

PARTICIPATORY FISHERIES MANAGEMENT PROGRAM AROUND LAKE MALOMBE: STATUS AND LESSONS LEARNT

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ABSTRACT

Participatory Fisheries Management (PFM) was introduced in fisheries management in Malawi in 1993 with Lake Malombe as a pilot site. After almost 10 years of implementation, the program has registered some positive achievements however some problems have surfaced that need to be addressed. Although the Fisheries Act was revised in 1997 to recognize the role of local management institutions, the process was not complete as some legal instruments were not in place. Ownership of the resource is still not clear among the communities. There was no sharing of revenue between the government and the communities and consequently there no immediate benefits to manage the resource. Composition of the Beach Village Committees and the role of Traditional leaders seem to be a source of conflict. The allocation of roles and responsibilities was done without proper consultations. Different stakeholders had different agendas and seem antagonistic. In order to have meaningful management by the local communities firstly, the legal framework should be put in place. Gradual transfer of power from government to the local communities coupled with capacity building should be pursued. The different government laws and policies have to be harmonized. Reorganization of the fishers into cooperatives would help in marketing and fisheries management. Zoning of the lake and defining the number of days for fishing would be an option to restrict movement of fishers. The issue of sustainability of PFM needs to be addressed.

Keywords: Co-management; Participatory; Community; Lake Malombe; Empowerment

INTRODUCTION

A decrease in global fish production in the early 1990s brought about by over-fishing and environmental degradation generated calls for improved management strategies and sustainable use of aquatic resource systems. Fisheries management experts recognize that the underlying causes of fisheries resources over-exploitation and coastal environmental degradation are often social, economic, institutional and/or political origins (Pomeroy, 1995). It is increasingly recognized that resources can better be managed when the resource users and other stakeholders are directly involved in the management and user rights are allocated either individually or collectively. This assumes that fishers are bound to respect the rules and regulations that they were involved in its formation than impose on them management strategies. This involves the devolution of power and authority from the central government to the local communities. This shift in power balance necessitates changes in the administrative levels of management and revision of laws and policies. It is intended to be a more dynamic partnership using the capacities and interests of the local fishers and community, complemented by the ability of the state to provide enabling legislation, enforcement and other assistance (Berkes, 1994). However careful design and implementation of a participatory approach is important if the system to yield positive results. The local communities are not homogenous and therefore the different groups' interests have to be taken into consideration. The local communities would like to improve their economic welfare through increased income while the government would like to manage the resource sustainably to avoid extinction of some species. Therefore any management strategy implemented should take into recognizance of the different objectives being pursued. It is also important to remember that small scale fisheries operate within a

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larger social, economic and political system and some solutions to improving the living standard lie outside the fisheries sector.

This paper discusses the some challenges and shortfalls of the Participatory Fisheries Management Program that was being implemented around Lake Malombe in Malawi after 10 years of implementation. Recommendations are also made with the aim of suggesting the way forward for the Participatory Fisheries Management Program.

LAKE MALOMBE FISHERIES

Lake Malombe lies between latitude $14^{\circ}21'$ to $14^{\circ}45'$ south and longitudes $35^{\circ}10'$ to $35^{\circ}20'$ East. It is part of the Great Rift Valley system. Lake Malombe is shallow, with an average depth of 4m, about 30 km in length and has a maximum width of 15 km. The Upper Shire River, about 13 km long, flows from the southern tip of Lake Malawi before widening to form Lake Malombe(fig. 1). The lake has a surface area of approximately 450 km^2 .

