

**Taking Advantage of Co-management: The Institutional Landscape  
in the Zambian Inshore Fishery of Lake Kariba**

**By**

**Isaac Malasha<sup>1</sup>**

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<sup>1</sup> The author is a Research Fellow at the Centre for Applied Social Sciences, University of Zimbabwe, P.O. Box MP 167, Mount Pleasant, Harare, Zimbabwe. E-mail; [mambwe@icon.co.zw](mailto:mambwe@icon.co.zw); The paper was written under the auspices of the NORAD-funded CASS/CMI Collaborative Project.

## Introduction:

Since the early 1990's a new co-management arrangement is being instituted on the Zambian shoreline of Lake Kariba. This new management system has seen the emergence of different institutions with different perceptions of what co-management is supposed to achieve. Consequently, some institutions have gained further chunks of the resource while others have lost out.

The purpose of this paper is to initially give a sketchy background of the history of the lake and how the different institutions emerged and the type of relations they had prior to the introduction of co-management. The next section looks at how the different institutions reacted to the introduction of co-management. The conclusion questions the relevance of using co-management as an analytical tool when it comes to a fishery such as the inshore fishery of Lake Kariba in Zambia.

## **Background to Co-management:**

Lake Kariba was constructed in the late 1950's primarily to generate electricity for the emerging industrial sector in Zambian and Zimbabwe. Fishing was considered as a by-product of the project that would be used to turn the people who had been displaced by the lake from subsistence farmers into commercial fishermen. Consequently, programmes for the transformation of the local Tonga economy from agriculture to commercial fishing were initiated. A Fisheries Training School was set up on the shores of the lake and for the first ten-years, it was only the local Tonga people who were allowed to fish. This was justified on the grounds that they (the Tonga) had to be given a chance to learn how to fish before other groups of fishermen could be allowed into the fishery.

Between 1959 and 1963, catches rose and the number of local Tonga fishermen rose from about 300 to over 1000 during the same period. However, by 1965 catches in the lake began to decline and the majority of the Tonga who had gone into fishing invested their income into agriculture and livestock.

This period also coincided with the post-colonial period. The new government reduced the influence of the local Tonga traditional authority who had been gatekeepers to the resource. The new government also introduced a policy of utilising the country's resources for the benefit of all citizens. Therefore, this period coincides with a steady increase in the number of immigrant fishermen from other parts of the country.

Between 1965 and 1977 there was a break up of fishing villages. Fishermen, especially immigrant fishermen, began to migrate up and down the lake in search of better fishing grounds. On the other hand, the local Tonga fishermen began to use the lake as a resource of last resort when their fortunes in agriculture went down. They were part-time fishermen and only fished when they had problems in agriculture or when there was less need for labour in agriculture. Even to date, the number of local Tonga fishermen will increase when there is a drought and most crops fail. They go back to farming when the conditions improve.

Due to the insecurity caused by the war of liberation in neighbouring Zimbabwe, the Zambian Department of Fisheries withdrew its staff and the fishery was closed.

When the fishery reopened in 1980, most of the infrastructure meant to support the department had been destroyed by the war. In addition, there emerged another stakeholder, the Kapenta operators. These operators targeted a sardine known as Kapenta. This sardine occupied the pelagic waters of the lake in comparison to other species which were targeted by the artisanal fishermen and which were only found in waters not more than twenty metres deep.

There was also a sharp increase in the number of immigrant fishermen after 1980. These were spread along the entire shoreline and there did not seem to be any local authority that had an influence over them. However, the number of new entrants stabilised towards the end of the 1980's and it was at this juncture that a donor-funded project was introduced in the fishery.

The new management objective under co-management for the artisanal sector lay in transforming it from a seemingly disorganised sector that did not have recognised rights to the fishery into one that would be guaranteed ownership over parts of the fishery. The table below shows the comparison that was made by the Project staff between the artisanal sector and Kapenta. The artisanal sector is portrayed as conservative and backward, lacking management, labour intensive and with variable and often poorly organised marketing arrangements. In contrast the *Kapenta* industry is seen as being production oriented with a well-developed marketing system.

