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Fisheries Co-Management: the Zambian Experience

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ABSTRACT

Since the late 1980's various forms of fisheries co-management initiatives have been implemented in some of the major fisheries in Zambia. The reasons for instituting co-management arrangements have been varied and have ranged from the need to control the influx of immigrant fishermen to the desire to encourage the use of legal fishing gear. This paper looks at the manner that co-management has evolved in three fisheries namely Lake Kariba, Lake Bangweulu and the Mweru-Luapula fisheries. It shows that after more than 10 years of co-management the results are still mixed. On one lake there is some form of co-management while on the other two these initiatives have not been very successful.

INTRODUCTION

For more than fifteen years now Zambia has instituted policies that seek to decentralise the management of natural resources from the centre to the users in various Community-Based Natural Resource Management (CBNRM) initiatives. In the face of increased poverty especially in the rural areas, these policies seek to place priority on the utilisation of resources to previously marginalised communities so as to achieve sustainability and improve livelihoods.

In Zambia, the National Environmental Action Plan (NEAP) of 1994 sets the broad framework for CBNRM in the country. The NEAP was founded on the principle that local communities and the private sector should participate in natural resources management (Government of the Republic of Zambia, 1994). This was intended to consolidate the gains made in the management of resources especially wildlife in a context of declining government expenditure.

The Administrative Management Design for Game Management Areas (ADMADE) in the wildlife sector is premised on the transferring of responsibilities and benefits of managing wildlife to rural communities. In 1999 the Wildlife Act was amended making local communities have legal rights over wildlife resources (Mwenya et al. 1990). The purpose of this paper is to explore how the decentralisation of management roles to users has fared within the fisheries sector. The paper will use examples from three fisheries namely Lake Mweru/Luapula, Lake Bangweulu and Lake Kariba to show how co-management was instituted and the current status of these efforts.

FISHERIES SECTOR IN ZAMBIA

About 7% or 53,700 km² of Zambia's surface area is covered by water setting the stage for a thriving fishing industry in the country. These water bodies produce between 65,000 to 70,000 tonnes of fish annually. These figures do not, however, include production for subsistence purposes which is quite substantial. The fisheries sector in the country accounts for about 3% of the Gross Domestic Product and the industry is the third largest employer.

Despite these production figures the per capita supply of fish has declined from 12 kg/year in 1985 to 7kg/year in 2000 (MACO, 2002). The decrease in consumption rates has been attributed to the increasing population which has put pressure on fish stocks leading to unsustainable fishing habits and subsequent declines in catches.

The fish production figures account for about 3% of the country's Gross Domestic Product (GDP). Given that fish products are among the lowest-priced source of animal proteins consumption has tended to increase with declining incomes. According to a 1998 survey the proportion of fish to household food expenditure increased from a low of 5.5% in 1993 to a high of 7% in 1998. The highest level was however reached in 1996 when fish accounted for 12% of household purchases of food (MACO, 2002). The survey further shows that fish consumption increased considerably in rural areas where there are significant water-bodies such as Luapula, Northern, and Western Provinces. This can be attributed to the increase in the number of people taking up fishing as the formal economy contracted during the period (Jul-Larsen et al, 2003). The 12% figure of animal protein obtained from fish in Zambia is low when compared to other land-locked Sub-Saharan countries such as Malawi and Uganda where fish contributes about 38% and 30% respectively towards the protein needs of households (Bèné and Heck, 2005).

The low fish production figures in Zambia belie the existing potential that exists in the fisheries and aquaculture sector. The potential of making this sector one of the main weapons in poverty-alleviation and improved nutrition is immense. The country has three major basins where most of the country's fisheries are located. These are the Zambezi, Luapula and Tanganyika Basins. They support fisheries in Lakes Mweru, Bangweulu, and Luapula. The Zambezi catchment supports the Luangwa, Lukanga, Kafue and Zambezi River fisheries. These fisheries are exploited by mostly small-scale fishermen rather than commercial and highly organised units. Most of the craft used are canoes propelled by hand with a few having mechanised vessels. There are also seasonal streams and rivers which provide fish for subsistence for many people especially in the rural areas.