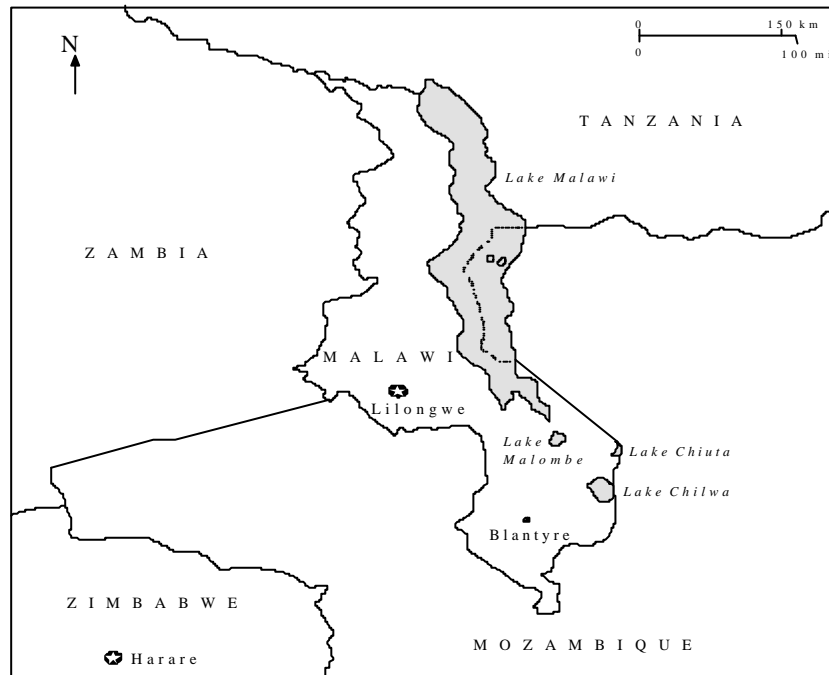


Figure 1: Map of Malawi showing location of Lake Malombe

Fishing is the major socio-economic occupation for the communities around Lake Malombe. Chirwa (1997) reported that fishing and fish trading activities support some 400-gear owners, 2,700 fishers, 2,300 crew, approximately 1,220 traders and unspecified number of fish processors. There are over 40 landing sites around the lake (figure 2).

