

Challenges and prospects for trans-boundary fisheries in Lakes Chiuta and Kariba

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Community-based conservation (CBC) is a prominent feature of conservation and development policy and practice in southern Africa. It is a generic concept defining different configurations of controlling access to and use of land and natural resources in southern Africa – and has led to the development of policies and legislation in support of community-based natural resources management (CBNRM) and co-management arrangements. Both concepts largely revolve around the premise of devolution of control and management authority over natural resources to facilitate conservation and use of, and local access to, resources. A focus on regional economic integration has offered an opportunity for extending the experiences of CBNRM and co-management to resources occurring along international boundaries. Different trans-boundary natural resources management (TBNRM) programmes have been initiated in southern Africa. The experience of two inshore fisheries on Lakes Chiuta and Kariba highlights the challenges of TBNRM, especially at local resource users' level. A proposal for meaningful engagement of local resource-dependent people is suggested in the form of a trans-boundary commons regulated through co-management institutions. Broad implications of this suggestion, including terrestrial TBNRM programmes, are briefly discussed.

Introduction

CBC is a prominent feature of conservation and development policy and practice in southern Africa. It has been implemented or attempted in various forms across different resource sectors such as wildlife, forestry and fisheries. The most prominent approach has been community-based natural resources management and has involved attempted devolution of control and management authority over natural resources to local resource users. It is now acknowledged that what is being implemented is a decentralisation of administrative functions to local government structures. It has been widely associated with the wildlife sector. Secondly, co-management arrangements involving local resource users, government agencies and private sector have emerged as an important approach to CBC, notably for forestry and fishery resources.

Over the last few years, policy pronouncements have emphasised the importance of CBC across political boundaries. Whilst trans-boundary natural resources management has largely depended on states, national and international NGOs and the private sector for leadership and financial support, it is clear that local resource users can play an important role in their success. However, the actual nature of involvement of local resource users who live in these boundary areas has remained marginal to official decision-making processes. Secondly, different resource regulatory systems in neighbouring countries have generated conflicts among local resource users. Whilst at the state political and technical level there

are strategies and structures for co-operation in natural resources management, this has not translated into tangible collaboration at local levels. Inshore artisanal fisheries display some of the characteristics and the dilemmas faced at a local level in attempting TBNRM. This brief discusses the possibility of implementing TBNRM at local levels through the recognition of common fishing waters (commons) among inshore fishers from riparian states. It also briefly discusses the implications of this suggestion on TBNRM, specifically as it relates to terrestrial resources where definition of political boundaries is more pronounced.

Understanding CBC and TBNRM

CBC is understood to encompass a wide range of projects and programmes including co-management, CBNRM, and integrated conservation and development programmes (ICDPs) (Adams & Hulme 2001). A central feature of these projects and programmes is that they are based on the assumption that 'conservation goals should be pursued by strategies that emphasise the role of local residents in decision making about natural resources' (Adams & Hulme 2001:13). They developed in response to growing land and natural resources conflicts between local resource-dependent people and the state over 'fortress conservation' – which emphasised the exclusion of people from nature, and a technical state-centric approach to biodiversity conservation.

The evolution of CBC took place in the context of growing international discourses of sustainable use of

natural resources, participatory development, and social justice through conservation (Jones & Murphree 2004; Hulme & Murphree 2001). Linkages between conservation and development, often involving sustainable use of natural resources, led to various forms of natural resources management projects and programmes. In southern Africa, CBC has predominantly been in the form of CBNRM and involved attempts at devolution of control and management authority over state-held resources, particularly wildlife resources (Murombedzi 1996). It has been emphasised that clearly defined communities are more interested in sustainable use of local resources than other actors such as government and private sector interests (Malasha 2005). Resource access and use is regulated through local management rules premised on collective ownership.