While total demand for fish is estimated to be in the range of 100,000 metric tonnes per annum, production from capture fisheries has fluctuated between 65,000 and 70,000 tonnes for a variety of reasons. The difference could easily be accounted for through improved aquaculture. However, aquaculture is still a long way off in meeting the balance from capture fisheries. It is estimated that there are currently about 5, 000 aquaculture farmers in the country. Less than ten of these farmers can be classified as being commercial (MACO, 2002). Production in the aquaculture sector rose from 88.5 metric tonnes in 1967 to about 700 metric tonnes by 1982. 2002 estimates put the figure at 10,000 tonnes (MACO, 2002). Most of the fish farmers are concentrated in the Eastern, Northern and North Western Provinces. Production is constrained by a number of factors such as the non-availability of a legal framework in which to operate; poor institutional arrangements; lack of quality fingerlings and feeds and shortage of experienced extension staff.

MANAGEMENT OF THE FISHERIES SECTOR

By law the Department of Fisheries (DoF) in the Ministry of Agriculture and Cooperatives is responsible for the management of the country's fisheries. This mandate is contained in the Fisheries Act of 1974. Owing to inadequate resources and lack of attention at policy level, the DoF offers only a token presence in most of the fisheries. However, one of its most visible presences is the enforcement of the annual closed season which takes place December and March. During this period DoF staffs undertake joint operations with other law-enforcement agencies to confiscate gear and apprehend fishers who are found to be found fishing during the closed season.

Another layer of management over the country's fisheries is that of traditional authorities. During colonial rule local administrative structures known as Native Authorities (NA) were funded through natural resources. Through the NA's the chiefs were allowed to impose levies and licences for the harvesting of natural resources such as fish. These levies became an important source of revenue for running these local areas. Although Native Authorities were abolished after the country's independence in 1964 Traditional Authorities have maintained some leverage over the management of fisheries resources. In the process this has led to conflicts with other users of the resources (Wilson et al, 2004).

Most of the management roles that were given to Traditional Authorities during the colonial era were transferred to Local Authorities in the post-independence period. Consequently, today the Local Authorities obtain part of their revenue from fish. This is normally calculated on the amount of fish that a trader is carrying out of a given fishery. Apart from collecting the levy the Local Authorities do not play any other part in fisheries management.

EMERGENCE OF CO-MANAGEMENT ON LAKE MWERU/LUAPULA

The Mweru-Luapula fishery is in the northern part of Zambia in Luapula Province on the border between Zambia and the Democratic Republic of Congo. It is divided into two Systems. Lake Mweru proper starting from the Luapula River mouth to Luvua River in the north and is approximately 110 km long and 40-50km wide. Its depth varies from 2 m. in the south to 27m in the north. Its total area is about 4580 km² of which 58% belongs to Zambia. The Luapula River system stretches from Mambilima Falls to the mouth of Luapula River. Below Mambilima Falls, the River forms an extensive swampy flood plain of about 160 km and 5-18 km wide. This swamp system with its numerous oxbows and lagoons is interlinked with the open waters of lake Mweru. Both systems make up Mweru-Luapula Fishery.

Some form of co-management in the fishery was initiated in 1985 and was a reaction to gear thefts. Fishing Associations (FA's) were formed with the main objective of stopping gear thefts but later on they started incorporating fish conservation issues in their agenda. Another objective of FA's was to offer assistance to members in times of hardship such as bereavements.

Membership was only open to fishers although other community members were free to join if they so wished. Interestingly, the FA's were created by fishers who felt a need for them and the DoF did not initially take an active part in their operations.

By 1990 FA's began to experience a number of problems. First, they were poorly funded and could thus not operate effectively. Their main sources of funds were subscriptions from members and sometime this was given on a voluntary basis. Secondly, they did not receive the required support from the government in general and the DoF in particular. The police for instance, considered them to be a vigilante outfit which was operating outside the country's laws. Thirdly, they were also resisted by the Traditional Authorities who felt threatened by their presence. Fourthly, most of the members of the FA's were also farmers such that at certain times of the year they would abandon their fishing activities to go into farming. During such periods they FA's would remain inactive leading to frustrations for those who remained in the fisheries.

