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Fishing in a bathtub: a comprehension of the conflicts in the Lake Kariba inshore fishery (Zimbabwe)

Ву

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Abstract

Some of the management problems in the Lake Kariba fishery are related to conflicts between different categories of actors. Principally, there is marked antagonism between gill-net fishing and the tourism industry. Artisanal fishermen are accused of engaging in rampant gill netting especially in river mouths that are officially closed to commercial fishing to protect breeding fish. The fishing activities of artisanal fishermen are believed to reduce the population and individual size of the Tiger Fish thereby negatively affecting the International Tiger Fish Competition of which the fishery is globally known. Furthermore, the activities of artisanal fishermen especially in fishing grounds adjacent to wildlife areas conflict with the notion of wilderness upon which tourism in the fishery and surrounding areas is based. In order to resolve these conflicts the Department of National Parks and Wildlife Management instituted a co-management arrangement in the inshore fishery. However, these efforts did not lead to a substantial reduction of the conflicts.

The purpose of this chapter is to trace the source of these conflicts to colonial land tenure policies that divided the lakeshore into different spheres of usage. These policies were aimed at promoting the emergence of a major tourist industry. In the process, however, they led to the marginalisation of the artisanal fishermen who have responded by ignoring the divisions and encroaching into fishing grounds reserved for other actors. The chapter further goes to show that although some changes to these divisions along the lakeshore have been attempted over the years and new management regimes instituted to address the conflicts, these have not been adequate. Primarily, this is because these adjustments and new management regimes have tended to maintain the existing status quo in terms of land tenure policies. The chapter argues that while co-management regimes are seen as reducing conflicts in the way a commons is utilised, they need to address the historical, social and economic contexts that have informed the manner in which that commons is accessed and utilised.

Abbreviations Used

BSAC British South African Company Communal Area Management Programme for **CAMPFIRE** Indigenous Resources Department of National Parks and Wildlife **DNPWM** Management Federation of Rhodesia and Nyasaland FRN Government of Southern Rhodesia GSR LAA Land Apportionment Act (1930) Lake Kariba Fisheries Research Institute **LKFRI** Sub-Area Fishermen's Association SAFA

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Zambia/Zimbabwe SADC Fisheries Project

Introduction

In 1958 a dam-wall constructed across the Zambezi River on the Zambia/Zimbabwe boundary was sealed to create Lake Kariba. The ensuing water reservoir became the largest artificial lake in the world at that time. At its maximum extent the lake covers a water surface area of more than 5000 km² and has a shoreline length of 2000 kilometres. The lake is more than 200 hundred kilometres long and is approximately 30 kilometres at its widest point. Approximately, fifty-five percent of the lake's water surface is on the Zimbabwean side and the rest lies in Zambia. The primary objective of undertaking the project was to harness hydroelectric power for the mines on the Zambian Copperbelt and to support the emerging settler agricultural and industrial sectors in Zimbabwe. The ancillary uses of the lake are fishing and tourism. To a lesser extent the lake is also used as a means of transporting goods and people.

Ecologically, the lake is divided into two categories namely the inshore or artisanal and the pelagic or semi-industrial fisheries respectively. The inshore fishery comprises of fish species that had been present in the Zambezi River before impoundment. When the water levels in the lake began to rise these riverine species did not succeed in colonising the deep waters of the new lake. Instead, they are restricted to a depth of less than twenty metres leaving a vacant niche in the rest of the lake (Sanyanga, 1996). It is in these marginal areas of the lake that artisanal fishing takes place. The rest of the pelagic area was colonised by a sardine locally known as *kapenta* (*Limnothrisa miodon*). This sardine introduced into the lake in 1967. It is estimated that about 94 percent of the total catch from the lake consists of *kapenta* (Songore and others, 1998). As *kapenta* fishing requires substantial investments in fishing rigs and marketing it has tended to remain a preserve of companies and fishing cooperatives with sufficient amount of capital.

