Governance Issues, Potentials and Failures of Participative Collective action in the kafue flats, zambia

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ABSTRACT

Fisheries, wildlife and pastures are under massive pressure in the Kafue Flats, one of the largest floodplains in Central Africa. This area with once abundant resources and managed by local common property regimes has been overused in the last 30 years. The paper focuses on the governance of the Common Pool Recourses (CPRs) of Kafue Flats, and governance is about politics, power sharing and accountability within communities. This study is based on intensive literature review and field discussions. The analysis has indicated that over exploitation of fisheries and wildlife goes back to the erosion of traditional institutions by state governance. At present local rules have been weakened, and that national laws governing access to these CPRs cannot be implemented by the state due to limited capacity. Several attempts have been made in the last 20 years to use participative strategies in the management of wildlife and fisheries in order to mitigate resource problems. The Administrative Management Design (ADMADE) initiative in the 1980s and 1990s and major involvement by World Wide Fund for Nature (WWF) had pushed for projects, which included local people via their chiefs as well as the public and private sectors from large agricultural enterprises to the eastern side of the Kafue Flats. These initiatives had limited success mainly due to misconceptions of traditional representation of local communities and misinterpretation of local economic and political incentives.Critical limitations were a result of roles of the state being largely fragmented into several institutions each with competing mandate in the management of CPRs. While there is potential for effective management of CPR in this wetland, declining resources and growing need for decentralization remain a major challenge.

Key Words: *Natural Resources, Wetlands, Common pool Resources, Governance, Institutions, Co-management, community, Participation.*

INTRODUCTION

While the significance of natural resources can not be disputed, recent discussions (IUCN, 1986; ECZ, 1994; IFAD, 1995) indicate serious concerns about how resources are rapidly declining. Much of the population of Africa South of the Sahara is dependent on natural capital (Theo and Chabwela 1994). Economies rely much on the natural resources directly than perhaps elsewhere among the developing regions because materials used as food, fuel, and shelter or resources such as water come directly from the surrounding completely

unmodified. Increasing pressure on fresh water, fisheries, wildlife, forests and land has shown how fragile these ecological systems are, thereby resulting in very vulnerable poor populations (Hobery, 1984). Degradation of natural resources in Africa has been widely confirmed (IUCN,1986;Timberlake 1986).In most parts of Africa, natural resources are severely degraded and solutions are far fetched as poverty, expanding population, economic imbalances continue to exert pressure on the limited and fragile resources. Natural resources are, for the most part, known as the "Commons" which by their physical nature are not owned by individuals but are shared by community of producers and consumers (Ostrom, 1990; Pomeroy and Williams, 1994)

Our paper is about governance of the common Pool Resources of the Kafue Flats, an area located in the southern part of the country. Governance is about politics, power sharing and accountability within communities (IUCN, 2004; Bene and Neiland, 2006). Thus governance is about how people share decision making and how this affects their abilities to empower themselves and others. In this paper we examine governance at three levels: First, p*re-colonial or traditional governance of CPR* in which authority and responsibility for managing CPR rested in the hands of indigenous people or local communities with customary claims over the land and CPR. Second, c*olonial and post independence governance of CPR* in which the responsibility and accountability rested with government agencies, meaning that resources such fisheries and wildlife were in the hands of government, and third, *joint governance of CPR* in which the authority and responsibility are to be shared among stakeholders, mainly local communities, private land owners and government agencies.

The main argument, therefore, centers on the fact that although a number of institutions were established, both during colonial as well as post independence periods for managing natural resources in Kafue Flats, very little seem to have been achieved. Most articles consider ignoring pre-colonial practices and local participation and involvement seem to be the source of the problem in the management of the Common Pool Resources (Berber 2004: Haller *et al* 2005). The underlying argument emerged in the 1980s in which most critics questioned the role of the government in the management of Common Pool Resources, as the question was who benefited and why? This argument still remains despite interventions through various institutions and initiatives aiming at providing possible models in natural resources management.