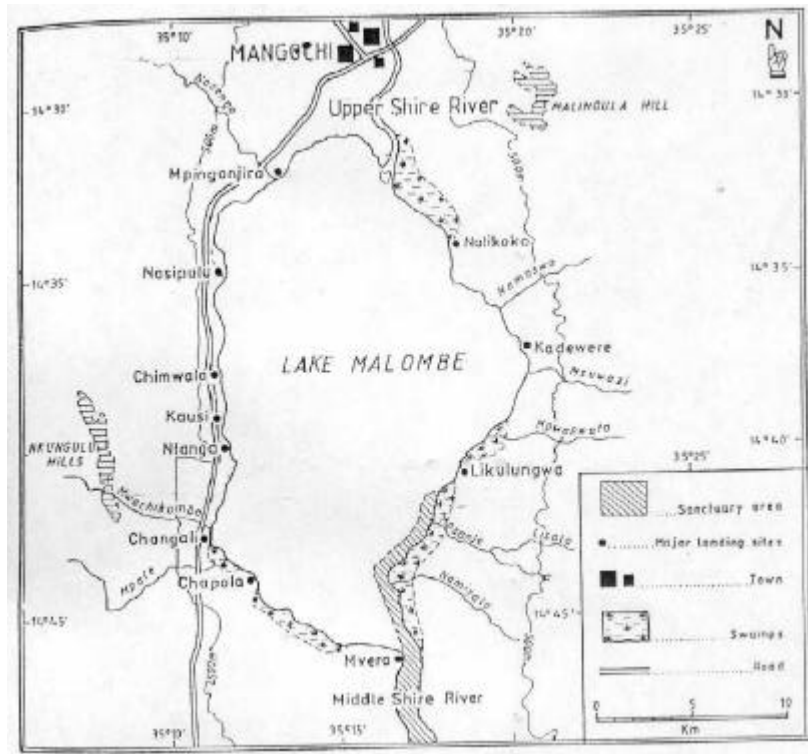


Figure 2: Map of Lake Malombe showing major landing sites

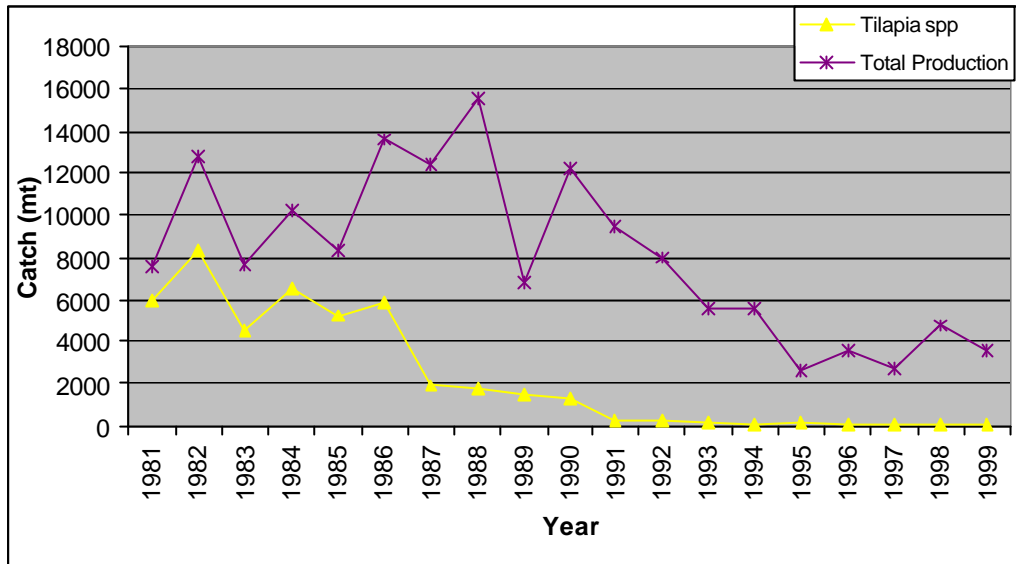
A frame survey conducted in 1999 indicated that 410 gear owners, 1,651 ancillary workers operated on Lake Malombe (Weyl et al., 1999). The total economic value of fish in Lake Malombe when the catch reached its peak in 1987/88 was estimated at MK642 million (US\$6.42 million). During this time the total tonnage for fish caught stood at around 15,000 tons per annum. *Chambo* contributed 66 percent of the total catch. However in 1991, the *Chambo* started to register signs of declining. The current economic value for lake Malombe is around MK42 million (\$420,000) with a quantity of about 4,000 tons of fish caught.

PARTICIPATORY FISHERIES MANAGEMENT PROGRAM

Following the partial collapse of the fishery in the late 1980s and early 1990s and the inability of the government to enforce regulations in Lake Malombe, the Department of Fisheries of the Malawi Government recognized that a remedial action was required to address the situation. Therefore a new management strategy called Participatory Fisheries Management Program (PFMP) was developed in 1993 (Bell, 1998). This was after realization that the top-down (central control) approach had failed as witnessed by the collapse of the most economically important fish species in the lake, *chambo* (*Oreochromis spp*). The production from the lake decreased from 12,617mt in 1986 to 5,811mt in 1993 (fig. 3).

The *Chambo* (*Oreochromis spp*), which was the most valuable fish, decreased from 4,968mt in 1986 to 40mt in 1993 (GOM, 1999). There was a concomitant increase in fishing effort as the number of fishers joining the industry almost doubled during the same period This shows that there was a relationship between increase in the number of fishers and decline in catches. Being an open access resource, when the production of fish from the lake increased it attracted more people to join the industry and this exerted

heavy pressure on the resource. As the catches were decreasing, fishers did not leave the industry but rather responded by changing the mesh sizes and developing more effective gears.



Source: Fisheries Department, 2001

Figure 3: Estimated Annual Fish Catches from Lake Malombe (1981-1999)

As the catches declined, illegal fishing (use of under meshed nets) became rampant and closed season was not observed. The lack of resources by Fisheries Department to enforce the regulations aggravated the situation. This led to the development of Participatory Fisheries Management. This is a co-management approach where the government on one hand and the local communities on the other, cooperate and share roles in fisheries management. Pomeroy (1995) reported that centralized management approach was often not suited to developing countries with limited financial means and expertise to manage fisheries resources in widely dispersed fishing grounds.

The PFMP development Process

A lot of researchers have documented the design and introduction of PFMP (Bell 1998, Hara, 1996 Donda, 1998 Njaya, 2000) and the process can be summarized as follows;

1. Research project on formulating a sustainable management plan for *chambo* (*oreochromis spp*) in south-west arm and south-east arm of Lake Malawi and Lake Malombe revealed that the stocks have collapsed.
2. The Fisheries Department develops its own strategies to address the situation.
3. Due to limited financial resources and open resistance to compliance with regulations forces Fisheries Department to seek for alternative strategies.
4. The Fisheries Department decided to work with the local communities in the management of fisheries resources.
5. Designing of the Participatory Fisheries Management Program through a baseline study.
6. With donor support the Fisheries Department implemented the PFMP.

