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**Contesting Inequalities In Access Rights To
Lake Kariba's *Kapenta* Fishery
An Analysis Of The Politics Of Natural
Resource Management**

By

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Abstract

The pelagic fishery of Lake Kariba is shared between Zimbabwe and Zambia. The fishery exploits the freshwater sardine, the 'kapenta' (*Limnothrissa miodon*). In 1999, the governments of the two countries established a protocol for joint management of the fishery. The protocol sets the agenda for what each country does in the management of *kapenta* within its jurisdiction. The management objective of the protocol is to ensure that the yield from *kapenta* is ecologically sustainable and economically viable within an equitable framework. To achieve this objective each country is supposed to develop a management plan, within the framework of the protocol, which takes the historical and political context of each country into consideration. The Zambian government adopted a community-based integrated management system that encompasses both the inshore and the *kapenta* fishery. In Zimbabwe, the colonial era left a depressing legacy of an extremely unequal distribution of resources between blacks and whites. On the Zimbabwean side, the question of redistributing permits from bigger to smaller firms and from white to black operators according to national policies has been the overall management issue. The process has generated a lot of conflicts between fishers and the state. Fishers are left out of decision-making. This paper explores the tension and interplay between the state and fishers that is structured by the political need to address historical imbalances.

Introduction

The pelagic fishery of Lake Kariba is shared between Zimbabwe and Zambia (Figure 1), and exploits a freshwater sardine (*Limnothrissa miodon*), the 'kapenta'. For shared resources, the decision on what the total allowable number of fishing units should be is not just a question of following the scientific advice of national or regional scientific institutions. The decision is also based on the demands of other countries sharing the resource, and the total allowable number is most often arrived at through negotiation between the riparian states. Once the number of units per country is determined, each country takes into account its historical, political, and industrial structures and social conditions to decide on the allocation of access rights to its nationals. The decision on the number of fishing units that a fisher can own involves different interest groups, each fighting to obtain its share of the resource. The possibilities of influencing the outcome depends to a large degree on their organisational abilities, their connections to the central political authority and, more importantly, on the institutional order governing the distribution (Apostle, *et al.* 1998; Hersoug and Holm, 1999).

We may identify three institutional orders governing the distribution of access rights to a resource. These are the community, the market and the state. (Apostle *et al.*, 1998; Hersoug and Holm, 1998). The community governance paradigm is characterised by close inter-personal ties among members, multiplex social networks and shared identities (Hersoug and Holm, 1999; Leach *et al.*, 1999). The community paradigm emphasises the equitable distribution of access to resources, and therefore provides solutions in situations where this is absent (Hersoug and Holm, 1998; Hersoug, 1996). The community paradigm tends to favour small, local and traditional participants or user groups. The concepts of local management and local user participation seeks to embed fisheries management in local community structures (Pomeroy and Williams, 1994; Jentoft, 1989). This paradigm is therefore difficult to establish where the fishery is exploited by highly capitalised companies comprised of heterogeneous owners.

The state governance paradigm is broadly characterised by a top-down, centralised bureaucratic command and control mode of decision-making (Hersoug and Holm, 1998; Pomeroy and Williams, 1994; Apostle *et al.*, 1998). The state governance paradigm is recommended in a situation where over-exploitation and the unfair allocation of resources amongst nationals are the main problems of a fishery. In this paradigm, therefore, the central state is seen as an important actor in transforming social relations. In a democratic state like Zimbabwe, however, politicians do not always remain in control as important policy decisions are influenced by organised interest groups.