The lack of development in the fishing camps was going to be addressed through the redefinition of fishing settlements and fishing grounds. In this way, it would be easier for local authorities to provide services and amenities to the fishing communities

Having set out the broader purposes of the project, independent consultants were then hired to spell out the actual implementation process for each shoreline. On the Zambian side this was contained in a document written by Chipungu and Moinuddin.<sup>2</sup> The report noted that the fishery on the Zambian side was open access. This process of open access had, in turn, led to an influx of fishermen from other areas into Lake Kariba. It was due to this increase in the number of fishermen that had led to a tendency to over fish. The report observed that over fishing was confirmed by 'a decline in fish size, an increase in fishing in breeding areas and catching of juvenile fish, and the use of prohibited fishing methods such as *kutumpula*,'<sup>3</sup>

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<sup>2</sup> Chipungu, P., and Moinuddin, H., 'Management of the Lake Kariba Inshore Fisheries (Zambia): A Proposal,' Project Report 32, Zambia/Zimbabwe SADC Fisheries Project, Kariba, 1994, pp.1-35.

<sup>3</sup> *ibid*, p3.

Table 1.

**Main Differences Between the Commercial and Artisanal Fisheries of Lake Kariba.**

<b>Commercial Fishery</b>	<b>Artisanal fishery</b>
1. Based upon a single small pelagic species	1. Based upon numerous large demersal species
2. Capital intensive	2. Labour intensive
3. Highly organised at management level	3. Little Management of any kind
4. Highly mechanised (rigs, generators, winch-operated, lift-nets etc)	4. Unmechanised (canoes or small boats and hand-set gill-nets)
5. Production oriented	5. Subsistence oriented (with some exceptions)
6. Almost all catches are sun dried or hot air dried	6. Variable processing
7. Well developed marketing system	7. Variable, often poorly organised marketing system
8. Consumers of product mainly in low-income	8. Consumer category dependent upon area
9. Main constraint- lack of foreign exchange.	9. Main constrain –lack of organisation and finance.

Adapted from Lewis D., 'Project Proposal,' Zambia/Zimbabwe SADCC Fisheries Project, Kariba, 1989, p8.

The report recommended that in order to control the movement of fishermen; provide the necessary services as well as improve the security in the camps, there was need to control the setting up of fishing villages. Such an arrangement, it was reasoned, 'would prevent a decline in catch per unit of effort and at the same time contribute significantly to improving services and amenities in the fishing camps by limiting access to the fishery and controlling the pattern of settlement.'<sup>4</sup>

A workshop<sup>5</sup> was held to discuss the findings of the report. It was agreed that in order to control the movement of migrant fishermen, the number of fishing villages

<sup>4</sup> Chipungu, op cit, p4.

<sup>5</sup> Fifty-six participants attended this workshop. Most of these participants were project staff, chiefs and their headmen and council officials. The artisanal fishermen, who at the time of the workshop numbered about two thousand in the entire fishery, had seven representatives.

be reduced from the existing 250 to only 50. These villages would be located in such a way that they would have sufficient access to land for cultivation and the grazing of livestock as well as the establishment of centrally located landing places to make it easier for the Department of Fisheries officials to collect the necessary data.

This new management arrangement required the setting up of new institutional structures as well as the amendment of existing fishing legislation to legalise the changes. The lakeshore was divided into four zones and each of the zone was to be an area of the lake and the hinterland falling under the jurisdiction of the chief in that particular area.

Each Zonal Management Committees was to comprise of the chief, a District Council representative, a Department of Fisheries official, four representatives from fishing camps in that zone, two members of the *Kapenta* Fishermen's Association, a member representing a Non-Governmental Organisation operating in that zone and two businessmen with well established businesses.

Each ZMC was supposed to co-ordinate the activities of fishing villages under the zone. They were also responsible for maintaining a revolving fund on behalf of the fishermen. In addition to these roles they were also to be liable for monitoring fishing practices and implementation of fisheries regulations as well as drawing up development plans in their zones.