Collective proprietorship was specifically relevant following Garrett Hardin's 'tragedy of the commons' thesis (1968), which argued that individuals' decisions were influenced by self-interest. Competition for resources and the lack of incentives to act for the common good, argued Hardin, lead individuals to make decisions that eventually have negative consequences for the conservation of resources. Hardin's thesis further entrenched the notion that government intervention and privatisation of resources was best for conservation (Steins & Edwards 1999). However, state-centric technical approaches to conservation proved not to be the panacea implied in Hardin's arguments, in lieu of the central role played by natural resources in sustaining rural people's livelihoods. At the same time, research started pointing out that access to and use of common property resources is subject to governance rules; and was not open access as implied by Hardin (Bromley 1992; Ostrom 1990). These findings were influential in the formulation of CBNRM programmes in southern Africa. CBNRM was accompanied by the formation of local institutions to which control and management authority could be devolved; and policies instituted that allowed the central state to decentralise responsibilities to local state related institutions.

The strategic importance of rural resources provided an opportunity for CBNRM experiences to be expanded across boundaries. A suitable political environment was created through the mandating of the Southern Africa Development Community (SADC) to deal with issues of regional integration. An outcome of increased co-operation among states has been TBNRM, argued to be:

Any form of co-operation to facilitate management of resources across international boundaries that facilitates or improves the management of natural resources. (Griffin et al. 1999; Katerere et al. 2001).

TBNRM is explained as an outcome of regional integration for economic development (Mombeshora 2005). Related to economic integration has been the argument that TBNRM stands to contribute to long-term peace and security efforts through state co-operation and

the channelling of financial resources into environmental management across boundaries. Secondly, it is argued on the basis that the partitioning of Africa and other former colonial territories disrupted continuous ecosystems. It is emphasised that to successfully manage and protect resources, an ecosystem approach is required. TBNRM is therefore viewed as strategic for the management of shared ecological systems such as watersheds, river systems and migratory species (Swatuk 2005). Whilst it is agreed that TBNRM programmes create conditions for economic integration and ecosystem-level management, it remains unclear how local resource-dependent people are going to be part of the management regime. An assumption has been made that community issues are addressed through scaling up CBNRM experiences to a TBNRM level.

However, an analysis of the different perspectives of TBNRM elicits a different picture. Take one perspective – TBNRM schemes are said to take different forms consisting of different land uses, at the core being protected areas – hence trans-boundary protected areas (TBPAs). Such protected areas are usually surrounded by trans-frontier conservation areas (TFCAs), where some form of regulated resource use by local communities is permitted. It is in these areas where a genuine linkage between CBNRM and TBNRM can be made through extending devolved control and management authority across boundaries through already established local institutions. As a result, the term TFCA is often used interchangeably with TBNRM. Yet conditions in these areas act against linking CBNRM experiences to TBNRM implementation. Firstly, after years of strict enforcement of boundaries in these zones, approaches to state security have always been conceptualised at a national level. Between South Africa and Zimbabwe, for instance, the presence of the military along the South African side continues to hinder any meaningful local approaches to issues of peace and security, let alone local trans-boundary approaches to resources management.

Secondly, CBNRM policies in neighbouring countries differ in terms of their emphasis on where power and authority over resources should be decentralised to, making it incompatible to have trans-boundary co-management of natural resources (Buzzard 2001). For instance, within the Great Limpopo Trans-Frontier Conservation Area (GLTFCA), neighbouring villages between South Africa and Zimbabwe are involved in some form of CBNRM with different conditions for sustainable use of resources. Whilst consumptive use is allowed for communities involved in the CAMPFIRE programme in Zimbabwe, in South Africa the focus has been more on eco-tourism development.

TBNRM initiatives have borrowed from CBNRM the central role of the market in generating income for different actors involved. This has largely been in the form of promoting tourism in areas earmarked for TBNRM. But not all TBNRM arrangements have potential for tourism

development, as some are in remote areas that do not have the infrastructure to attract tourists. A second motivation for TBNRM is conservation through ecosystem-wide and bioregional planning approaches. It has been argued that the focus on tourism and ecosystem-wide conservation does not create real opportunities for equitable access to resources by poor rural people (Dzingirai 2004). Experiences in southern Africa point to a need to emphasise the definition of TBNRM schemes along the lines of informal resource use – including illegal uses – that occurs across boundaries (see Jones & Chonguica 2001). An understudy of trans-boundary inshore fisheries and their role in sustaining livelihood needs provide a possible basis for instituting TBNRM.