Apart from fishing the lake and surrounding areas are also a major tourist region. This tourism is based on the abundant wildlife on the lakeshore and the undisturbed nature of the environment. The land tenure system that existed at the time the water levels

in the lake began to rise were partly responsible for the promotion of the tourist industry in this area. However, there have been conflicts between artisanal fishing and tourism in the fishery. In an effort to maximise their catches artisanal fishermen have tended to encroach into fishing grounds reserved for the tourist industry. This has affected the operations of actors in the tourist industry. In order to resolve these conflicts the Lake Kariba Fisheries Research Institute (LKFRI), a branch of the Department of National Parks and Wildlife Management (DNPWM), instituted a co-management arrangement in the fishery. These co-management arrangements in the fishery were to be based on the same rationale that informed the Communal Area Management Programme for Indigenous Resources (CAMPFIRE) that had shown success in the wildlife sector.

This chapter will initially give a background to the manner in which the land tenure system, which was to influence the manner in which the lakeshore was divided, emerged. The chapter will then show how artisanal fishing developed in light of the need to make Lake Kariba a major tourist industry. It will then be shown how conflicts between artisanal fishing and tourism have been a major management problem in the fishery. The chapter will then show how co-management was introduced in the artisanal fishery in an attempt to address the conflicts.

Emergence of the land tenure policies

To understand the existing land tenure system along the lakeshore and how it has contributed to the conflicts in the fishery, there is need to put into context the Land Apportionment Act of 1930 (LAA). The LAA was a culmination of efforts made by the 'self-government' that took over the administration of the country from the British South African Company (BSAC) in 1923. The new government, with the support of settler farmers, used its majority to transform the prevailing land tenure system in favour of the latter. Prior to this period settler commercial agriculture had not been competitive for a number of reasons. Firstly, most of the fertile land near markets had been allocated to the BSAC and other companies that were sympathetic to its interests. Most of these companies held this land for speculative purposes. Settler farmers were forced to open

farms further from the markets and increased transport costs made settler agriculture unprofitable. Secondly, settler farmers could not obtain adequate labour from the local population because the BSAC allowed African farmers to participate in agriculture. Lee (1974) observes that the local agricultural market was almost entirely supplied by local farmers forcing settler farmers to turn to other agricultural crops such as tobacco. In this way local Africans were able to avoid selling their labour.

The above constraints prompted the new government to set up a commission of inquiry to make recommendations on a new land tenure system in the country. The objective of this new land tenure was to make land and labour readily available to settler farmers. The commission presented its report in 1929. It is this report that formed the basis of the LAA of 1930. Under the LAA the land in the entire country was re-classified into various categories. These were European Areas, Unassigned Areas, Native Purchase Areas, Native Reserves, Forest Areas and Undetermined Areas (see Table One below). Unassigned Areas were marginal land dispersed all over the country especially in the remote parts with harsher physical conditions for human habitations. Most of these areas were found in the Zambezi Valley. Furthermore, areas classified as Unassigned could later be re-classified whenever need arose. The most fertile land near to markets was classified as European Areas. The LAA further abolished the provisions in previous BSAC legislations that had allowed African farmers to own land outside their Native Reserves and thereby increase their agricultural productivity. With the enactment of the LAA they were now relocated to the newly established Native Areas in the drier and more remote parts of the country. Land in the Native Reserves was held under traditional tenure and user rights (Rukuni, ibid).

¹ The Native Reserves are today known as the Communal Areas.

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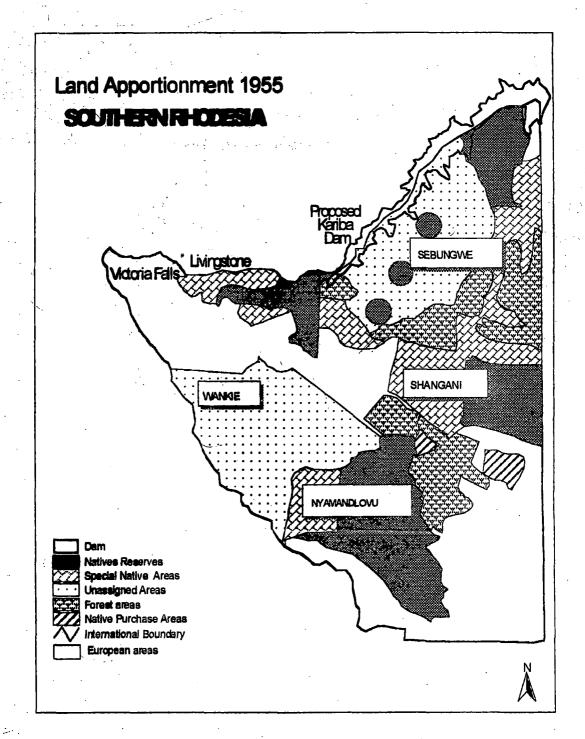
Summary of land apportionment in Southern Rhodesia (1930)