At fishing camp level, Integrated Village Management Committees (IVMC's) were instituted. The IVMC's were to comprise of an elected chairman from among the fishermen in that camp, three elected ordinary members, a village headman, a Fisheries Assistant and a Village Scout appointed by the Department of Fisheries. It was at this level that the DoF sought to devolve its management activities.

The IVMC's were given the task of controlling access to the fishery by vetting new entrants. Any new fisherman who wanted to fish from that fishing village had to be interviewed by the IVMC's. The IVMC's were also supposed to collect licence fees from their members for onward transmission to the ZMC. In addition, they were going to be responsible for enforcing and monitoring fisheries regulations.

The operations of the ZMC's and the IVMC's were going to be financially supported through the establishment of a revolving fund. According to the draft Fisheries Act the Department of Fisheries was supposed to contribute sixty percent of the money it collected from fishing licences and fines under the Fisheries Act to the ZMC. Similarly, the council was supposed to pay forty percent of the money it collected from fish levies to the ZMC.

Following the passing of these recommendations a reorganisation of fishing settlements commenced. The Department of Fisheries in association with the chiefs and the headmen identified new village sites where the fishermen were to permanently reside. Some of these sites were the old fishing villages established when Lake Kariba was filling up while others were entirely new settlements.

This relocation exercise presented a number of opportunities and disadvantages to the various users of the lake. At this stage some actors in the fishery

began to position themselves in such a way as to gain maximum advantage of the exercise. The next part of the chapter looks at how the various groups in the fishery tried to adapt to the changes in the management of the fishery.

### **The *Kapenta* Fishermen's Association (KFA).**

The KFA was an association formed to further the interests of the *Kapenta* operators. Compared to the artisanal sector, members of the KFA run their operations on a semi-industrial level. They invest a substantial amount of capital to construct or purchase the rigs. The rigs require further investments in fuel and wages for crewmembers.

When harvesting the *Kapenta*, owners of the rigs allow their crew members to operate from base for a period of about three weeks in a month. The crew would only bring the dried catch to base when there was a full moon as catches would then go down. During the time that they would be away from base, the crew would normally operate from islands with little direct supervision from the owners of the rigs. The islands from which the *Kapenta* crewmembers would be operating from were also shared by artisanal fishermen.

Over time, however, this arrangement began to create problems for members of the KFA. The crewmembers began to sell some of their produce on the islands without the knowledge of the rig owners. The KFA blamed the presence of artisanal fishermen on the islands for this development. But they could not call for the eviction of the artisanal fishers from islands because both the KFA and the fishermen did not have rights to fish from the islands.

The new management plan presented an opportunity to members of the KFA to rid the islands of artisanal fishers and thereby reduce the *Kapenta* thefts. It is at this stage of the relocation exercise that members of the KFA mobilised themselves to help the ZMC and the project in the new plan. In December 1994 the KFA provided the ZMC with fuel, boats and food to facilitate the evictions. The ZMC, in the company of about fourty armed policemen, were dispatched to the islands and other illegal fishing settlements. All huts found on the islands were burnt and any fisherman found was ordered to leave the island.

Once the fishermen had been removed from the islands some members of the KFA tried to persuade the artisanal fishermen to stay on the mainland by setting up retail businesses in the designated villages offering services such as groceries. Other members of the KFA made monetary donations to the ZMC while others offered fishermen gear such as nets on loan with concessionary terms.

The removal of fishermen from the islands granted some members of the KFA another opportunity to turn the islands into tourist resorts. These KFA members approached the council and the chief with a proposal to lease the islands for the purpose of setting up tourist facilities such as bird and game viewing. This proposal was agreed to and out of a total of 33 islands in the lake, 15 were leased. The original lease period of five years was rejected by the KFA on the grounds that they would not be able to realise any profits within such a short period. The lease period was eventually increased to 25 years.

Once some of the islands had been leased, KFA formed a Marine Patrol Unit. This unit took it upon itself to prevent fishermen from returning to the islands. It also removed and destroyed any gill nets set near these islands on the grounds that they were depleting fish stocks meant for tourists interested in angling.