The market-based property rights resource management system suggests competition, economic efficiency and rationality (Apostle *et al.*, 1998; Hersoug and Holm, 1999). It aims to deal with situations where over-capacity, underdevelopment and the inefficient allocation of resources are the main problems of fisheries management. The tradable licenses, lease and quotas now implemented in several countries seek to redress the inefficiencies of state governance by utilising market mechanisms (Copes, 1996). Some market governance has, however, had inequitable consequences. For example, Individual Transferable Quotas (ITQ) for Icelandic cod have caused control of industry to shift to a few large operators (McCay and Acheson, 1987). This has resulted in reductions in the number of firms and jobs. Policies grounded in the market paradigm fail to address issues of social equity, as the goal of economic efficiency often clashes with that of maintaining rural communities (Waters, 1991; Corten, 1996)

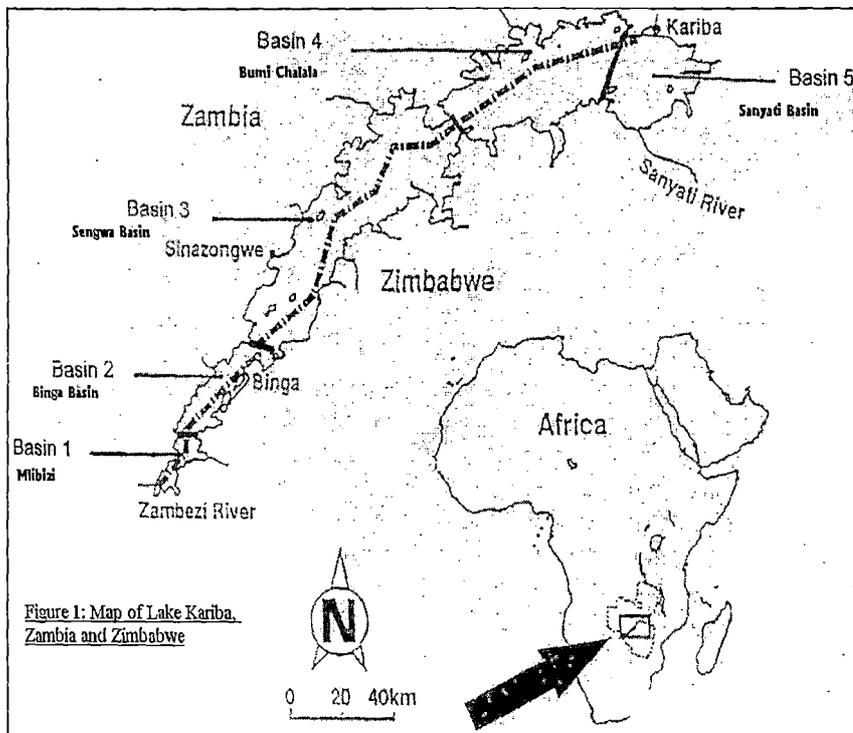
Each of the three institutional orders has a distinct capacity for redistribution of access rights to natural resources in somewhat different directions. Under the market paradigm, the principle of efficiency ensures that actors able to exploit the most efficient strategies will gain control over the resource. Relying on the community paradigm, however, could undermine the big companies in favour of local traditional communities. The governance

structure of the state emphasises control. The process of redistribution, however, depends on the extent to which politicians retain complete control, and are able to resist the influence of lobbying groups and negotiations over policy (Hersoug and Holm, 1999).

This paper seeks to discuss the key policies and statutes in fisheries that influence the redistribution of *kapenta* fishing licenses on the Zimbabwean side of Lake Kariba. The type and capacity for redistribution, however, is a question of choice of governance paradigm (Hersoug and Holm, 1999). Whatever the choice made, the goal of redistribution involves making trade-offs between the incompatible requirements of the three institutional orders of state, market and community. Each of the three paradigms has had an influence on the effort of redistributing licenses within the *kapenta* fishery. The paper focuses on how licence redistribution has fared given tensions generated by the need to take into account (a) the pressure for retaining the role of the state; (b) participation of users and (c) the pursuit of economic efficiency through market solutions.

The evidence presented in this paper is based on fieldwork conducted between August 2000 and March 2001. Key informant interviews with purposively selected *kapenta* fishers and resource managers were undertaken. Additional data has also become available through the works of other researchers. These are referred to and discussed in light with findings.

The *kapenta* fishery management



The Zimbabwean *kapenta* fishery resource of Lake Kariba is defined as state property. The state makes decisions concerning access to the resource, level and nature of exploitation. The state employs several measures to manage the resource, including licensing, area closure and area zoning.