Our approach in this study was based on comprehensive literature reviews and field discussions in the area. We reviewed various literatures on the knowledge of the Kafue flats flood plain and further reviewed the power, economic transformation and existing common practices in the management of the natural resources of the area. This literature search focused on both well founded scientific research and any other work published and unpublished regarding the management of natural resources of the Kafue flats wetland. The study also includes field interviews with institutions and selected individuals.

This paper is arranged in several parts, in the first part we briefly describe ecosystems, human communities and Common Pool Resources of the Kafue flats flood plain and we examine their state and identify pressures that have had serious implications on them. We provide details on the livelihood strategies of the community in the area, and in this case examine events that have led to the decline of natural resources. In the second part we discuss development of institutions both at pre-colonial and post colonial levels. In the final part we discuss governance and sources of conflicts and explore methods of negotiations for access to CPR, interventions and incentives in the management of CPR. In the conclusion of this paper, we examine emerging issues, governance and possible recommendations in the management of the resources in Kafue flood plain.

Location

The Kafue flats flood plain is located in Southern Zambia (Fig.1) about 50 km from Lusaka and between 15º 11´-16º 11S, 26ºw-28º 16´. The flood plain has an extension of 6,500Km² within the Kafue river basin (Handlos 1984). The flood plain is bound to the West by Itezhi-Tezhi Gorge Dam and the East by Kafue Gorge. Between these two gorges the flood plain is about 250km long and 60 km wide (at its widest point). The river drops 15 meters in 400 km, meaning that the area is extremely flat. While the flood plain seems to owe its origin to a buried lake, it is generally intersected by the meandering Kafue river, and its available micro relief presents a complex pattern of lagoons, oxbow lakes abandoned river channels, marshes and levees (Handlos, 1978, Chabwela and Siwela, 1986).The Kafue flats flood plain has an elevation of 1000-12,000m above sea level giving an average elevation of 1065 m (Chabwela and Siwela, 1986). Mean monthly temperatures are from 14ºc in June and July to 27.5 ºc in October.

ECOSYSTEM AND HUMAN COMMUNITIES

Flora

The vegetation of the Kafue Flats region has been well documented (UNFAO, 1968; Handlos, 1998; Chabwela and Siwela, 1986; Ellenbroek, 1987; Chabwela and Ellenbroek, 1990) as primarily consisting of levees, lagoons and flood plain grasslands, water meadows, Termitaria grasslands and woodlands. In general, the vegetation is largely composed of *Vossia cuspidata*, *Leersia hexandra,* Oryza *barthi, Cyperus esculentus*, *Eleocharis fistulosa*, and *Acroceras macrum*. Abandoned water channels, lagoons and Oxbow lakes are commonly covered by *Aegchynomene fluitans* Peter, *Nyamphaea capensis* and *Nymphoides indica*, but sedges such as *Cyperus papyrus* and *Typha capensis* Rohrb are frequent. However, the common plant species on levees, banks and sand bars are *Phragmites mauritanus*, *Echinochloa stagnina*, *E. pyramidalis*, *Sacciolepis africana*, *Vossia cuspidata, Oryza barthi, Leersia denudata, Acroceras macrum, Panicum repens, Paspalum commersonii* and *Sorghum verticilliflorum* in association with *Hyphaen ventricosa. Piliostigma thonningii*, *Lonchocarpus capassa* dominate the woodland.

Fisheries

There are a total of 77 species that have been recorded in the Kafue system (Muyanga and Chipungu(1982) Mudenda, (1998). Of these about 23 species are commercially important. These include *Oreochromis andersonii, Oreochromis macrochir, Tillapia rendalli, Tillapia sparmanii, Labeo molybdinus, and Clarias gariepinus.*