Background to Lakes Chiuta and Kariba

This brief is based on research involving two inland water lakes located along international boundaries: Lake Chiuta between Malawi and Mozambique, and Lake Kariba between Zambia and Zimbabwe (Malasha 2005; Njaya 2005).

Lake Chiuta

Before 1970, Lake Chiuta had similar management regimes in both Malawi and Mozambique, with traditional leaders allocating sites to fishers. Due to its small size and remoteness, there was no formal recognition of the fishery by the Malawi Department of Fisheries (MDoF), although catch data and extension services were being done on the Malawian side of the lake. However, transformation of the fishery from a traditional to a commercial orientation, with the introduction of seine nets that were not allowed by the local fishers, created conflicts between the resident and migrant fishers. As a conflict resolution measure, a co-management arrangement on the Malawian side was established in the 1990s whereby the local fishers sought support from the MDoF, leading to the formation of local beach village committees (BVCs). Two factors necessitated the formation of BVCs. Firstly; the local Malawian fishers wanted the MDoF to evict seine fishers with whom they competed for fish. Secondly, it mirrored a more general and wide acceptance of local people's role in managing natural resources, which manifested itself in terms of co-management arrangements in fisheries.

On the Mozambique side, however, traditional leaders continued to play a more central role in controlling access to, and use of, fisheries on Lake Chiuta. One outcome of this was that the strict control of access to and use of resources experienced on the Malawian side was not implemented in Mozambique. A contributing factor in this regard might be that a protracted civil war from the 1970s to the 1990s which diminished the role of the state in remote areas along Mozambique's vast international boundaries. Presently, seine fishers are still allowed only on the Mozambican side, creating conflict over approaches to resource access and control between the two countries.

Thus, whilst Malawi and Mozambique have made policy pronouncements in favour of TBNRM, conflicting policies and approaches to controlling access make the actual realisation of shared management responsibilities difficult to achieve.

Lake Kariba

The Lake Kariba case study also displays these differences, with variations only in detail. The Zambian shores of Lake Kariba have been under the authority of the Department of Fisheries (ZDoF). Upon completion of the construction of Lake Kariba, artisanal fishers were allowed to fish along the whole Zambian shoreline. The fishers did not have restrictions on the amount of gear they could have. Fishery resource exploitation in Zambia mirrored macro-economic problems – fishers moved into the area in times of economic hardship. A co-management arrangement was started in the 1990s through decentralisation of management over fisheries; and instituted the involvement of local fishers and traditional authorities in zonal management committees (ZMCs).

On the Zimbabwean side, however, the area is a recreational park under the authority of the National Parks and Wildlife Authority (NPWA). The NPWA has historically been in charge of controlling access to and use of fisheries within the recreational zone through the issuing of permits. This system, however, led to conflicts between local fishers whose livelihoods depended on having access to and use of fishery resources within Lake Kariba, and other lake users, especially the tourist industry. In 1993, the NPWA decentralised some management authority over exclusive fishing zones (EFZs) for artisanal fishers. The decentralisation process was based on the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) model, which conferred 'appropriate authority' status to fishermen in defined EFZs through rural district councils (RDCs). The Lake Kariba case study further highlights the differences in management approaches between Zambia and Zimbabwe. The different regimes have been sources of conflicts between Zambian and Zimbabwean artisanal fishers at the Mlibizi Basin, where the Lake is so narrow that artisanal fishers from the two countries compete for the same fishing waters. In the absence of a co-management framework for exploiting the resources between the two countries and respective fishers, the narrow channel has highlighted the challenges faced in attempting TBNRM at a local level. These challenges are expected to be more pronounced when conceptions of boundaries are clearer, for example, where rivers separate countries as opposed to boundaries on lakes, which are more difficult to clearly pinpoint.

TBNRM around Lakes Chiuta and Kariba

The demarcation of boundaries under colonialism resulted in different governance systems surrounding the emerging states. In turn the governance regime affected

how natural resources were accessed and used by local resource-dependent people. In the fisheries of Lakes Chiuta and Kariba, different management systems have been implemented, ranging from strict control of access to and use of resources to a *laissez-faire* approach. The Mozambican inshore fishery along Lake Chiuta has retained a central role for traditional leaders in the allocation of fishing rights, whilst on the same lake in Malawi the state was actively involved in controlling access to and use of fisheries. On Lake Kariba, Zambian fishers have been allowed to maximise fish production to meet the demand from urban areas. On the Zimbabwean side, however, certain areas of the lake are closed off to artisanal fishers. The situation in the Mlibizi Basin indicates that differences in management approach along international boundaries may give rise to conflict.