The strategies developed by Fisheries Department in 1992 after the collapse of the fishery were to be implemented under the top-down management regime. The regulations developed included: a minimum mesh size of 25mm (1 inch) for seines; enforcement of a closed season for Lake Malombe and banning of beach seines on Lake Malombe (Bell, 1998). The decision to promulgate these regulations corresponded with a period of political transition in Malawi from one party dictatorship to multiparty politics. It would have been very difficult to implement these regulations during this time as it would have been seen as part of the past oppressive regime.

However the political change had also a positive impact on the PFMP as the multiparty politics advocated the empowering and inclusion of people in the decision making. The local communities viewed PFMP as part and parcel of new political dispensation hence they were very enthusiastic and willing to participate in the program. Therefore one would see that from the onset the two had different expectations with Fisheries Department having already developed solutions to the problem and using co-management as an avenue of gaining compliance. A number of donors including United Nations Development Program (UNDP), Overseas Development Agency (ODA), Food and Agriculture Organization (FAO) financed the program. It should also be emphasized that PFMP was initiated by Fisheries Department and it was not surprising that it usually maintained the final decision in the co-management. This observation was also made by Hara et.al 1998 who reported that Fisheries Department returned the decision making power in the PFMP. It would make the make regulations and try to cajole the fishers into agreeing to them and in the event of strong negative reaction it would be prepared to compromise slightly. This demonstrates that there is no real community involvement in the decision making.

Organization of Participatory Fisheries Management Program

The PFMP encouraged the formation of local management groups at community level. These local management groups were composed of fishers, crew members, processors and community members interested in fisheries management. These local management groups came to known as Beach Village Committee (BVC). BVCs were representing the wider communities in management meeting with Fisheries Department. They were also responsible for collection of licensing fees and enforcement of regulations at the beach. In total 29 Beach Village Committees were formed around the lake. Members from the BVCs held fisheries management meetings with Extension Personnel and later informed the wider community on the agreements made

Community Liaison Unit was formed at the Fisheries Office and composed of all the personnel working in the program. This unit met every month and reviewed progress of the program. It was monitoring the progress and necessary adjustments were made to the plans.

SUCCESSSES OF THE PARTICIPATORY FISHERIES MANAGEMENT PROGRAM

After 10 years of implementation of co-management approach, some successes had been registered and this made fisheries management easier than before. The BVCs helped in the collection of licensing fees and enforcement of regulations. The BVCs collected the licenses fees from its members and later handed it over to Fisheries Department officials. This reduced the costs incurred by the Fisheries Department which used to collect the fees from each fisher. The BVCs also enforced regulations like closed season by confiscating nets and handing over the culprit to Fisheries Department Officials. By enforcing the regulations the communities had demonstrated that they were viewing the resource as theirs realize the need to manage it. Communities were viewing the fisheries resources as their own resource and prepared to be involved in its management. The fishers and Fisheries Department reviewed the regulations on minimum mesh size. After some consultations 19mm mesh size was adopted and by 1996 eighty-five percent of the fishers had changed their nets to meet the new requirement (Scholtz *et.al* 1997). The government suggested 25mm to be minimum mesh size but the communities reasoned with the government that the mesh size should be 19mm to target smaller species that had replaced *Oreochromis*.

Through consultative process the closed season for Lake Malombe was changed from December to October. This was a suggestion from the communities who felt that the peak period from breeding was from October to December. This was later ascertained by research.

PFMP influenced the revision of the Fisheries Act. to recognize the role of local communities in fisheries management. When implementation of PFMP started, it was realized that there was need to review the Fisheries Act. Consequently the Act was revised in 1997 and role of local communities in fisheries management was legally recognized.

The participatory approach also improved the relationship between the communities and Fisheries Department. The Fisheries Department extension officers are now able to deliver their messages easily unlike in the past when communities were afraid of Fisheries Department officials. Meetings before were about emphasizing the rules that had to be followed. Now meetings discuss other issues like fish processing and community development. The co-management has encouraged fishers to communicate among themselves. Communities on their own are now able to organize meetings to discuss issues related to fisheries management.

Since the co-management system had training component to build capacity at community level, the number of illegal nets has reduced while observance of closed season has improved. The communities now understand the dangers of over-fishing and the need to preserve fisheries resources. The training has provided an opportunity for the communities to acquire new knowledge in fisheries management.