Licensing

Non-transferable licenses are issued annually by the state through Department of National Parks and Wild Life Management (DNPWLM). In Zimbabwe, a fishing license is equivalent to a fishing vessel. One company can therefore hold several fishing licenses. There are 280 *kapenta* fishing vessels registered to 73 fishing companies, which land up

to 18,000 metric tonnes of fish annually (Songore *et al.* 2000).

Area closures

Shallow areas that are less than twenty metres deep, rivers and river months are considered to be breeding areas, and are closed to fishing. Areas near recreational parks and development areas are also closed to fishing to accommodate other multiple uses of the lake (tourism, sport fishing, and safari operations).

The allocation of fishing basins

Fishing sites were originally allocated near Kariba Town from where most companies continue to operate. With the growth of the industry, new sites were opened in Chalala/Bumi, Sengwa, Binga and Mlibizi basins (see Fig. 1). Permits issued contain provisions that limit the basin in which vessels may operate, and license holders are not permitted to fish outside that basin (see Table 1 for the distribution of fishers by basin/fishing zone).

Basin	White-owned Companies		Black-owned Companies		Rural District Councils		Co-operatives	
	Co.	Vessels	Co.	Vessels	Co.	Vessels	Co.	Vessels
Mlibizi	0	0	0	0	0	0	1	2
Binga	6	21	1	2	1	3	5	10
Sengwa	7	20	1	2	1	3	5	13
Bumi	12	64	0	0	0	0	2	4
Sanyati	19	96	6	22	1	4	5	14
Total	44	201	8	26	3	10	18	43

Table 1: Distribution of fishers by Basin and race in 2000

Regrettably, the allocation of fishers per basin is based on unsubstantiated research. It was hoped that assigning a basin to a given limited and identifiable number of fishers might encourage self-management. Based on some empirical evidence, many scholars argue that only small groups can organise themselves effectively (Ostrom, 1995; Murphree 1991; Baland and Platteau, 1996), especially if the population is homogeneous. This argument overlooks the fact that communities and their environment are often heterogeneous. There seems to be little reason for restricting fishing in a particular basin when *kapenta* can move anywhere in the lake and the fishing vessels have to search for them. By doing so they can stray out of the fishing basins and this is unlikely to have any effect on the total fish stock.

The zoning regulation has given some operators advantages over others. It has created two types of inequalities. Firstly, the productivity of these basins varies significantly due to variations in the zooplankton levels. Total zooplankton densities are always highest in Basin 1 (Mlibizi) followed by basin 2 (Binga). Basins 3, 4 and 5 (Sengwa, Bumi and Sanyati) always have lower densities than basin 1 and 2. However, basin 5 (Sanyati) usually has higher densities than basin 3 and 4. The plankton density gradient observed from Mlibizi to Bumi is expected of river-fed man-made reservoirs because of the gradient in nutrient concentrations. Sanyati Basin, the most downstream of the 5 basins, should be the least productive. This is not so because of the effect of the high nutrient inflow from the Sanyati River (Masundire, 1997; Moreau, 1997). The other rivers do not have much effect on pelagic zooplankton because they drain smaller catchments with lower levels of nutrients (Masundire, 1997).

Secondly, the zoning approach used did not consider other important issues that affect the economic performance of operators fishing in the different basins. These included (a) the influence of waves that disrupted fishing, reduced fishing time, and increased wastage. Waves are particularly problematic in basins 1 and 2; (b)

distance to the nearest urban centre where operators obtained supplies such as fuel, and salt; and (c) availability of markets for *kapenta*. Fishers in the Sanyati and Binga basins operate from Kariba Town and Binga service centre respectively. The rest operate from remote areas. (d) Finally, the zoning did not take into account variable ecological conditions and differences in production across the lake. Up to now, regulations linking licenses to basin have not been revised. Failure to take into account the variations in resource productivity and the costs of operating in different locales undermines the performance of the new entrants who are assigned to very remote fishing basins.