Table One

Category of Land	Square Kilometres	% of Country
1) European Area	29946.54	51.0
2) Native Reserve	12874.29	22.0
3) Native Purchase Areas	4548.57	7.8
4) Unassigned Areas	10842.78	18.5
5) Forest Area	359.97	0.6
6) Undetermined Area	41.73	0.1
7) Total	58617.78	100
8)Total for Africans (2) + (3)	17422.86	29.8

Adapted from: Government of Southern Rhodesia, Central African Council, 'Comparative Survey of Native Policy,' Government Printers, Salisbury, 1951.

As the LAA affected all the tenure systems in the entire country even the land on the banks of the Zambezi River, on which Lake Kariba was to be constructed in the late 1950's, was also affected (see Map One below). The portion of the Zambezi River from the Zimbabwe/Mozambique border up to about 30 kilometres just below the place where the dam wall was constructed was classified as European Land. Another 30 kilometre stretch of land along the banks of the river from the where the dam wall currently stands became a Native Reserve. For about 128 kilometres beyond the Native Reserve up to the Special Native Reserve Area the land was classified as Unassigned save for a 16-kilometre stretch of land that was classified as a Forest Area. As will be elaborated below, these classifications became instrumental in the emergence of a major tourist industry in the lake and surrounding areas.



Adapted from: Government of Southern Rhodesia, Central African Council, 'Comparative Survey of Native Policy,' Government Printers, Salisbury, 1951.

The emergence of sport fishing

While the area around the lake became a source of tourist attractions such as sport fishing the policies that supported these measures had been developed much earlier. In particular, the Game and Fish Preservation Act of 1929 was instrumental in the promotion of sport fishing in the country. While the act restricted the fishing activities of local people such as banning the use of drag, cast, stake or other nets and prohibiting the use of vegetable poisons it encouraged the promotion of sport fishing. The act supported the importation and introduction of exotic fish species in local water bodies that had a 'sporting quality (Hey, 1948).' This led to a tremendous increase and growth of a sport fishing industry in the country. In 1938 trout ova were imported from Scotland for the stocking of the country's water resources. Later an umbrella organisation known as the Trout Acclimatisation Act was formed to coordinate the operations of associations interested in the importation of Trout ova (Bell-Cross and Minshull, 1988). In 1944 the Southern Rhodesia National Anglers Association was formed. By 1947 similar associations had become so politically entrenched that they began to lobby government to amend the Game and Fish Preservation Act to give more responsibilities on the management of water bodies to its members. Members of the various Angling Associations were then recognised as Honorary Fish Wardens. In 1948 the government engaged a consultant to advise on the future of the country's fisheries policy. His major recommendation was that the country's fisheries policy should put emphasis on sport fishing to attract tourists. He observed that the restocking of the country's water bodies should concentrate more on fishes that have virtues of superiority in fighting ability (Hev. 1948).

In 1949 the government passed the National Parks Act and created a National Parks Board. Due to the influence of the sport fishing lobby and the consultant's recommendations even the new board's policy thrust was to support sport angling in the country. The board issued a statement to the extent that sport angling was to be promoted in all water bodies except in certain fisheries such as the Hwange National Park where this facility was rendered unsafe due to dangers from the wildlife (FRN, 1955). While

these sport-fishing policies had been promoted by lobby groups the new National Parks Board, the forerunner to the current DNPWM, continued to promote similar courses of action.