The involvement of communities in the formulation of regulations has assisted to bring legitimacy to the whole system. There is a high probability that fishers would comply with regulations they were involved in its formulation than regulations imposed on them Fisheries Department. Of course there may be some no-compliance but the magnitude is not as severe as before.

CHALLENGES AND LESSONS FROM PARTICIPATORY FISHERIES MANAGEMENT

Although a lot of successes have been documented on the PFMP, there still are other issues that are affecting its implementation. The Fisheries Department, which is now reviewing the whole approach, needs to re-examine the whole process in order to develop a better system which is functional and realistic. Below are some of the problems

Legal framework supporting local participation.

Although the Fisheries Act was revised in 1997 to recognize the role of local management institutions, the process was not complete as some legal instruments had been not put in place to recognize their role. The Fisheries Act stipulates that the local management groups would go into management agreements with Fisheries Department granting rights to use and manage the fisheries resources. These agreements were supposed to legally hand over the fisheries resources to the communities. No such agreements had been signed implying that the rights had not been devolved to the communities. Dobson (2001) pointed out that formal agreements between the FD and BVCs would likely strengthen fishers' sense of ownership and responsibility. Without these formal agreements, the existence of the local management groups can be challenged.

Secondly, the BVCs were supposed to develop constitutions and bye-laws which would be legally acceptable and endorsed. These bye-laws would govern the management and utilization of the resources. However after 10 years no such a constitution or bye-laws have been formulated. Without property rights and legal instruments in place, actions taken under co-management will be undermined (Bromley 1991, 1992; Hanna et al. 1996). Murombedzi (1998) observed that one of the weaknesses of co-management

was that there was no real shift of power to local people. He felt the programs were based more on rhetoric than substance. Devolution of real rights is necessary to legally empower the local communities. The Fisheries Department was reluctant to relinquish power and bestow legal rights and authority to the communities. This may be partly because of the losing political powers or having no trust in the communities. Chirwa (1997) reported that in the co-management system in Malawi, local user communities are the recipients rather than the initiators of decisions. They, themselves, are managed together with their resources.

Another issue that needs proper clarification is the implication of the different laws governing management of natural resources. The Government of Malawi reviewed the Local Government Act in 2001 in which it has transferred power to the district assemblies to control all the development activities in the district including management of natural resources. The Environmental Management Act (1996) adopted a decentralized type of management with local government taking up a leading role than central government. This is not the case with Fisheries Act which invested a lot of power in the central government. For example, in the Fisheries Act the Minister and Director have powers to go management agreement with local communities while in the Local Government Act it is the District Assembly that has been given those powers. Therefore there is need to harmonize the laws. There is need to review the Fisheries Act to reflect the new changes in the government policy towards decentralization. Decentralization of management will support fisheries co-management which is also aimed at promoting community empowerment.

In order to have a better management system, proper legal framework must be put in place. The roles and responsibilities should be recognized by law. In other words the local communities must be legally empowered to manage the fisheries resources. A proper structure should be put in place to provide an enabling environment.

BVC and its roles

The Beach Village Committees (BVC)'s composition was a source of problem in the PFMP. BVC is a committee elected at a beach to represent the interest of the fishers. They act as a bridge between Fisheries Department and the local communities. However, some of the BVCs were imposed by the traditional leadership while others had very few fishers in its composition. The local leaders, at times, appointed such a committee or demanded to approve the names of the members. A committee appointed by the traditional leadership could not protect the interest of the fishers but was seen to be representing the interest of local leaders. As such a committee lacked the respect of fishers. BVCs were supposed to be a committee representing the interests of the fishers first and foremost. However the BVCs were seen as representatives of the Fisheries Department and traditional leaders. As long as the fishers perceived the BVCs as not representing them they would not comply with the regulations sanctioned by the BVC. Therefore, in some cases, the process of electing the committees was not democratic. It was difficult to remove weak committee members who were appointed by the local leaders even when their performance was not satisfactory. It should be noted that the local economy around the lake evolves around fisheries and control of fisheries is a sign of real power.