The heterogeneity of the physical characteristics of the lake causes variations not only in resource productivity, but also in patterns of interaction. Some fishers have contested the creation of these physical boundaries by fishing illegally in other fishers' entitlements. For example, fishers in the Binga basin, where poor water visibility reduces the arc of light attraction, poach in the Sengwa basin. Fishers in less productive basins (Bumi and Chalala) also fish illegally in the Sengwa basin.

Kapenta fishing methods

Kapenta fishing is done at night using light attraction and lift nets. Besides marine engines, a fishing vessel has to be equipped with an electric generator and powerful mercury lights. The dip net is lowered into the water, and the lights then turned on to attract the *kapenta*. When enough fish have gathered above the net, it is then hauled, using either a hydraulic or manual winch.

The Colonial Legacy in Zimbabwe

Like many post colonial states, the government of Zimbabwe inherited a dual socio-economic system based on racial privilege. At independence, the economy was characterised by the inequitable distribution of income and productive assets in favour of a white minority (Government of Zimbabwe, 1981). The *kapenta* fishery was no exception. The initial selection of *kapenta* fishers was done at the DNPWLM headquarters during the white rule. People who had experience in commercial farming (fisheries fell under the ministry of agriculture at that time) and large sums of money were eligible for a *kapenta*-fishing license (Marshall, *et al.*, 1982; Hutton, 1991). There was no limitation on the number of licenses or fishing vessels that could be held by a fisher, and hence the size of the individual fishing operations that developed varied considerably. From the outset, therefore, the criteria used to allocate *kapenta* fishing licenses favoured white commercial farmers against black peasant farmers. This was accentuated by the fact that fisheries management and administration within the DNPWLM was dominated by whites.

Historically, there has been a lack of cooperation between white and black communities. Even before the war of liberation, there were separate development initiatives between black and white fishing communities. In Rhodesia, fisheries development fell under two authorities the Ministry of Agriculture provided extension services to the European controlled fishery. In tribal areas, extension was the responsibility of the Ministry of Internal Affairs, which had a unit with just one fisheries officer (Rhodesian Herald, 26 August 1975). This resulted in disparities in fishing skills and expertise between white and black fishers. Black fishers were restricted to small-scale fisheries, while whites came to dominate the large-scale, multi-million dollar *kapenta* fishing industry.

The initial selection process, therefore, benefited white entrepreneurs the most. The larger population of black people did not benefit, the major reason being that the national education and manpower policies at the time were generally designed to ensure the existence of cheap and unskilled black labour pool (Murphree *et al.*, 1975). Hence the blacks' entrepreneurial skills were very limited (Bourdillion, *et al.*, 1985). The colonial

government depended on the importation of skills mainly from overseas (Murphree *et al.*, 1975), and these policies hindered local skill formation, especially amongst blacks. Blacks provided labour to most industries, including the *kapenta* fishing industry where they are still employed as boat crews, fish processors and packers. In addition, most black people did not have acceptable collateral and could not, therefore, qualify for bank loans to start up *kapenta* fishing. The lack of collateral has a historical explanation. Local blacks have been excluded from ownership of means of production and from any economic activity that would enable them to make meaningful savings. As a result, only white fishers were licensed to exploit the *kapenta* fishery before independence.

Zimbabwean policies on natural resource distribution

In 1980, the Zimbabwe Government, wishing to redress racial imbalances in resource access, embarked on policies and strategies aimed at promoting the equitable distribution of income, the sustainable use of resources and to increase user participation in the management of natural resources (Government of Zimbabwe, 1981). To address the inequalities in resource distribution, the government introduced its 'growth with equity' policy in 1981. The policy contains two objectives of direct relevance to natural resource management. The first objective is "to end imperialist exploitation and achieve greater and more equitable degree of ownership of natural resources [and to] promote participation in and ownership of, a significant portion of the economy by nationals and the state" (Government of Zimbabwe, 1981: 2). The second objective is "...to conserve our natural resources so that production is sustained, replace renewable resources used, exploit our natural resources at rates consistent with the needs of present and future generations of Zimbabwe" (Government of Zimbabwe, 1981: 3).

