another. They can take several days on a beach buying and processing fish and they also take a long time selling the fish products in various markets. In such cases they become vulnerable to HIV infection if no safe sex methods are practised. In some cases the fisher women traders engage in relationships with male fishers so that they can buy fish faster than others. This is mostly in cases were fish landings are low.

The policies are incongruent where they encourage pollution through improper waste disposal, soil erosion through environmental degradation with deforestation and bad farming practices. They are divergent where they promote centralised management of the natural resources such as the National Parks and Wildlife policy. The Gender Policy may contradict with a provision in the Labour Act that limits participation of young boys and girls in fishing at the age of less than 18.

The situation can be improved if planning of the natural resources is done at district level. The introduced district development plans should be encouraged to ensure that the policies are congruent and address issues that affect livelihoods of the fishing communities. Fore example Lower shire is vulnerable to floods and drought, any projects that aim to address the problem should be conducted in a comprehensive manner as various sectors will have to play a role for food security while at the same time ensuring that lives are not threatened with floods drought. If vegetable growing is promoted it should not be done in such a manner that it will encourage soil erosion but measures such as storm drains or contour bunds may be constructed to reduce high water flow. Planning for any projects should be done at district level with participation of the communities and elected members of the assembly who are accountable to the villagers. Therefore governance should become a key element in the development of policies that are harmonised.

Since Shire River is shared between Malawi and Mozambique, transboundary issues should be considered. The Southern Africa Development Community (SADC) Protocol provides for community participation in the management of shared resources (Article 7). The Fisheries Conservation and Management Act also recognise the need for internal cooperation in fish

resource management. If ratified, the SADC Protocol can provide necessary guidance for sustainable utilisation of Lower Shire fisheries resources between Malawian and Mozambican fishing communities that cross the broader frequently as a coping strategy during drought period.

DISCUSSION AND CONCLUSIONS

The importance of understanding a policy process is that it becomes easier to identify relationships that exist between the fisheries policy and other policies, gaps that exist assess performance of the policy. In this context it becomes easier to identify areas of conflicts or where they can support each other. With governance and stakeholder analysis it is easy o identify actors in the fisheries management process. With the process analysis gaps that exist in the policy can be identified an ways proposed for improved performance.

From this policy analysis review it is clear that while Malawi has put in place a policy on participatory fisheries management or co-management and legislations, there is still a need for a review. However the relationship between fisheries and livelihoods exist but is relatively weak as not much is being implemented. The policy development process did not recognise participation of other sectors mainly Marine Department, Agriculture and irrigation, Local Government, Parks and Wildlife, environmental Affairs and Forestry. There is limited legal support for the policy as the provisions such as definitions of BVCs are not properly presented. Participation in the policy process is weak as there is still a top-down approach in decision-making processes and the policy is process state-centred, based within some bureaucracies which cannot easily be changes to suit local situations. There is limited participation of the small-scale, artisanal fishers who operate traditional gears and craft. For example, the need for a policy review is by the DoF and not the community. The fishing community is not even aware of the policy. In this case there is limited transparency in the whole process.

In terms of governance issues, the co-management institutions such as DoF, district assembly BVCs and associations are weak. Their capacity to manage fisheries resources is weak. There are limited management skills for co-management within the DoF as some staff are still implementing co-management as if they are still in the centralised system. This is mainly due to inadequate financial resources and appropriate technical skills. There is however there is potential for political support for the co-management as at present rather than in the past. There was much politicisation of some fisheries activities especially in the enforcement of regulations. Finally, delay in devolving fisheries functions to user committees remains an important issue. This is important for empowerment of the co-management institutions.

The future policy options demands recognition of more powers at district levels (Seymour 2005). Activities like licensing and registration of fishers, registration of fishing vessels, it is recommended that this be largely devolved to the district level, and not retained at central government level. The district assemblies should also have control over the licensing of large-scale commercial enterprises and not small-scale boats only. Therefore the devolution plan should indicate the likely division of responsibilities between local government and user committees. Additionally, the Local Government Act, 1998, should have a provision on the subject of specialist sectoral law enforcement, although the National Decentralisation Policy refers to “policy enforcement” as a function to be retained by line ministries. Fisheries enforcement would make little sense as a central government function.

The core function “fisheries research” appears as the retained function “generation of data …”. It is not clear how the routine collection of catch statistics will be treated in future. The staff involved with this function are numerous and scattered throughout the nation’s fishing waters, therefore it would seem logical to devolve most of this function. But the information generated is of national importance, and there should therefore probably be a strong corresponding role for the DOF in performance monitoring and the maintenance of data standards (Seymour 2005).