Division of the lake shore

When Lake Kariba began to form the different classifications that had been made under the LAA became useful in engendering the emergence of a major tourist industry in the fishery itself and surrounding areas. Apart from these land classifications the general policies that defined the manner in which the conservation of natural was to be practiced in the country was also instrumental in developing the fishery into a tourist area. According to Tomlinson (1980) factors that had to be taken into consideration when creating a national park were spectacular scenery, presence of numerous and diverse mammal and reptile fauna and the presence of large water bodies with a potential for the development of a wide range of outdoor recreational facilities. When Lake Kariba began to form all these factors were present.

The emerging water body was designated as a Recreational Park.² The land that had been classified as European Land under the LAA was re-categorised into the Charara Safari Area.³ This Safari Area covers a region of more than two thousand hectares and includes all the area around Kariba town and borders the Kanyati, Hurungwe and Nyaodza Communal Lands. Another National Park with Lake Kariba as a frontage was also demarcated. This was the Matusadona National Park. This National Park covers an area of more than hundred and thirty seven thousand square kilometres. The creation of this National Park was justified on the grounds that it was largely sparsely populated and the presence of tse tse fly and a large number of wildlife could not make it suitable for human habitation (Taylor, 1989). Further, below the Matusadona National Park, on the stretch of land that had been classified as Unassigned Area under the LAA, a Safari

² It is for this reason that the fishery is officially known as the Lake Kariba Recreational Park

³ A Safari Area is a piece of land provided specifically for outdoor recreational pursuits such as camping, sport hunting, fishing, photography, game viewing and bird watching.

Reserve known as Chete was also established.⁴ Furthermore, a stretch of land measuring approximately seven kilometres wide running along the whole length of the shoreline was demarcated and classified as a Lake Shore Area. Permanent human habitation and other socio-economic activities such as farming and livestock keeping, except in selected areas, were prohibited along the Lake Shore Area. By the time the water levels in the lake reached their maximum extent it was officially acknowledged that there were no permanent human settlements anywhere along the lakeshore except in designated areas.⁵

Fishing in Lake Kariba

As Lake Kariba became the largest water body in the country and given the National Parks Board thrust towards sport fishing soon became a major tourist area. To preserve this tourist appeal a number of controls on fishing activities especially by artisanal fishermen were instituted. Areas adjacent to wildlife areas such as National Parks and Safari Areas were to be closed to artisanal fishing. Only sport angling was to be allowed in these areas. The only exceptions were fewer fishing grounds along these parts of the lakeshore that were allocated to white-owned fishing concessionaires. Secondly, fishing was to be prohibited in all affluent rivers and river mouths. This was aimed at protecting the spawning-runs of a lot of fish species particularly the Tiger Fish. The Tiger Fish is vital to the success of the Annual Kariba International Tiger Fishing Competition. The tournament was first organised in 1962 attracting over four hundred participants (Kenmuir, 1978). In 2001 more than two hundred teams representing about a thousand participants took part. It has now become a major tourist attraction in the fishery. As a result of these various restrictions only 60 percent of the lakeshore is open to artisanal fishing.

⁵ Zambia National Archives, Ref. No. SP 4/7/16, Minutes of a Meeting of Ministers held in Salisbury on Friday 11th December, 1959.

⁶ Source: www.mustad.no/people/fieldtesters/osborne

Even when artisanal fishing commenced in 1962 further restrictions in the fishing camps themselves were introduced. Each of the Tonga and Kore Kore chiefs that were displaced from the banks of the river to make way for the lake was given a specific fishing ground from where his subjects only were to operate. The names of some of the fishing camps such as Dandawa, Nyamhunga, Mudzimu and Nematombo are actual names of the chiefs displaced from the river. These fishing camps were exclusively for fishing purposes only and permanent settlement and other activities such as agriculture and livestock keeping prohibited. This policy was also meant to preserve the wilderness of the area surrounding the lake (Magadza, 1986).

In 967 about 1000 artisanal fishermen were recorded as active in the fishery (Minshull, 1973). Thereafter, the number of fishermen began to decline as a reaction to declining catches. It is estimated that in 1980 there were about 300 fishermen and the number increased to 700 between 1988 and 1992 (Songore, 2000). However, after 1993 the number has declined to current levels of about 300 fishermen in the artisanal sector (ibid).