To effectively redistribute fishing permits from established fishers to black fishers, and realise the equitable distribution of the fishery resource, the Minister of Mines, Environment and Tourism is empowered through Section 82 of the Parks and Wildlife Act of 1975 to revoke fishing permits. In section 83B, the minister may 'if necessary or desirable to do so in the interests of the preservation, conservation, propagation of any fish within Zimbabwe prohibit any person from fishing absolutely or subject to certain conditions or from possessing fishing gear' (Hutton, 1991: 13). It seems the Act concentrates considerable power with the Minister. He may or may not give any reason for the withdrawal of licenses. It is not obligatory for him to authorise compensation to anyone unduly affected by the termination of a permit.

While appearing to be captious, the sweeping authority of the Minister to issue and revoke licenses was presumably intended to give National Parks wardens power to deal with persistent offenders, such as anglers who exceed catch restrictions, used inappropriate gear or fished in closed areas. Today, with an industrialised fishery such as the *kapenta*, which employs over 3000 people, this authority has caused considerable panic amongst established fishers and conflicts between the DNPWLM and fishers.

Soon after independence, *kapenta* fishing was a very lucrative business. There was pressure on government from emerging black entrepreneurs to redistribute national natural resources equitably among the citizens of all races. The government, '...desiring to establish a society founded on socialist democratic and egalitarian principles' (Government of Zimbabwe, 1981: 2) issued twelve licenses to emerging co-operatives in 1986. However, despite an increase in the number of fishers, catches did not increase. The Zimbabwean government interpreted this fall in catch per unit of effort as an indication of over-exploitation. The DNPWLM then adopted a precautionary approach to issuing new licenses because the size of the biomass was unknown. Licenses were issued progressively, and mean fish length and catch size carefully monitored. Only two new licenses were issued between 1990 and 1995 and none has been issued since then, while the Department awaits the results of a stock assessment programme. What this meant, therefore, was that equitable distribution could only be achieved through the redistribution of existing licenses from large companies (mostly white owned) to small and emerging

companies and co-operatives (mostly black-owned). In the process, three types of business organisations emerged within the *kapenta* fishery. These were public ventures (run by local authorities), co-operatives and sole proprietorships owned by both white and black fishers. This development also resulted in two institutions being created along racial lines that mediated on behalf of their respective members on issues regarding license redistribution. The Indigenous *Kapenta* Producers Associations (IKPA) represented the interests of black fishers. It seeks to lobby for equitable redistribution of licenses. The IKPA has political clout and sympathy derived from government. On the other hand, the *Kapenta* Producers Association (KPA) represents white fishers' interests. Its main mandate, among many others, is to protect the interests of members during the restructuring process. It is interesting to note that the management of the fishery is not on the agenda of the two associations.

Scientific socialism and co-operative development

Zimbabwe's post-independence policies of scientific socialism tended to view any private business as individualistic, exploitative and parasitic (Maphosa, 1996). This policy environment was not conducive for the creation of small private business. Individually owned business had considerable difficulties in qualifying for government assistance. As a result, there are only eight black-operated companies within the *kapenta* fishing industry at this time. The government's attention and energy was instead directed towards co-operative enterprises, thereby extending socialist and popular democratic participation in ownership and the management of natural resources.

The government therefore set up training facilities for co-operative members so as to ensure the democratic, orderly and profitable functioning of co-operative enterprises (Government of Zimbabwe, 1981). In 1986, the government facilitated the formation of co-operatives for the commercial fisheries of Lake Kariba. There are now 18 co-operatives within the *kapenta* fishery which control 15% of the fishing vessels on the lake. Most co-operatives started with initial group savings and sought assistance from government. Government controlled parastatals (for example, the Small Enterprise Development Corporation) and government departments (Ministry of National Affairs Employment Creation and Co-operatives (MNAECC)) advanced soft loans to the co-operatives to enable them to improve their management and operational capacity. However, the cost of setting up co-operatives far exceeded what parastatals and the government were prepared to pay. Therefore, members had to seek financial assistance from international aid organisations. Non-governmental organisations, such as MS Zimbabwe, and government departments provided training in managerial skills. The idea of co-operatives was an attempt to involve indigenous Zimbabweans in the exploitation of the *kapenta* fishery and, in a sense, simulate the community paradigm discussed earlier.