It was also found out that the BVCs were dominated by non-fishers. About 70% of the members of BVCs were non-fishers. This led to the lack of respect by the fishers who viewed the non-fishers as people who were not representing their interest. In Lake Malombe, management of the fisheries resources was seen as a community responsibility and anybody in the community could become a BVC member. This led to BVCs having many non-fishers within its ranks. The community members however felt that a fisher could not enforce regulations on another fisher because they had same interest and non-fisher would act as watch-dog. However one wonders the interest of non-fishers in the BVCs. Hara (1998) indicated that BVC members attend meetings and have training where they receive some allowances. One would also

think that it has to do with status in the society. Since the local economy revolves around fishing, being a BVC member means one has power in the society.

As to what should be the composition of the BVC was still not clear. In some cases BVCs composed of mainly fishers like Nasupulu, performed very well and in some cases they had performed badly. The major problem might be because the fishers operated as individuals and not as a cooperative. If they had cooperative they would be acting as a group and not individuals. In Japan for example, fishing rights are granted to Fisheries Cooperative Association (FCA) by prefecture governor. All fishers belong to a cooperative which also does marketing function. Therefore there are benefits that fishers realize by belonging to FCA. There is need to create incentives for BVCs.

In some instances, the BVCs elected rarely shared information with the fishers. After attending meetings and workshops, some BVCs could not share the information with other fishers. This had an effect on fisheries management as some decisions taken at such meetings affected all the stakeholders. This means that without consulting the fishers, the BVCs acted on their own and not as a bridge between Fisheries Department and the fishing communities. If a local management group has no legitimacy in the community, the chances of commanding respect are slim. The local management groups must really represent the wider community by consulting and sharing information. Credibility of the BVC has a bearing on the success of PFMP.

Role of local leaders

The BVCs operated under traditional leadership and their efforts could be undermined by the local leadership. The Village headmen and Traditional Authority had control over the land under customary law and this includes beaches. The Village Headmen and Traditional Authority wanted to have control over fisheries activities and this created conflict with BVCs. However, the local leadership was more powerful than BVC and usually dictated the terms. BVCs used traditional court operated by traditional leaders to settle disputes and the local leaders sometimes could not punish certain offenders. This diluted the power and respect of BVC. Some local leaders were so weak that they could not take action on fishers that broke the rules while others were accused of being corrupt. The local leadership would want to have control of the fishing activities because the fishers usually provide them with free fish every week a practice called *mawe*. There was usually a conflict between the local leadership and the BVC where the BVC is strong and challenges the action of the local leadership. There is need to define the role of the local leaders and their relationship to the BVC. The local leaders should take an advisory or ex-officio position in the BVC and not have direct control of the activities of the BVC. In order to have an effective system support from all the stakeholders is important.

Capacity of the community

It was found out there had been a lot of changes in the membership of the BVC management since 1993. This might have an effect on the performance of the BVC. In the inception years, training was being provided to some of the committee members in group dynamics and fisheries management. The assumption was that these members would pass on the knowledge and skills to others. However, this set a precedent as the newly elected members were also demanding training when they take up position. Two aspects come into play here. Either the new members felt not confident to execute their duties because of lack of knowledge or they felt they would gain the confidence of the other fishers if they underwent a certain form of training. If one underwent training he/she was seen as being more knowledgeable than the rest. Usually those that underwent training performed better than those that did not. However, it is impossible to train every member because of lack of resources.

It can be said that the communities were not ready to take up the challenge of managing fisheries resources. This could be witnessed by lack of confidence and capacity amongst themselves. It should also be noted that the Fisheries Department, after noting that the BVCs were weak in enforcing regulations decided to do enforcement on its own. This was done without consultations with the communities. As a

result the fishers viewed it as going back to top-down approach. Hara (1998) said that unilateral decisions in a co-management are bound to affect the relationship and trust between parties. This also questions the level of trust and commitment on the part of Fisheries Department. Conservation for the people, as Murphree (1996) described this type of intervention, may result into lack of ownership. The communities were being sidelined and therefore affecting the partnership arrangement.

Gradual transfer of power and authority coupled with training would help to build capacity at local level.