Conflicts in the fishery

Two factors, ecological and administrative have been the source of conflicts between artisanal fishermen and other actors in the fishery. Firstly, most of the fish species targeted by artisanal fishermen are restricted to the marginal areas of the lake and in river mouths. This provides an incentive to artisanal fishermen to fish in such areas despite the restrictions Secondly and related to the first facto, the various demarcations of the lakeshore, that is aimed at accommodating the various actors reduces the amount of fishing grounds available to artisanal fishermen. This also prompts most artisanal fishermen to encroach into closed areas in an effort to maximise their catches. As early as 1966 the Director of National Parks and Wildlife Management was complaining that:

The major function of the ranger at Kariba continued to be the enforcement of the Fish Conservation Act and regulations. Illegal fishermen took considerable trouble to avoid detection and did not take kindly to arrest. On several occasions rushing game scouts and lusty battles disturbed the peace of the lake. On one occasion an illegal fisherman drowned while trying to escape while another had to be rescued. In one operation helicopter-borne game scouts were used, but illegal fishing continued (DNPWM, 1967: 4).

Such encounters between the DNPWM and the artisanal fishermen have remained a common feature of the fishery. Similar sentiments were still being some twenty years after the above observations had been made (DNPWM, 1996). Apart from the DNPWM the activities of the artisanal fishermen are blamed for having a negative effect on the tourism sector in the fishery. Fishermen are accused of fishing in river estuaries thereby having a deleterious effect on most spawning species especially the Tiger Fish which has the best fighting abilities among the fish species in the lake. Most of the tour operators believe that the quality of the Tiger Fish has declined to such levels that it has affected the internationally acclaimed Annual Lake Kariba Tiger Fish Competition. In turn this is said to have led to a decline in the occupancy rate of the hotels and lodges in the area (ZZSFP, 1996). Secondly, the setting of gill nets in unauthorised fishing grounds by artisanal fishermen is believed to affect the tourist industry as the fishing nets get entangled in the engine propellers of the cruise or angling boats. Thirdly, artisanal fishermen are accused of illegally settling on National Parks land thereby not only spoiling the wilderness of these areas but also encouraging other criminal elements involved in the poaching of wildlife.

Artisanal fishermen have responded to these restrictions and enforcements in a number of ways. Firstly, the fishermen have formed 'early warning' networks which alert members of the presence of DNPWM patrols. In some instances some game scouts from the DNPWM are part of these networks. Once patrols are noticed various signals are used to alert members. Canoes are submerged and nets removed until the danger has passed. Secondly, the artisanal fishermen do not invest in expensive gear such as motorised vessels. Most of the vessels in use are made of corrugated iron with a small strip of wood in the middle. Not only are these vessels conducive for use in river mouths

but they can also be easily replaced once the DNPWM scouts confiscate them. Most fishermen are of the view that they cannot invest in expensive vessels for fear of having them destroyed or taken away by the authorities.

Artisanal fishermen insist that their allocated fishing grounds are not adequate for them to have high catches. This compels them to encroach into closed areas and river mouths where they are assured of good catches despite the various risks involved. Most of them liken their existing fishing grounds to bath tubs:

How do you expect me to have good catches in a bathtub? I have no option but to go and fish in river estuaries and if any other fisherman tries to stop me then I will retaliate.⁷

They view the fishing restrictions imposed on them as being unjust and meant to protect the interests of the tourist industry. Most of the elderly artisanal fishermen interviewed said that they endured a lot of hardships when they were displaced to make way for the lake. As this relocation severely disrupted their livelihoods they feel that they should be the main beneficiaries of the resources in and around the lake. They particularly single out the DNPWM for taking a heavy-handed approach towards their activities while allowing the clients of tour operators to fish in river mouths and areas adjacent to national parks.