In 1992 the DoF instituted what they called the Conservation and Management Action Programme (CAMAP) with funding from a donor agency. The objective of CAMAP was to promote 'conservation dialogue' in the fishery. By 1994 CAMAP had managed to convince most of the fishers to protect the breeding areas of fish. However, realising the potential of CAMAP in solving their grievances the fishers began to question the role of local authorities in the fishery. In particular, they questioned the collection of fish-levies which were not ploughed back into the activities of CAMAP but were instead used for other purposes such as paying wages for local authority staff. The local authorities resisted these attempts on the grounds that they were mandated by law to enact by-laws which empowered them to collect fish-levies.

By 2000 the CAMAP concept began to face problems. As the lake is shared by the Democratic Republic of Congo (DRC) conservation measures that were being instituted on the Zambian side were not being observed on the other shore line. This began to breed resentment by Zambian fishers who did not see the point of embarking on conservation measures which their DRC counterparts did not respect. Secondly, the Traditional Authorities still felt threatened by these institutions that were not under their control. To this end, they frustrated their operations. In a social survey conducted in 2004 it was revealed that these co-management institutions were still in place in the fishery. The survey further revealed that there was disagreement among fishers on the appropriate role of Traditional Authorities in the management of the fishery but most were agreed that DoF was the appropriate vehicle through which to institute co-management (Wilson et al 2004).

CO-MANAGEMENT ON LAKE BANGWEULU

Lake Bangweulu is actually a swampy area with few lakes. The fishery contributes about 20% towards the country's total fish production (Til and Banda, nd). Although most of the actual fishing is done by men, there is large

number of women involved in fishing for subsistence, processing and fish-trade.

The DoF introduced the concept of co-management in the fishery in 1996 through a donor-funded project. This was initially done by conducting a Participatory Rapid Appraisal to generate dialogue among the diverse actors and create a platform through which to manage the fishery. Later Fish Conservation Committees (FCC's) were formed. However, some of the major actors in the fishery refused to join in the initiative. In particular, the Local Authorities refused to allow the FCC's to collect the levy which was supposed to be used to support co-management at the local level. The co-management process in Lake Bangweulu made a deliberate decision not to involve the Traditional Authorities in their operations.

One major problem, however, was that there was very little capacity within the DoF to carry out co-management activities. The concept was very new in a department whose major role had, hitherto, been that of enforcing fishing regulations. In the end, co-management did not succeed in Lake Bangweulu. Apart from the above the other reasons were that the FCC's were perceived to be male-dominated organs as they did not involve fish processors and traders the majority of whom were women. Secondly, the scattered nature of fishing settlements coupled with rapid migration of people to and from the fishery was a hindrance to the smooth operations of the FCC. Today, the FCC's are no longer in place in Bangweulu and there is no co-management taking place.

CO-MANAGEMENT ON LAKE KARIBA

The introduction of co-management on Lake Kariba came about due to a combination of several factors and dynamics in the fishery. Like in Lakes Mweru/Luapula and Bangweulu the concept was introduced by DoF through a donor-funded project. While the role of Traditional Authorities in the two other fisheries was rather ambiguous, on Lake Kariba co-management was initiated partly to make these institutions more active. It was noted that there were post-colonial changes that had reduced the role of traditional authorities in management. In turn, this had engendered the unrestricted entry of immigrants from other regions of the country into the fishery. Concomitantly, this had led to an increase in the use of illegal fishing methods and the setting-up of settlements anywhere along the lake shore and on islands (Chipungu and Moinnudin, 1994). Furthermore, scattered fishing camps in the fishery made it difficult for DoF not only to collect accurate statistics on yields but also to monitor the violations of fishing regulations.

The new co-management arrangements led to the setting-up of designated fishing settlements on the lake shore and to delegate to the artisanal fishers responsibilities and authority to control and manage particular fishing grounds. In this manner the artisanal fishermen would then control access and enforce fishing regulations in those fishing grounds. Another secondary benefit of this co-management arrangement was that other actors in the fishery such as the

local authority would find it easier to provide the necessary social services to fishermen's households such as schools and health facilities.