The co-operatives were supposed to survive in the same way companies in business do. They were set up to compete in conditions determined by other companies that had been in business for some time and which had developed highly efficient production techniques and an elaborate understanding of market conditions. Some of these companies had operated during extremely adverse periods, such as under the economic sanctions during the Unilateral Declaration of Independence period, and had developed very good planning and management strategies.

The promotion of co-operatives exposed new fishers to stiff competition with established white fishers who have an elaborate understanding of the market, and well endowed and skilled to deal with the market chains. Besides, these established companies were capable of operating in the hardest of circumstances because of the economies of scale acquired over years of fishing. White fishers were not only engaged in fishing and processing, but also in retail marketing, and offered a wide range of products both for local and export markets. Some of these fishers also had facilities to market fresh fish. Wealth inequalities based on differences in skills, experience, better management and a willingness to accept greater risks have persisted over the years. Some co-operatives have

gone bankrupt, and others have failed to service loans. There are several reasons why these co-operatives did not perform very well. Firstly, there was inexperience, and internal financial abuse within some of these co-operatives. Secondly, most co-operatives operated in remote areas, making it difficult to buy inputs and to market their *kapenta*. Thirdly, the average co-operatives operated three fishing vessels, which was insufficient to support co-operative members, service loans and meet all operational costs. Fourth, the launching of economic structural adjustment programmes (ESAP) in 1991 weakened the government's thrust towards socialism and opened the economy to market forces. The government then withdrew financial support for co-operatives. The withdrawal of parastatals from provision of credit has been replaced by private sector. However, probably because of high transaction costs and inability to enforce contracts with co-operatives (Maphosa, 1996), private financiers are unwilling to provide credit to cooperatives. Finally, the high transaction costs associated with democratic control and management of business operations probably accounted for much of the poor performance of the co-operatives.

As a result, some co-operatives have stopped operating and now earn an income by leasing out their licenses, fishing vessels and premises to wealthy and established white fishers (Moinuddin, 1991). Under this arrangement, the ownership of licenses remains with the licensee who then transfers the management of his vessel to more efficient operators. One can therefore operate several vessels that may still be formerly owned by another fisher. This violates the non-transferability of the licenses, and the practice has facilitated the emergence of large oligopolistic companies in some basins. The objectives that the co-operatives were intended to achieve no longer guide their activities. This complicates the management of the fishery, especially where resource users are called upon to contribute to this.

The evidence presented above does not necessarily mean that co-operatives are a bad business organisational set up. There were, however, some co-operatives that did succeed. Most of these were based in Kariba and at Binga, where proximity to input supplies and readily available fish markets probably contributed to their success. There were also some entities run by individual black fishers which, although displaying some teething problems, are now performing well.

License redistribution during the first ten years

Despite efforts to redistribute access rights to the fishery through affirmative action, white owned companies have continued to increase both in absolute numbers and in the size of their operations since independence in 1980 (Table 1). In the early 1980s, a number of factors combined to increase the importance of the Zimbabwean commercial fishing industry. For example, during the drought years of 1982, beef supplies diminished and organisations such as the World Food programme purchased large quantities of *kapenta* for famine relief in the rural areas (ZZSFP, 1989). The distribution of dried *kapenta* to many parts of the country where fish was not a traditional part of diet resulted in a much wider acceptance of the product (ZZSFP, 1989). The increase in meat prices has further increased demand for *kapenta*. In response to this, the government gradually issued more licenses to new and existing companies irrespective of race. For the first ten years after independence, the government was more concerned with the national food security than correcting racial imbalances. The drought of 1982, derailed the government's initiatives towards equitable distribution.