Introduction of co-management

The conflicts between the artisanal fishermen and other actors threatened the viability of the tourist industry especially that which relied on the sport fishing. In addition, the DNPWM was increasingly finding it difficult to enforce the regulations in the artisanal fishing grounds in the face of dwindling financial support from central government. In some instances the department had to rely on the generosity of the tour operators to conduct their patrols. It is for this reason that in 1993 the DNPWM, through

⁷Personal communication with artisanal fisherman, Gache Gache fishing village, 11/9/98.

the Lake Kariba Fisheries Research Institute (LKFRI) introduced a donor-funded comanagement initiative in the inshore fishery.

The framework for the co-management plans were based on the premise that artisanal fishermen who operated on fishing grounds allocated to the Communal Areas did not have recognised rights to the fishery. These fishing grounds were under the jurisdiction of the local authority and were owned communally thereby making the fishery a "Common-Pool Resource" (Machena, 1993). This lack of clearly defined rights were responsible for providing an incentive to fishermen to over-fish and encroach in closed areas in the hope of obtaining high catches. To prevent these conflicts the new comanagement plans give the responsibility of determining who gained access to their designated fishing grounds to the fishermen themselves. The fishermen would, in turn, be empowered through appropriate legislation to monitor each other's fishing behaviour. In particular, the co-management plan would ensure that fishermen did not fish in unauthorised fishing grounds. The blue print for this new co-management plan was to mirror the one that already existed in the wildlife sector known as CAMPFIRE (Machena, 1993, and Machena and Kwaramba, 1995). Under the CAMPFIRE programme the minister responsible delegates Appropriate Authority to a district council to manage all wildlife under its jurisdiction. Once it receives this authority the council is expected to pass it on to the village level. The villagers then sell hunting and trophy animals to safari hunters contracted to operate in communal lands and thus obtain benefits from the resource (Dzingirai, 1995) The money obtained is used to build schools and hospitals to benefit the local people. In the fishery this concept would work by giving proprietorship of particular fishing grounds to fishermen. These Exclusive Fishing Zones (EFZ's) would be conferred in accordance with the Parks and Wildlife Act of 1975:

Collective proprietorship is vested in the recognised inhabitants (or members) of the water base. It is a form of communal property regime in which user rights for the resource are controlled by an identifiable group and are not privately owned or managed by the government. The fishing community will have to determine who may use the resource, who is excluded from the resource and how the resource should be used (ZZSFP, 1998: 12).

In order to put this new management arrangement in motion, committees known as Sub-Area Fishermen's Associations (SAFA's) were established in the fishing camps. Membership to the SAFA's is open to artisanal fishermen only. A committee is elected from among the fishermen operating from each fishing camp heads the SAFA's. The committee comprises of a chairman, treasurer, secretary and resource monitors. Headmen in the fishing camps, who had previously presented the interests of the chiefs in the Communal Areas, were made *ex officio* of the SAFA's. The primary responsibilities of the SAFA's are to manage the fish resources in their respective EFZ's. They are responsible for preventing unauthorised fishermen from operating in their zones. An additional role of the SAFA's is to monitor and enforce fishing regulations. In order to operate effectively three persons from each SAFA were chosen to serve as Resource Monitors. These were to be directly responsible for co-ordinating the enforcement and monitoring of fishing regulations in their respective SAFA's. The operations of the SAFA's are supported by contributions made by members either as joining fees or annual subscriptions.

The co-management plan was to be part of a Master Plan for the fishery and surrounding areas. This Master Plan itself was to be guided by the principal that parts of the lakeshore were still to be reserved for particular types of economic activity as had been the case in the past. In its contributions in drawing of the Master Plan the tourism sector was particularly insistent that the largest potential for the expansion of economic activity on the lake and surrounding areas lay with the tourist industry (Hutton, 1991). Therefore, other uses of the lake such as artisanal fishing would have to be treated as secondary to tourism.

The fishery is not likely to expand and the only way to reduce the current fishing effort is to reduce the number of fishermen. The lake could be divided into a number of exclusive fishing zones in which the resident fishermen would have management rights. This may lead to them harvesting fish in moderation within their zones and policing it from poachers (ibid: 6).