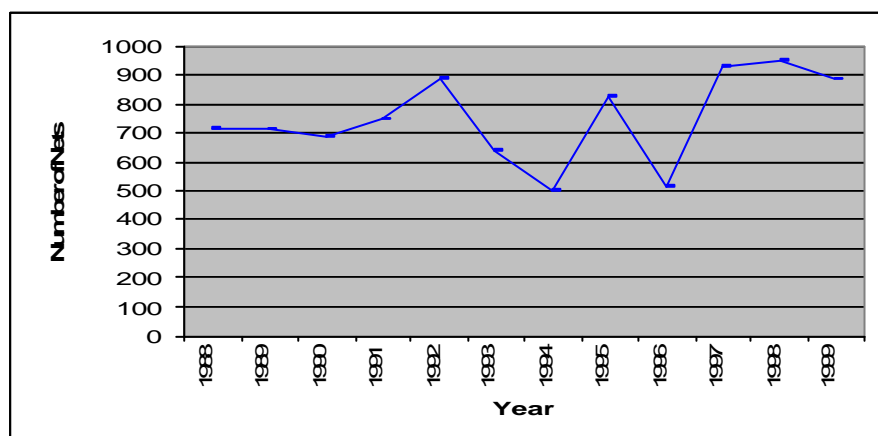
Sharing of revenue between Fisheries Department of communities

Since the local communities perform certain activities that were previously done by the Fisheries Department like licensing and enforcement, it was expected that some money generated from licenses and fines would be given to the local management groups to sustain their activities. The sharing of revenue was provided for in the Fisheries Act. The Fisheries Act provides for the establishment of a fisheries fund which would support some of the local activities. The source of funds would include license fees and fines. However, the Fisheries fund had not been established and therefore there was no sharing of revenue with the local communities. The revenue given to the local communities was supposed to be used for community development like provision of good water, other facilities on the beach, etc. The same approach proved successful in the CAMPFIRE program in Zimbabwe where funds realized from sell of contract for safari hunting was used for community development. This acts as an incentive to the communities to manage the resources. The Fisheries Fund had not been established because the Ministry of Finance had not approved the establishment of such a fund. The problem is that the Fisheries Department included this in its Act when it did not have power to establish the fund. The delay in getting the approval from Ministry of Finance had affected the activities of the local management group consequently affecting sustainability.

It should be noted that communities cannot perform when they do not have resources to carry out their activities. Hence sharing of the licensing fees and fines would help run the committees' activities.

Unlimited entry

It was seen that the number of nets in Lake Malombe had increased over the years (fig 4). This was contrary to one of the objectives of PFMP which was aimed at reducing the number of nets being used. The number of nets was increasing as the catches are seen to be increasing. Limited entry would have limited the fishing effort allowing fast recovery of the fishery. With no management agreements in place, the BVCs could not exclude anyone or set a limit on the number of nets. Therefore the fishery is still open access with unlimited entry posing a danger of overexploitation.



Source: Fisheries Department, 1999

Figure 4: Number of Nets in Lake Malombe

The increasing trend in number of nets demonstrated that the local institutions (BVC and local leaders) were not been able to control entry. The situation was made worse with migrant fishers who moved from one place to another in search of better catch. Other fishers who were not residents were allowed to operate in the lake. Migrant fishers had been blamed for non-compliance of regulations and yet they were allowed to operate in their beaches. A letter of introduction from the BVC was enough to allow a fisher move from one beach to another. It should also be noted that there are no fishing zones in the lake allowing fishers to operate anywhere. While the BVCs were charged with the responsibility of bringing order at the beach, in the fishing grounds the situation was different. It was still open access in nature in that competition was still there. It was not uncommon to find that a fishing boat operating during the day as well as the night. Nielsen, 1997 observed that in Lake Malombe, there were no exclusive areas and access was open to anyone who had a fishing license which allowed migrant fishers to participate in the fishery. He also recommended that issues of zoning and limitation of access right should be seriously considered.

There is need to control entry into the fishery otherwise the management efforts would not bear fruit. There is need to establish the number of nets that the fishery can support and once that has been attained there is need to stop new entrants. Zoning would help restrict movement of fishers.

Sustainability of the program

The program did not build in sustainability measures in its activities. This resulted in implementation problems after withdraw of external support. Since the program was financed by donors, it registered some successes when the donors were funding the activities. Technically there had been no sharing of management skills within the BVC. The leaders in the BVCs were trained but these did not pass on the new knowledge to the other members. As a result the new leaders elected have no proper knowledge in group dynamics. This situation was worsened by poor record keeping by the committees. Minutes of their meetings were not properly recorded making follow-up difficulty.