This over zealousness on the part of the unit led to one member to shoot at and injure an artisanal fisherman who was setting fishing nets near one of the leased islands. The incident created a conflict between members of the KFA and the artisanal fishermen. The local Member of Parliament called for an urgent meeting of the ZMC to discuss the shooting in particular and the conduct of the KFA towards the islands in general.

The meeting resolved that only portions of the islands were to be allocated to members of the KFA. These portions were not supposed to exceed 15 acres. The KFA was also accused of setting up an illegal police unit to patrol the lake and was asked to disband it.

Consequently, after these developments the interest of the KFA in the whole exercise began to decline. Towards the end of 1995 the KFA informed the Zonal Management Committee that it was no longer in a position to continue supporting the zone as it was running low on funds.

### **The Sinazongwe District Council**

Unlike the KFA which only became very active in the new management arrangement when artisanal fishermen were being removed from the islands, the Sinazongwe District Council was involved in the exercise right from the start. Its role in the new management plan was to provide services to the designated fishing villages once the fishermen had been relocated. The responsibility of the council was spelt out as one of 'providing facilities such as weighing scales, storage sheds and shelters for fish traders as well as drawing up development plans for markets and promote retail shops in each registered fishing camp.'<sup>6</sup>

In September 1995 after most of the fishermen had been moved to designated fishing villages, the council drew up an agenda for a council meeting. This meeting was supposed to draw up byelaws to legitimate the new management arrangements. First, the council sought to make a byelaw enforcing the resettlement of all licenced fishermen into designated fishing villages as designated by the ZMC with the assistance of the project. Secondly, the council sought to make a byelaw forbidding the unauthorised utilisation or residence on any of the islands under the jurisdiction of the Sinazongwe District Council by any person other than those authorised by the council. Thirdly, it wanted to make a legal provision for the payment of fourty percent of money it collected from fish levies into the account of the ZMC.

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<sup>6</sup> Chipungu and Moinuddin, *ibid*, annex ii, p20.

However, during the meeting where the agenda was presented a number of reservations on how these proposed byelaws were going to affect the councils' revenue base began to be raised. According to one of the informants who attended the meeting, the council was unable to agree on making bye-laws recognising the designated fishing villages because this would have meant surrendering a large percentage of the money collected from fish levies to the ZMC. This levy was an important source of revenue for the council. Instead, the council only resolved to pass a byelaw authorising it to collect fish levies without committing itself to surrendering the money to the ZMC.

In agreement with the chief, the council authorised the lease of some of the islands to members of the KFA without informing other members of the ZMC especially the Department of Fisheries and the Project.

It was only when members of the KFA became too heavy handed through their Marine Patrol Unit that the council was forced by the Department of Fisheries to back down on not allowing fishermen to return to the islands.

Despite these problems, the Sinazongwe District Council has continued to obtain a levy on fish leaving the district. This levy is much easier to collect because all the fish from the zone has to pass through a barrier erected on the main road leaving the district. The council, however, does not remit any of this money to the ZMC's or the IVMC's as was envisaged when the new management system was initiated. Council contends that the Fisheries Act has not yet been amended allowing it to pay a certain percentage of the levy to the ZMC. According to one council source, the money raised from the fish levy is used to meet some of the councils' expenses in the face of reduced income from the government.

### **The Immigrant Fishermen**

Of all those groups and institutions involved in the new management arrangement, it were the fishermen who were affected most. This is because most of the fishermen who were operating from islands were immigrants and did not have much sympathy from the traditional leaders and the council. Furthermore, when the exercise began, the fishermen were not as well organised as members of the KFA were. As such, they did not have a co-ordinated response to the exercise.

When the exercise began, fishermen were given three months in which to complete their business in the fishing camps that were to be closed down and go and settle in the designated fishing villages. Although some thought that the threats would pass without any action from the authorities, others decided to move into the new fishing villages. Those who resisted were forcibly evicted by the police and were later prevented from going back to the islands by the KFA sponsored Marine Patrol Unit. This group lost a substantial amount of personal property during the exercise.