Wildlife

There are 127 species of mammals in the Kafue flats region (Sheppe and Osborne,1971, Ansell, 1978). Although the Lechwe (*Kobus Leche kafuensis*) and Zebra *(Equus burchelli)* are most important, other common species include Situnga (*Tragelaphus spekei*, Wildebeest (*Connochaetes taurinus*), Reedbuck (*Reduaca arundinum*), Oribi (*Ourebia ourebia*), Buffalo (*Syncerus caffer*), Bush buck (Tragelaphus *scriptus*)) Kudu (T*ragelaphus stripsciceros)* and Hippo (*Hippopotamus amphibious). A*t least 400 species of birds have been recorded within the Kafue flats region (Dorsett, 1966; Dothwaite, 1978) and of these, about 31% (125) species are wetland species (Dothwaite, 1978). The distribution of most bird species is confined to the two national parks and the GMA. There are 69 known species of reptiles and 27 known species of amphibians in Kafue flats. Except for the species belonging to the order *Squamata*, nearly all reptiles are aquatic. Economically important species of reptiles are the Nile crocodile (*Crocodilus niloticus*), Savanna monitor (*Verannus exnthematicus*), Python (Python *sebae*) and tortoises.

COMMUNITIES OF THE FLOOD PLAIN

The wetland is inhabited by a population of 1,274,857 (CSO 1992) with 11 tribal chiefdoms representing three tribal communities (Table 1). These are the Ila, Tonga, (Balundwe) and the Twa (Tuden, 1968; Lehmann, 1977; Haller, 2007) Although the exact population of the people is not fully known, Kafue flat wetland is generally sparsely populated with a density of 1.9 persons per sq kilometer but most of the settlements are in the woodlands along the flood plain(Lehmann, (1977) used temporal aspects to define inhabitants in the Kafue flats as being; permanent settlers, cattle keepers in transhumance during the dry season and temporally fishermen. This classification is understandable because the Kafue flats support many economic activities most of which involves considerable movements.

Table 1: Population in the Kafue Flats

District	Area of catchment covered	Population			Population Density (Population per km^2)		
		1969a	1980b	1990b	1969 a	1980 b	1990b
Mazabuka	Partial	159,376	112,258	155,436	23.3	16.4	22.7
Namwala	All	36,600	56,058	83,075	1.79	2.6	3.8
Monze	Partial	--	110,423	126,039	--	22.8	25.9
Mumbwa	Partial	60,138	83,097	127,895	2.9	4.0	6.1
Lusaka rural	Partial	83,625	143,762	201,507	4.6	8.0	11.2
	Total	339,739	505,598	693,954	4.7	7.0	9.6

a before dam construction b after dam construction

However, for the purpose of this article we define the communities based on the space they occupy, administrative structure such as Chiefdoms, traditions and economic activities (Tuden, 1968; Fielder, 1973; Kalapula, 1992; Chabwela and Mumba 1996: Haller, 2007).

Ila Tribal Community:
This is the largest tribal community and occupies nearly half of the Kafue flats. It occurs in the Western side of Wetland and lives in the eleven chiefdoms in Namwala, Mumbwa and Itezhi-tezhi Districts. In the 2000 census, there were about 82,810 people living in six chiefdoms in Namwala district south of the river, CSO, 2004). The tribal major activities are cattle husbandry and cultivation of maize. Fishing and hunting have been important for subsistence in the past and remain important even today.

Batwa tribal community.
These are the people that live along the main river channel on the levees and are known to be the true flood plain community. They remain a small community occupying an area in Nyimba, Chishinde and some small levees along the Kafue River. There is much disagreement over their origin (Lehmann, 1977; Haller, 2007) and most scholars and researchers believe that there is no relationship between the Batwas of the Kafue flats and those found in Lukanga and Bangweulu swamps. Nevertheless, this tribal community considers itself mostly as hunters and gatherers. Other ethnic groups recognize them as the first people of the Kafue flats. Through inter-marriages and mixing with immigrants, the Batwa have adopted cultures of the Ila and the Tonga tribal communities. The Batwa people do not have a chiefdom of their own. They are under the Ila and Tonga chiefs.