Category	1979		1980		1985		1990		1995-2000	
	Fishers	Boats	Fishers	Boats	Fishers	Boats	Fishers	Boats	Fishers	Boats
White	22	61	37	132	33	156	39	199	44	201
Blacks	0	0	0	0	0	0	5	1	8	26
Co-operatives	0	0	0	0	0	0	5	12	18	43
Local Authorities	0	0	1	0	0	0	3	2	3	10
Total	22	61	37	132	33	156	52	214	73	280

Table 2: Changes in the categories of fishers on Lake Kariba (Zimbabwe). Source: Lake Kariba Fisheries Research Institute Database 2000

During this period, efforts to redistribute licenses were frustrated by high operating costs and poor returns on new investments in the fishing industries. Soon after independence, two blacks were issued with licenses to fish *kapenta*. One of these was licensed to operate from Gache Gache, a very remote location. He sold his business after just six months of starting to a white fisher, claiming that operating just one license/fishing vessel was not viable, and because his landing site was too remote (Bourdillion *et al.*, 1985:120). The second black person, a woman, was given three licenses, but then sold her business to her white financial backer and moved into the retail side of the *kapenta* fishery which does not require a lot of capital investment (Bourdillion *et al.*, 1985: 121). This further strengthened the position of white fishers within the *kapenta* fishery. There are two possible explanations for the failure of these new entrants. Firstly, the location of the fishing operation is important in determining the profitability of *kapenta* fishing. And secondly, experience and the number of fishing units are crucial for profitable exploitation of the *kapenta*.

For most fishing companies, fishing is the main livelihood source. For this reason, they have invested a lot of money and time in the fishery. The redistribution of licenses is politically motivated, and there is no biological nor economic justification for it. With very little knowledge regarding the status of the *kapenta*, managers become very conservationist and set arbitrary harvesting levels far below resource threatening levels (ZZSFP, 1997). In this situation, the chronically unsatisfied white fishers defend their access rights and pressurise resource managers to implement liberal harvest levels instead of redistributing their licenses. They argue that many more black fishers can be recruited into the fishery without taking licenses from the whites and, at the same time, without putting the fishery at risk of collapse. The economic and political power that the established white owned companies have acquired over the years have allowed them to maintain their positions. Among the white operators, there are very few who do not know at least one cabinet minister personally. Some ministers used to come to buy *kapenta* in bulk at producer price. White fishers use this acquaintance to protect their access rights. Therefore state governance paradigm does not guarantee equitable resource redistribution amongst the nationals, especially where there is skewed wealth distribution. State governance can be influenced by lobbying and negotiations and it is the wealthier group with economic power that succeeds in maintaining or even strengthen its position.

The willing seller, willing buyer principle

With pressure from Indigenous *Kapenta* Producers Association (IKPA) and a desire to please the electorate in preparation for 1990 general elections, the government sought to speed up the redistribution of access rights into the fishery. To this end, both the DNPWLM and fishers agreed that the maximum ceiling for permits per entity should be nine and that the minimum should be four. This was designed to benefit both small companies owned by blacks and emerging black entrepreneurs. Established companies, in turn, were supposed to dispose their license/fishing vessels on a willing seller willing buyer basis, an arrangement designed to simulate pure market processes. However the upper and lower limits were flawed. As one operator put it:

"It is pointless to have variations in the number of licenses by company because the costs of running a company are the same. You need the same costs for a manager, an accountant and a welder irrespective of company size".

To avoid the situations were established companies with good credit facilities bought up most of the small companies, the DNPWLM was supposed to identify suitable (black) buyers for the companies. The willing seller willing buyer principle was expected to apply even after the redistribution period. The price of a *kapenta* fishing vessel, however, was far too high for black entrepreneurs. This has frustrated efforts to see the redistribution process through, and the license redistribution programme did not yield the expected results.