Some of the affected fishermen hired trucks and transported their fishing equipment such as boats and nets to other fisheries where such changes were not being implemented.

Although the designated fishing villages had been sited with the agreement of the local Tonga headmen, a number of problems began to emerge between the local

Tonga people and the immigrant fishermen who were resettled in the new fishing villages. The local Tonga people who were engaged in farming and part-time fishing refused to move into the designated fishing villages. When prompted to do so they merely put up temporary shelters or sent their sons to register as fishermen while they stayed in their villages. The local Tonga people interviewed argued that they were not full-time fishermen and they saw no reason why they were supposed to stay in villages meant for fishermen. In any case, they also needed to take care of their livestock and crops and they would not be able to do this if they were forced to stay in fishing villages.

However, as has been pointed out above, these arrangements do not mean that the local Tonga people are not fishing. They merely do not want to live in the designated fishing villages because they do not consider themselves to be full-time fishermen.

One of the most contentious issues in the whole exercise has been over land. Most of the fishermen who moved into the designated fishing villages have been unable to obtain land for cultivation from the Tonga as they had been promised. The Tonga argue that they cannot give immigrants land because 'the immigrant fishermen are here for the water and not for land.' While some immigrant fishermen have obtained land through different networks, the majority has been denied by the local Tonga.

Appeals to the chief and the project to resolve the land problem has not yielded any results. As will be explained below, the chief, let alone the project or the Department of Fisheries, does not seem to have authority to order a local headman to give land to fishermen in the designated fishing villages.

One other problem that the fishermen faced soon after being made to stay in the designated fishing villages was inadequate fishing ground. This was because the islands contributed to increasing the amount of fishing ground available to fishermen in Zone Two. The fishermen interviewed said that fishing grounds on the mainland was small and the islands provided them with an increased area from where to fish.

### **The Department of Fisheries (DoF)/the Project**

The Department of Fisheries using funding from the project was the principal player in the whole new management arrangement. The DoF primary aim in the exercise was to transform the artisanal fishermen from a disorganised sector into one where they would live in designated villages with the necessary services provided by council and other developmental agencies. In this way, the Department of Fisheries hoped to control access as well as curtail and eventually eliminate the problems of illegal fishing methods. In addition, the new arrangements would make it easier for the department to collect data for management purposes.

The department participated in the demarcation of new fishing village and the removal of fishermen from islands and other fishing settlements that had been declared illegal. It also provided daily allowances to chiefs and headmen in their tours of the fishing villages to inform fishermen of the new changes.

However, overtime the department lost the initiative on how to implement the new management plan to the KFA and the traditional leaders who had their own agendas in the exercise. As such the department was faced with conflicts which it was unable or not in a position to solve. First, the fishermen accused the department of making false promises. The designated fishing villages did not have any of the services such as health facilities that the fishermen had been promised. Secondly, the fishermen accused the DoF of evicting them from islands at the expense of members of the KFA. Thirdly, the department was accused of not remitting any money to the IVMC's as was originally agreed in the plan.

A major problem with the new management plan was the legality of the whole exercise. A new act to legitimate the plan was drafted in 1994 and sent to parliament for passing into law. However, by 1999 this had not yet been done and the Department of Fisheries is unable to use the provisions of the act to compel other institutions such as the council to remit any levies to the ZMC.

The poor siting of the designated villages has also created a number of problems. During the 1998/99 rainy season the water level in the lake has risen. This has led to the near flooding of some of the villages that were designated as permanent fishing villages. As a result fishermen who fear of losing their property and life have abandoned some of the new fishing villages.

## **The Chiefs and Headmen**

Being the local custodians of the land and having traditional ownership over the fishery, chiefs and headmen were involved in the exercise right from the beginning. However, the chief and his headmen were not entirely on agreement on how to resolve some of the problems associated with exercise. This was more apparent when it came to land.