The DNPWM supported this position on the grounds that its enforcement agents were already having problems in controlling the artisanal fishery in its present form. It was argued that expanding the fishery by opening up new fishing grounds as was being advocated by artisanal fishermen during the consultations for the formation of the SAFA's would merely exacerbate the existing management problems (Hutton, ibid). Apart from the conflicts between the artisanal fishermen and the tourist industry the DNPWM also noted that expanding fishing grounds would further compromise the need to retain some unfished areas in the fishery that provided a pool for restocking the fished areas (ibid).

Inconclusive encounters

Despite implementing these co-management arrangements the conflicts in the fishery have not been solved. To date the encroachments by artisanal fishermen into unauthorised fishing grounds have continued. What the co-management has achieved is to engender conflicts among artisanal fishermen themselves. Being a committee member of the SAFA has brought a number of incentives for artisanal fishermen. Committee members attend workshops in the resort town of Kariba while study tours to other fisheries have also been held. Due to benefits obtained from these activities it is not unusual for all committee members to be removed from office whenever elections for new office bearers are held. Secondly, the lack of permanency in the fishing camps, itself a reflection of the land tenure system, has also affected the operations of the SAFA's. During the rainy season most of the fishermen migrate to their Communal Areas to conduct their agricultural activities. During these period there would be very few fishermen in the fishing camps to run the affairs of the SAFA's.

There are three major weaknesses of the co-management arrangements that were not addressed. Firstly, the co-management plans sought to re-confirm the existing divisions in the fishery in the hope of reducing the conflicts. It did not address the manner in which these divisions of the lakeshore have reduced the fishing grounds available to artisanal fishermen which is one of the sources of the conflict. The delegation of

management authority to fishermen over defined fishing grounds does not address the main concern of the artisanal fishermen that is lack of adequate fishing grounds. Secondly, there was a deliberate effort by the DNPWM through the LKFRI to make the co-management arrangements an affair between the state and artisanal fishermen only. Other actors such as tour operators are not part of the SAFA's. This has reduced the effectiveness of the SAFA's in addressing their problems to other actors. Whenever, they have complaints with other actors such as tour operators they have to go through the DNPWM. This limits the role of the SAFA's and the confidence that the rest of the fishermen have in them. As a result, there has not been a reduction in the conflicts, as the other actors would like to maintain their privileges at the expense of artisanal fishermen. Thirdly, the role of the SAFA's in solving the conflicts is also not well understood by most of the fishermen. While some artisanal fishermen feel that the associations were created to solve all problems related to their operations others feel that these need to be confined to monitoring fishing regulations only. For instance, fishermen in one the camps have had problems with tour operators in the area. They complain that the operator in their areas anchors his houseboats in their fishing grounds thereby posing a risk to fishing nets. When the fishermen were asked to resolve the problem with the operator through their SAFA's, they responded that only the LKFRI and the DNPWM had the mandate to discuss such issues with other users of the lake. They did not view the settling of conflicts as a role for the SAFA.

1.6 Conclusion

This paper sought to show how land tenure policies in the country, themselves defined by the colonial LAA of 1930, have shaped the relationships among users of the Lake Kariba fishery. Although the LAA was designed to promote settler commercial agriculture, it had an effect on the way Lake Kariba was to be accessed and utilised. When the water levels began to rise various demarcations for various uses were made. These divisions marginalised local fishermen who had to resort to encroachment in an effort to increase their catches. These encroachments have led to conflicts with other lake users especially those in the tourist industry.

In an effort to address these problems the LKFRI instituted a co-management regime that sough to confer rights to recognised groups of fishermen over particular fishing grounds. However, these arrangements did not address the fundamental problem in the fishery. This problem is related to the various divisions of the lakeshore. Consequently, the conflicts that this new regime sought to address have not bee solved. It is submitted that to enhance equity and sustainable use of a commons there is need to address the various historical and economic contexts in which that commons has evolved. These contexts inform the current problems in the way commons are managed.

References

Bell-Cross G., and J. Minshull, 1988, "The Fishes of Zimbabwe," Harare, National Museums and Monuments of Zimbabwe.

Department of National Parks and Wildlife Management, 1967 <u>Lake Kariba Fisheries</u> <u>Research Institute</u>, 1966 <u>Annual Report</u>, Kariba, Department of National Parks and Wildlife Management.