These findings ensure a proper valuation of fisheries and benefits from other related sectors such as tourism in national parks, water way, agricultural production, small-scale sugar production, small-scale and commercial fish farming at Kasinthula, cost of potential pollution from waste disposal in Blantyre city and Lower Shire from Sugar processing companies if there are any.

Finally, there is need to inclusiveness when formulating a fisheries policy. The process should not be treated an internal matter of the DoF but rather be transparent with involvement of the poor fishers. For example, there are conflicts between small-scale and commercial fishing units on Lake Malawi because of the policy provisions. There has been a concern by small-scale operators as to why the commercial fishing units do not close to trawling during certain months of the year and yet it is only the small-scale fishers that are being targeted. Reasons provided by DoF are not convincing enough to solve the problem. It is only through participation of all categories of fishers and other departments and district assembly that these issues can be discussed and a proper regulation or policy formulated.

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ANNEX

List of relevant policies to management of fisheries resources and areas of congruence

Key Policy/Act	Objectives	Areas of common interests or divergent interests
National Environmental Policy (1996)	In response to the Rio de Janeiro's Earth Summit under Agenda 21, the Malawi Environmental Policy was formulated. In terms of fisheries, it aims at managing fish resources for sustainable utilisation, production and conservation of aquatic biodiversity	Reducing erosion and siltation in the Shire river Minimise pollution from processing industries in Blantyre City or Lower Shire Maintaining biodiversity
National Forestry Act (1997)	Among others, it aims at identifying and managing areas of permanent forestry cover as protection or production forest in order to maintain environmental stability; to prevent resource degradation ad increase social and economic benefits. In addition the Act aims at promoting community involvement in the conservation of trees and forest reserves and protected areas	Reducing erosion and siltation in the Shire river
Water Resources Policy (1994)	The policy aims at ensuring that all citizens of Malawi have and will have and will continue to have convenient access to water in sufficient quality and quantity; provide water infrastructure and services that will underpin the economic development of all sectors of the economy and preserve and enhance aquatic	Enhance aquatic riparian environments If not properly managed, water abstraction may affect water levels in the river thereby affecting aquatic life such as fish

	riparian environments.	
Irrigation Policy	The irrigation policy aims at promoting social and economic development through irrigate agriculture that is sustainable over time, economically justified financially viable, socially acceptable and technically sound without causing unacceptable impacts on the environment.	Ensures food security for the Lower Shire basin population Promotes cultivation of crops along the river banks. This increases soil erosion and siltation if not properly planned
Land Resources Policy/Act	The Land Resources Policy and Act are being reviewed. At present land is being governed by the land Act (Cap 15.01), the Customary Land Act (Cap 59.01) and the Registered Land Act (cap 65)	Soil conservation measures, good habitat planning and proper farming methods reduces soil erosion and siltation
Inland waters Shipping Act (195)	For vessel inspection and registration	Does not recognise dug-out canoes and small boats in terms of safety measures
Agriculture and Livestock Development Policy (1995)	Among others, the policy has emphasis in the following areas: increasing agricultural productivity, encouraging agricultural diversification, and increase food production by irrigation and drought resistant crops.	Proper farming methods reduces soil erosion and siltation However, cultivation of crops along river banks promotes soil erosion and siltation thereby affecting spawning grounds of fish
Parks and Wildlife Act	This Act aims at ecosystem management through sustainable harvesting of sustainable yield and the need to preserve rare and endangered species and biotic communities.	Conserves biodiversity in which case threatened fish species such as *ngunga* may be conserved for future generation
Decentralisation Policy (1996)	The Policy objectives are to: create a democratic environment and institutions in Malawi for governance and development at the local level which facilitate the participation of the grassroots in the decision-making; eliminate dual administrations	Promotes accountability and good governance at the local level Facilitates the participation of the grassroots in the decision-making

	(field administration and local government) at the district level with an aim of making public service more efficient, more economical and cost effective; and to promote accountability and good governance at the local level in order to reduce poverty	
National Gender Policy (2000)	The policy goal is to mainstream gender in the national development process to enhance participation of women and men, girls and boys for sustainable and equitable development for poverty eradiation	Articulates gender participation especially for women who do fish trading business However it may contradict with the Labour Policy on recommended age for workers as in fisheries people as young as less than 10 years old fish sing various traditional gear types
National HIV/AIDS Policy	The goals of the policy are to guide the national response in order to: prevent the further spread of HIV infection; and mitigate the impact f HIV/AIDS on the socio-economic status of individuals, families, communities and the nation	With fisher and traders migrating from one place to another and relationship between fishers and traders of opposite sex they become vulnerable to HIV infection