In an interview Chief Sinazongwe<sup>7</sup> said that the primary reason why they got involved in the whole exercise was to control and monitor the activities of immigrant fishermen. He said that immigrant fishermen were coming into the fishery and setting up fishing settlements without reporting their presence to the chief or the local headman. He said that this had made the traditional leadership feel threatened by the presence of immigrant fishermen who were not answerable to any of the local authorities:

“Our local people are part time fishermen and go back to farm when the rains come. But these Bemba immigrant fishers are a problem. They engage in all kinds of illegal fishing methods such as *Kutumpula* so that when the fish finishes they can go back to their areas leaving us without any fish. They were also causing us a lot of problems in that they were engaged in poaching and cross border trade. Now that they

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<sup>7</sup> Personal Communication with Chief Sinazongwe at his palace 25/6/99.

are in designated villages and are registered we can easily monitor their movements and activities.”

Therefore, one of the objectives to which both the chief and the headmen and was to have control over the immigrant fishers.

However, it was over the question of access to land that the chief and the headmen did not agree. During the relocation exercise the immigrant fishers who had been evicted from island and other illegal fishing settlements were promised that they would have access to land for agricultural activities. The local people resisted giving the fishermen any substantial amounts of land.

One of the headmen interviewed near the fishing village of Sinalilongwe argued that Chief Sinazongwe did not have authority to order him to surrender land to immigrants. He said that immigrants could only acquire land if the owner of that particular piece of land agreed to the arrangement. He said that land issues had to be treated at an individual basis and it was not possible to give all fishermen land.

The headman indicated that the chief did not have much control on the allocation of land at the village level. The best he can do is to appeal to the local people to consider requests for land from immigrant fishermen favourably.

The chiefs were however more influential in allocating islands to members of the KFA. According to council officials, although the islands are state property, they can still be leased once the chief had authorised the lease. Chief Sinazongwe justified the lease of islands on the grounds that his area would develop more if the islands were leased to tour operators as opposed to the fishermen who were not contributing much to development.

### **The Local Tonga Fishermen**

Apart from the traditional leadership, the ordinary local Tonga people did not participate in the formulation of the new management plan. Even during the workshop that was held to design the whole exercise, only chiefs and headmen were invited. This omission could partly explain the resentment that the local people have towards the immigrant fishers.

According to local people interviewed during the survey, the presence of immigrant fishers had affected their lives especially when it came to access to land. Some of the designated villages were set on land that the local people used as gardens when the water levels in the lake receded. This reduced the amount of land available to them especially during the dry season when there was a high demand for green vegetables. This was highly resented by the local people. They argue that the immigrants should have been left to operate from islands because ‘they are just bringing us problems here.’

The local Tonga people who are also involved in fishing say that the new villages were located in areas which they used as harbours for their own fishing

activities. This has created problems in that some of them claim that they have began to lose their gear to the immigrant fishers.

On the question of access to land for agriculture there are a number of different positions that the local people have taken. Some say that when they were first relocated to make way for the lake, the government compensated them. They therefore feel that if the new fishing villages are going to be gazetted, then they have to be compensated because they will no longer have access to some of the land that will be occupied by the fishermen.

### **Conclusion:**

The paper set out to show the manner in which co-management was introduced into the Zambian inshore fishery of Lake Kariba. What it showed is that the introduction of co-management was used by the various institutions to further their objectives. The KFA used the exercise to further control their operations as well as take a bigger chunk of the resource. In addition, other institutions such as the local traditional leadership used the exercise to have control over the immigrant fishermen. In addition, the exercise exposed the divisions that exist between the two layers of traditional leadership.

Although such a scenario may be unique to the Zambian side of the lake, it nevertheless has some lessons for other fisheries in Africa. For instance, is it possible to perceive the local community as homogenous as is usually portrayed in the co-management literature? Do all those who constitute the 'community' have a common objective when it comes to processes such as the introduction of co-management? Does co-management assist in overcoming conflicts in a fishery or does it merely create new ones? Do government departments have common goals in such situations as the one in Lake Kariba? At what stage and how do all these institutions with different interests and agendas have a convergence so as to have a 'successful' co-management arrangement?

Answers to these and other questions could help in understanding co-management and the best way of implementing it.