The first source of conflict has been around different *fishing regulations*. On the Lake Kariba inshore at Mlibizi Basin, differences between the two countries include the number of gill nets a fisher can own and the mesh-size of the nets. Zambian fishers are allowed more nets, and their mesh-size is much smaller than on the Zimbabwean side. This enables the Zambian fishers to catch more fish and gives rise to conflict with their Zimbabwean counterparts. In Lake Chiuta the disagreement between Malawi and Mozambique is largely around seine nets. In the early 1990s, local fishers on the Malawian side requested the assistance of the MDoF to evict more than 300 seine net fishers who were on the Malawian side. Although most of these seine fishers are now on the Mozambique side, they continue to impact on the availability of fish in Malawi because both sides exploit the same resource. Whilst Malawi has a mesh-size limit, such a limit has yet to be implemented on the Mozambican side of the lake.

The second area that has generated conflict among artisanal fishers across the different countries and between fishers and authorities pertains to fishing waters. The Zambian shoreline was classified as 'native reserve area' where artisanal fishing was allowed without any restrictions. On the Zimbabwean side, however, most of the area has been set aside for recreational purposes and is not available for artisanal fisheries except around designated EFZs. The artisanal fishers at Mlibizi Basin have encroached into restricted fishing areas, causing conflict with the NPWA and private safari operators. In essence, this conflict is as much about breaking rules around fishing waters, hence about authority, as it is about competing with safari operators who use the area for sport fishing.

A third conflict issue is around the marketing of fish. Because the Zambian fishers are located far from their fish markets in Lusaka, they land their fish on the Binga market in Zimbabwe, albeit informally. A reciprocal system has developed between Zimbabwean authorities and the Zambian fishers where the fishers may land their fish in exchange for selling the fish at a lower price. This has generated conflict with the Zimbabwean fishers who

feel the Zambians are undercutting them. Coupled with higher catches due to the smaller mesh size, Zambians have an advantage over the fishers on the other side of the border.

As much as these are conflict areas among artisanal fishers across the four countries, they also present an opportunity for trans-boundary co-operation. Any meaningful engagement with this process has to recognise the centrality of inshore fisheries in sustaining local livelihoods. It also has to be emphasised that, whilst this conflict is largely between the artisanal fishers, its source is different policies within riparian states. Thus, potential solutions to these conflicts have to be approached at different levels – ranging from local resource-dependent people to national-level government officials.

Framework for TBNRM fisheries

It is often argued that TBNRM initiatives can contribute to peace, security and long-term stability. The SADC treaty for regional integration and co-operation in the management of shared natural resources provides a basis for the resolution of conflicts around trans-boundary inshore fisheries. SADC has also put in place other protocols aimed at increasing co-operation in conservation and natural resources management efforts.¹ The four countries discussed here are already implementing TBNRM initiatives.² Zambia and Zimbabwe are also members of the Zambezi Watercourse Commission, whose role is to resolve conflicts and foster an awareness of equitable utilisation of natural resources within the Zambezi watercourse. At the level of artisanal fishers, the four countries have put in place policies for decentralising management authority to local resource users.

The Zimbabwe approach has been structured along the CAMPFIRE model which involves decentralising management to an 'appropriate authority' status over fishing zones. In Zambia, the fisheries co-management arrangements followed on experiences with Administrative Management Design for Game Management Areas (ADMADe) which aimed at involving communities in managing wildlife. Malawi and Mozambique are also pursuing co-management arrangements in their respective inshore fisheries. Despite the similarity in policies for involving local resource users in the management of inshore fisheries, conflicts are still prevalent, especially as a result of different regulatory systems in the countries discussed here.