Secondly, the communities required resources in order to undertake some of their functions like enforcement and licensing. External support used to provide such resources but that has now changed. There should have been a handing-over phase where responsibilities would have been handed over to the local management groups. After this phase, the local management groups would have been ready to take up full responsibility over the management of fisheries resources. At the moment one suggestion is to access funds in the Fisheries Fund once established. This would help the local management groups to continue some of the activities initiated by the projects. Secondly BVCs should be reorganized into cooperatives to act as business entities as well as management groups. The BVCs be able should stand on their own without relying on Fisheries Department or external support. Continued dependence on Fisheries Department would compromise on the bargaining in the co-management arrangement.

CONCLUSION AND RECOMMENDATIONS

After 10 years of Participatory Fisheries Management Program it can be said that the approach is still in its fledgling stage. The system seems to be working but lacks necessary support legally and technically. There are different laws governing the management of natural resources with different strategies. Therefore there is need to harmonize the different laws in order to have a common approach. The Local Government Act has provided the legal framework to support the activities of co-management and therefore there is need to review the Fisheries Act and other Acts to be in line with the decentralization policy of government. Legal instruments like management agreements and BVC bye-laws should be put in place to create a system that is legally accepted. There seems to be some reluctance on the Fisheries Department to transfer power to the communities and there is need to have commitment from the Fisheries Department. Collaboration with other stakeholders like Department of Environmental Affairs and Tourism would assist to have common approach.

Composition of the BVC is seen as a source of problem when it comes to management of fisheries resources. Since the BVC also act as the mouth-piece of the fishers, the number of fishers in the committee should be more than the other interest groups. Consultation with the fishers would give an indication of how the composition of the BVC should be. However, interests of other groups should also be taken into consideration. Institutional analysis would help identify interest of different parties. A BVC that has the respect of the fishers is bound to be successful in leading the community in fisheries management. The role of the traditional leaders should be that of adviser than actively involved in the day to day running of the BVC. This will avoid conflict of interest as the traditional leaders have a wider role to play other than fisheries management. The traditional leadership should assist the BVC in mobilization of fishers for meetings and settling of disputes.

Since the approach seems to be still new to the local communities, it is recommended that there should be a gradual transfer of power and authority. Traditional management knowledge should be blended with scientific knowledge to create a system that is accepted to the local community. Therefore training to build capacity at local levels should be part and parcel of this. BVCs should be encouraged to share knowledge and information with other members.

The Fisheries Department should push for the establishment of the Fisheries Fund. Thereafter revenue collected should be shared to the local management groups to run their affairs. Without any financial assistance the BVCs would be non-functional as they would not be able to perform some essential services like enforcement. This would act as an incentive to the communities to actively participate in participatory fisheries management activities. Source of funding to the Fisheries Fund would include licensing fees and fines imposed on offenders. With proper training and financial resources, sustainability of the program would be ensured.

Since the number of fishers was still increasing, there is need to re-introduce other income generating activities to reduce fishing pressure. There is evidence that earlier effort to introduce income generating activities yielded positive results. However planning and donor dependence led to the collapse of the activities. The income generating activities identified should those that will have no problems to sell or can be processed to prolong the shelf-life.

There is need to reorganize the whole fisheries industry. Firstly the fishers have to be organized into cooperatives. The merit of this is that they would act as both management groups as well as business entities. On the government side, it would be easier to manage as data collection and extension would become easier. On the fishers side it would help them to negotiate for loans on their own other than rely on government. The fishers as a group can transport their catch to major cities where the prices are better or process their production into value-added products.

There is also need to restrict movement of fishers as this one of the causes for non-compliance of regulations. The license should indicate the area where this fisher will operate, the gear to be used as well as the number of days the fisher is permitted to operate. Movement between beaches should be banned as these mobile fishers are reported not to follow regulations. Cooperatives should be assigned territorial boundaries and each fisher should belong to a cooperative as is the case in Japan and Thailand.

On the whole, co-management has a future in Lake Malawi. However there is need to put proper mechanisms in place in order to have a sustainable system in place. The high enthusiasm by the local communities is the greatest factor which needs to be supported legally, technically and financially. It should also be noted that it will take time before the catches return to the original levels.

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