For management purposes the shore line was divided into 4 zones. These zones were to be an area of the lake and the mainland falling under the jurisdiction of a local Traditional Authority. These zones are administered by Zonal Management Committee's (ZMC's) which comprise of a Traditional Authority in that particular zone, a local authority representative, a DoF official, four fishers a representative of NGO's operating in that zone and two businessmen 'with well established businesses' (Chipungu and Moinnudin, 1994: 5). The roles of the ZMC's are to co-ordinate the activities of fishing camps under their zones. They are also responsible for monitoring fishing regulations. In each fishing camp and below the ZMC's there are Integrated Village Management Committees (IVMC's). The IVMC's comprise of an elected chairman from among the artisanal fishers in that camp, three elected ordinary members, a village headman, a Fisheries Assistant and a Village Scout appointed by the DoF. The IVMC's have the task of controlling access to the fishery by vetting new entrants. Fishermen from other fisheries or from other fishing camps within Lake Kariba have to be vetted by an IVMC before they can start fishing. In addition, the committees are also going to be responsible for enforcing and monitoring fishing regulations. The Fisheries Assistants and the Village Scouts in the committees were to be primarily responsible for the enforcement of fishing regulations.

Initially, these new arrangements led to a number of conflicts among the various actors involved. There were conflicts between the largely immigrants fishers and local people. Due to fluctuations in catches it is imperative that fisher have access to land for agricultural purposes. The local people resisted the idea of sharing their agricultural land with immigrants whom they considered to be 'foreigners.' Secondly, the local authority refused to surrender the revenue from fish levies to the ZMC's on the grounds that these institutions did not have a legal backing. Indeed, the Fisheries Act does not recognise the institutions that have been created to promote co-management. Efforts have been made since 1994 to have the act amended but these have stalled. As a compromise the ZMC's were registered as associations and are still operational. The ZMC's have become so self-reliant that they even able to fund DoF officials to their annual meetings (Malasha, 2003).

ISSUES FOR CO-MANAGEMENT IN ZAMBIA

As the above examples have shown, co-management in Zambia has to contend with a lot of factors. First, there are overlapping layers of management in the country's fisheries, and each layer has its own source of legitimacy and relevance. While the DoF is legally in charge of management, the traditional and local Authorities all have a claim in one way or another on these fisheries. In the Lake Mweru/Luapula fisheries the local chiefs have their personal lagoons which are not subject to the Fisheries Act such as the closed season.

Secondly, there is currently a legal vacuum in the country in terms of co-management. While CBNRM arrangements in other natural resources such as forests, water and wildlife are backed by legal provisions, this is not the case within the fisheries sector. Efforts to revise the Fisheries Act of 1974 to recognise co-management arrangements have not succeeded to date. Thirdly, there is institutional weakness at the DoF level. The department is located in a ministry whose main focus is crop production.

Consequently, policy matters related to the industry are not given the priority that they require notwithstanding the fact that the sector is the fourth largest employer in the country. Fourthly, the migration of people from the fishery into agriculture and vice versa has an effect on the management of the fishery. Data has shown that most people will be engaged in fishing and other livelihood activities at the same or at different times (Jul-Larsen et al, 2003). This fact of life among fishers needs to receive recognition when implementing co-management activities.

ROLE OF THE WORLDFISH CENTER IN ZAMBIA

The Zambian WorldFish Center office was opened in June 2006 has now become fully operational. It will be one of the offices mandate to address the issues that have been highlighted in this paper. Already, the office has been invited to provide advice on the strengthening of co-management in Lake Mweru/Luapula fishery. It is anticipated that the use of a model developed by some of the Center staff will greatly assist in designing a management plan that takes into account the various factors that are peculiar to this fishery. Secondly, the Center has also engaged DoF with a view of revising the Fisheries Policy to make it relevant to the current times. In its current form the Fisheries Act still reflects the times when the DoF was seen as the sole manager of the country's fisheries. It is also the Center's objective to increase aquaculture production in the light of stagnating production from most of the country's capture fisheries. Aquaculture would not only increase fish production making it readily available but would also solve some of the current contentious management tools such as the 'closed season.' Already the Center has carried out studies which indicate that aquaculture can be a profitable venture for most of the small scale farmers in the country.

CONCLUSION

Fisheries co-management in Zambia has had mixed results. While it has not been so successful in some of the fisheries there is some hope that it will succeed in others such as Lake Kariba. A major hindrance has been lack of a legal framework through which co-management can occur. Currently, the institutions for co-management operate in a legal vacuum and are recognised as such at the discretion of other actors and institutions and not because the law requires them to do so. Secondly, fisheries co-management in Zambia has to operate within a context of competing and sometimes conflicting layers of management.

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