An issue that needs to be addressed around both inshore fisheries is the impression that fishers from the different countries are competing. As noted above, this has arisen largely due to different fishing regulations. These differences are exacerbated by the fact that when the co-management arrangements were instituted, they did not include cross-border collaboration among institutions at a local level and the fishers themselves. Thus, despite the articulation of ecosystem benefits through TBNRM,

this has remained a neglected area in inshore fisheries even at a policy level. Efforts should be made in this regard to transform local-level institutional structures for co-management to serve trans-boundary artisanal fishery interests; and act as a platform for resolving some of the conflicts experienced.

The perceived value of artisanal fisheries has also contributed to the low priority afforded to a trans-boundary arrangement at a local level. Compared with other economic activities such as tourism (on Lake Kariba), artisanal fisheries are regarded as contributing little to the gross domestic product of the countries involved. This is despite their central role in sustaining local people's livelihoods and as safety nets for the vulnerable poor. These challenges indicate that despite the existence of various international instruments meant to promote TBNRM among the countries involved, a more appropriate approach premised on managing local resource conflicts in the trans-boundary setting is needed. Additionally, such an approach should guarantee access to and use of resources by the poor, hence secure livelihood sources for the most vulnerable.

Malasha (2005) proposes the creation of a commons within the Mlibizi Basin. This is also possible for the Lake Chiuta trans-boundary co-management. In both cases, as suggested by Malasha, joint commissions between the countries involved can be the framework within which the commons are established. This enables fishers from the countries involved to jointly address conflict issues such as fishing regulations. Additionally, it provides a platform for discussing these issues with policy and decision-makers taking part on the joint commissions. The joint commissions can work with local stakeholder fora comprising local committees, local authority structures, and tour operators. Areas of conflict between different shoreline uses would also be discussed through such fora.

A commons would further act as a safety valve for people who lose their sources of livelihood, including those in formal employment in the cities. A commons arrangement would further act to ensure access to and use of resources through regulation by co-management institutions whose trans-boundary mandate is not constrained by bureaucracy.

Implications for other forms of TBNRM

This framework has implications for other TBNRM initiatives, whether they have narrow rivers for boundaries, or 'fuzzy' boundaries such as mountain ranges. There is clearly an overlapping of resource-use in the two lakes discussed here, owing to lack of clarity of where exact boundaries lie and the fact that fish move at will through human-made territorial boundaries on the lakes. Where such demarcations are perceived to be clearer, as in separation through a narrow river, nationally-based administrative practices might present more challenges to co-operation across international boundaries. At the same time, illegal

resource use across boundaries makes the need for setting up a commons even more critical. For instance, the use of non-fugitive resources such as grazing pastures raises issues of cross-border cattle theft. Instituting a commons presents opportunities to deal with conflicts arising from informal use across boundaries to be addressed through cross border co-management institutions. The promotion of tourism across boundaries has been criticised for perpetuating differences in investment in different countries. A commons management structure can address questions of uneven development in TBNRM areas. In this regard, a commons arrangement would have to address the issues of benefit-distribution as well as equitable access to, and use of, resources.

Conclusion

This brief set out to highlight the challenges and prospects for involvement of resource-users around trans-boundary fisheries. Whilst the countries involved have instituted CBNRM initiatives and are implementing TBNRM programmes, the actual contribution of local resource-users remains undefined. It has been noted that, whilst at a political and technical level there is a platform for trans-boundary engagement, this still has to be realised at a local level. Differences between the countries in terms of policies of controlling access to and use of resources have led to local conflicts among fishers, as some have extracted more resources from the same ecosystem. It is suggested that meaningful engagement with local resource users in trans-boundary fisheries might be possible through the establishment of commons, whose use is regulated by trans-boundary co-management institutions. A further suggestion in this regard is for technical managers in the riparian states to discuss and manage local conflicts through adopting similar fishery regulations. The adoption of similar regulatory systems would provide a favourable environment for facilitating co-operation among local co-management institutions. Such an environment should also facilitate security of livelihoods for local resource-dependent people.

Endnotes

- 1 SADC Protocol on Wildlife Conservation and Law Enforcement; SADC Protocol on Shared Water Courses; SADC Protocol on Fisheries.
- 2 Zimbabwe, Zambia and Mozambique TBNRM initiative; Lake Chiuta Trans-Boundary Co-Management initiative for Malawi and Mozambique.

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