Department of National Parks and Wildlife Management, 1997 <u>Lake Kariba Fisheries</u> <u>Research Institute, 1996 Annual Report,</u> Project Report No. 90, Kariba, Department of National Parks and Wildlife Management.

Dzingirai, V., 1995, "Take Back your CAMPFIRE: A Study of Local Level Perceptions to Electric Fencing in the Framework of Binga's CAMPFIRE Programme," Harare, CASS Occasional Papers.

Government of Southern Rhodesia, Central African Council, 1951, "Comparative Survey of Native Policy, Salisbury, Government Printers.

Federation of Rhodesia and Nyasaland, 1955, "Memo on Fishing," Salisbury, Government Printers.

Government of Southern Rhodesia, 1960 "Report of the Secretary for Native Affairs and Chief Native Commissioner for the Year 1959," Salisbury, Government Printers.

Hey, D., 1948, "Report of a Survey during July-August, 1948 on the Potentialities of Inland Fisheries in Southern Rhodesia," Cape Town, Stellenbosch, Inland Fisheries Department.

Hutton, J.M. 1991, "Lake Kariba Zimbabwe: Integrated Planning and Management of Lake Kariba and its environs, Recommendations to the Government of Zimbabwe," Document 10., Kariba, Zambia/Zimbabwe SADC Fisheries Project.

Kenmuir D., 1978, "A Wilderness Called Kariba," Harare, Dale and Morag Kenmuir.

Machena C., 1993 "Framework for a New Approach to the Management of the Lake Kariba Inshore Fisheries," Project Report No. 19, Kariba, Zambia/Zimbabwe SADC Fisheries Project.

Machena C., and Kwaramba R., 1995 "The Creation of Property Rights to Promote Sustainable Development in the Lake Kariba Inshore Fishery in Zimbabwe," Kariba, Lake Kariba Fisheries Research Institute.

Magadza, C., 1986 "Conflicts of Resource use on the Lake Kariba Environs," in Nature and Resources, Vol. 22, No. 4, 1-10.

Minshull, J.L., 1973, "The Establishment of a fishery among the resettled Batonka people at Lake Kariba, Rhodesia, Commission Internationale des Grands Barrages, Madrid, pp. 413-9

Rukuni, M., 1994, 'The Evolution of Agricultural Policy: 1890-1990," in Rukuni, M., and C.K. Eicher, (ed's), "Zimbabwe's Agricultural Revolution," Harare, University of Zimbabwe Publications.

Sanyanga, R.A., 1996, <u>The Inshore Fish Populations of Lake Kariba with biology of the Synodontis zambezensis Peters 1852</u> Department of Systems Ecology, Stockholm, Stockholm University.

Songore, N., M. Mugwagwa and A. Moyo, 1998 "1997 Fisheries Statistics Lake Kariba – Zimbabwe Shore," Project Report No. 91, Kariba, Department of National Parks and Wildlife Management.

Songore, N., 2000, "Compilation and Analysis of Catch and Effort Data on Lake Kariba Artisanal Fishery, Zimbabwe", Kariba, Lake Kariba Fisheries Research Institute.

Taylor R.D., 1989 "Biological Conservation in Matusadona National Park, Kariba," in <u>Transactions of the Rhodesia Scientific Association</u>, Vol. 59, No. 5, 1-14.

Tomlinson, D.N.S., 1980, "Nature Conservation in Rhodesia: A Review," <u>Journal of Biological Conservation</u>, No. 18., pp. 159- 177.

Zambia/Zimbabwe SADC Fisheries Project, 1996 "Tourism and the National Parks and Wildlife Estates on Lake Kariba: A contribution to the Combination Lake Kariba Master Plan," Project Report No. 54, Kariba, M.E., Associates (pvt) Ltd.

Zambia/Zimbabwe SADC Fisheries Project, 1998 "Kariba Lakeshore Combination Master Plan: Written Statement," Kariba, Zambia/Zimbabwe SADC Fisheries Project.

Zambia National Archives, Ref. No. SP 4/7/16, Minutes of a Meeting of Ministers held in Salisbury on Friday 11th December, 1959.

Internet source

www.mustad.no/people/fieldtesters/osborne