The number of white owned companies continued to increase between 1990 to 1995 as shown in Table 2. Fears over alienating international donors, investors and powerful private capital, largely in the hands of whites, has forced the government to proceed with caution in its efforts to address racial imbalances. Redressing the inequitable distribution of access rights to natural resources in Zimbabwe has degenerated into conflict between the state and the western super powers. The market solution (guided by the state's administrative machinery) was used without adequate credit facilities and sound capacity building initiatives. This has led to the establishment of fishing operations operating very few fishing vessels that fail to operate above the break-even point.

The sliding scale

Following the failure of the willing seller to release enough licenses on to market for the willing buyer to purchase, the IKPA made representations to government seeking equitable license redistribution. The government introduced economic disincentives for established companies to hold many licenses. In May 1995, the minister withdrew and terminated all commercial fishing permits pending a decision regarding the conditions of reissue (Herald, 13 June 1997). In 1996, the DNPWLM forwarded a second notice to operators informing them that as of January 1996 there was to be a reduction in the number of permits held by each operator. The notice also advised operators that a sliding scale for license fees was to be introduced. The sliding scale was designed to increase production costs for those with more than two fishing licenses/vessels. This development was, however, contested in law courts by the *Kapenta* Producers Association, which represents the interests of white operators. In 1997, the sliding scale was ruled invalid (Zimbabwe Independent, 1997). Therefore sliding scale approach caught up in all kinds of internal juridical problems and this has not been effective in delivering access rights to the previously disadvantaged indigenous people. This has complicated the collaboration between the fishers and the state in the management of the fishery. The majority of established fishers live in a state of considerable uncertainty concerning their futures.

Indigenisation

In 1998, the government, under pressure from black businesses collapsing on account of globalisation, introduced an 'indigenisation' policy. The policy seeks to reduce poverty amongst the majority of Zimbabweans. Two of the objectives of indigenisation, which have a direct impact on the *kapenta* fishery are, firstly "to democratise the ownership of the economy so as to eliminate racial differences arising from economic disparities"; and secondly, to develop entrepreneurship and economic management skills through training (State Enterprises and Indigenisation Department, 1998: 12). The policy created favourable conditions for the advancement and empowerment of the disadvantaged groups in Zimbabwe in order to bring about equity amongst the different groups.

Under this policy, the natural resources endowment of a province determined the areas of indigenisation (State Enterprises and Indigenisation Department, 1999). In the case of Kariba, resources that form the basis for

indigenisation are the *kapenta* fishery and the gill net fishery. There are questions within the *kapenta* fishing industry regarding the definition of the term 'indigenous'. Although some operators argue that it implies the 'black' race, objections are raised by established operators that the term applied to all those who were born and brought up in Zimbabwe. Indigenisation has not achieved much in terms of black advancement. It may be due to the fact that the policy is still at its introductory stage within the *kapenta* fishing industry.

Conclusion

The *kapenta* fishery has demonstrated that the institutional set up has very little relevance in guaranteeing the efficient management of a fishery and the equitable distribution of access rights to it. This study has demonstrated that as long as there is inequality among the resource users, management regulations that are designed to protect the resource against overexploitation and resource degradation may lead to the polarisation of the users. The management regulations become a source of conflict between the state and amongst the users.

Restructuring of the *kapenta* fishing industry is based on affirmative action and the need to reverse discriminatory practices and not on technical merit. No considerations were put on the likely disruptive of the investment patterns and economies of scale acquired over the years. The restructuring process, within the *kapenta* fishery focused on equitable distribution of access rights. It therefore failed to change inequalities that were created within the credit, input and output markets. Information on markets and technological development remain skewed in favour of the established companies. As a result, inequalities based on appropriation skills, initial endowment, access to credit and markets persisted with the industry.

As has been demonstrated in this study, inequalities distribute incentives in different directions resulting in antagonistic relations among resource appropriators and between appropriators and the state. Baland and Platteau (1999) argued that in a regulative setting inequalities tend to reduce the acceptability of available regulative schemes by the most vulnerable group making collective action in management very difficult. Though this can be the case within the *kapenta* fishery, inequalities have brought together fishers (though on racial grounds) to advance their collective best interests.

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