Balundwe (Tonga) tribal community.
This tribal group occupies the Eastern parts of the Kafue flats from Lochinvar towards Mazabuka town and on the southern plateau. They live in the areas of Chiefs Hamsonde, Chongo and Mwanachingwala. The boundary of this group along the flood plain is not well known, however the Tonga tribe is considered to be the largest tribal community occupies the plateau (Colson, 1970).

Fishers Community
An indication of Fishermen population in Kafue flats is provided by Everette (1971). The results showed 1,262 Fishermen living in 16 permanent fishing camps and 48 in semi permanent fishing camps. From this population, 36% originated from Western province, 15% from Luapula and Northern provinces and 10% from Eastern province and 4% from Copper belt province. The results also showed 13% from Malawi and 5% were from Tanzania. Lehmann, 1977 points out that these figures refer only to men population. Today, obviously this population has drastically expanded. Haller, (2007) gives a rough breakdown of population at Mbeza as not less than 4000 fishermen and these are confined only to four fishing camps. There are at least 11 major permanent fishing camps in the flood plain and each of which supports not less than 500 fishers.

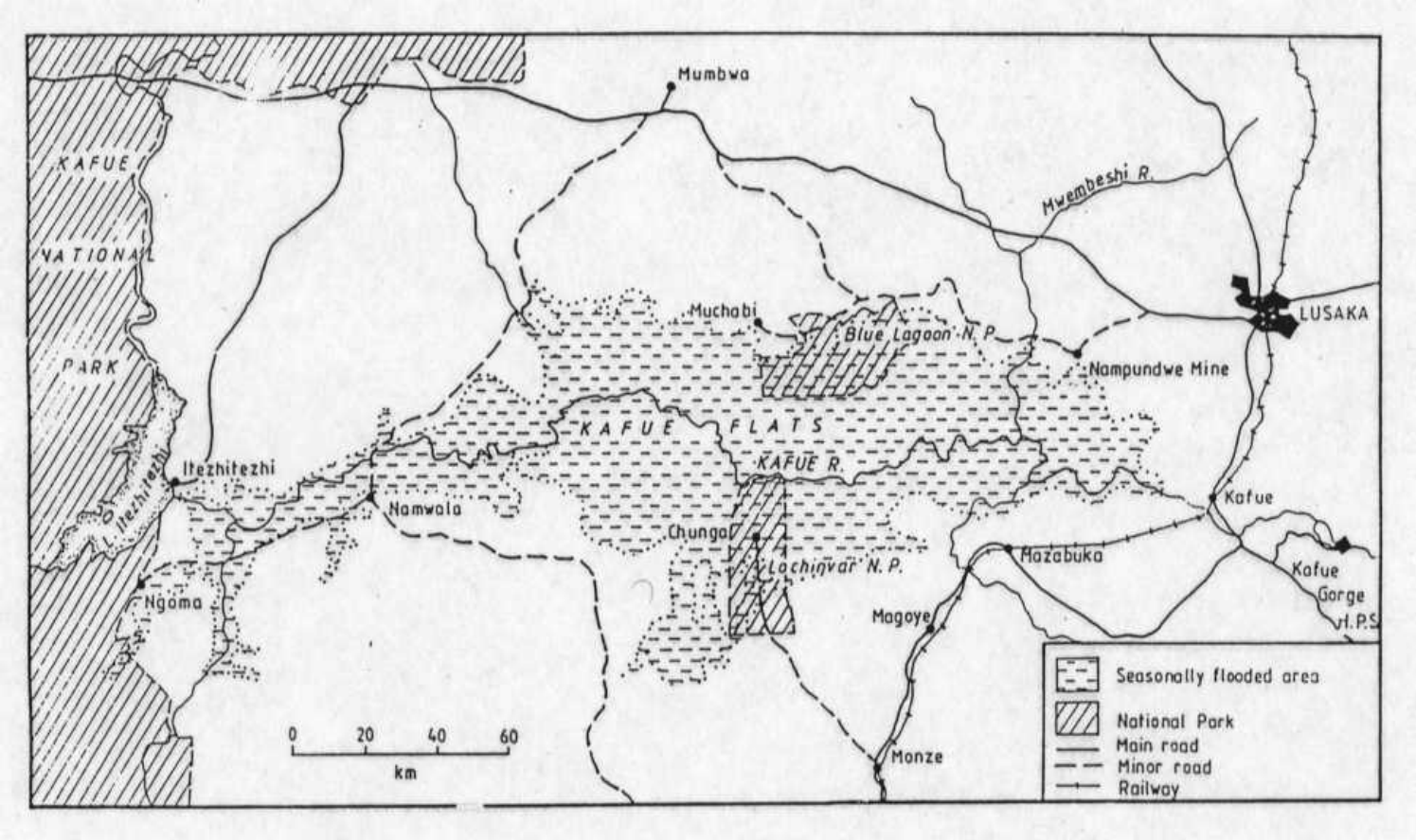

Figure1: Location of the Kafue Flats wetland

STATUS OF COMMON POOL RESOURCES

Pastures Common Pool Resources.

A fairly comprehensive description of pastures of the Kafue flats has been provided by UNFAO(1968), Rees, (1978), Bingham, (1982), and Ellenbroek (1987). Pastures cover nearly 5000Km² but their quality vary with their topography within the flood plain. Here a good pasture refers to a grazing area with a) good palatable and nutritive plant species, b) accessible to grazing for a very long period of the year especially during the dry season and c) has a highly productive and high biomass. Studies by Rees (1978) Ellenbroek (1987) show high productivity values and biomass production of the flood plain. According to Ellenbrock (1987) standing crop biomass of these grasses may go to 1,747.6g/m² and is highest in April. Biomass production may occur all year round, depending on the amount of available moisture. Plant species such as *Setaria* sp, *Brachiaria* sp and *Hyperrhenia* sp are available for grazing during the on set of the rainy season. In general the quality of fodder varies with season (Ellenbroek, 1987) and the common grass species include: *Vossia cuspidata, Echinochloa stagnina, Echinochloa pyramidalis, Acroceras macrum, Setaria sphalelata, S. ancept*. Other species such as *Paspalum sp, Digitaria sp and Cynadon dactylon* are fairly important. Van Ransburg (FAO, 1968) made an estimate of flood plain grasslands by area dominance, and as shown in Table 2, *Oryza barthii* is covering a wider area of about 32%. We believe that these estimates have drastically changed due to changes in the hydrological regimes, burning and due to the general changes in wetland geo-morphology. Furthermore,it should be pointed out that values of these pastures should be considered in the context of climatic conditions. With the mean annual rainfall of 800mm in Southern part of Zambia, (Haller, 2007) has clearly pointed out that the Kafue flats are an 'oasis' of the area during the dry season and drought years.

Table 2. Proportion of Kafue floodplain grasslands as proposed by Van Rensburg (FAO, 1968)

Vegetation	**Total Area (km^2)**	**Percentage of Total**
• Termitaria/grass	1 070	15.70
• *Oryza barhtii* floodplain grassland	2 200	32.80
• *Oryza barhtii*, Phragmites/ *Vossia* grassland	1 680	24.80
• Various flood plain grassland	1 720	25.30
• Saline swamp areas	90	1.40
Total Floodplain Area	6 780	100.00

Mwenya (2002) provides important information of the cattle population occurring in each chiefdom of the Kafue flats for 1974, 1976 and 1990 (Table 3). As indicated in this Table 4, cattle population grew, 199,605, (1974) 222,837(1976) and 298,395 (1990). Although the numbers of cattle had significantly declined,

from 1994 due to the East Coast Fever (*Theileriosis parva* or *dekente* as it is locally known, there is still a fairly large number of cattle in the flood plain.

The Ila, Balundwe and surrounding Tonga tribal communities are largely transhumance. It means that people move with cattle to areas where good grazing can be found and in this case they move with flood levels. Whereas these communities do have permanent settlements, the movement of cattle during the dry and wet periods is greatly imbedded in their culture.

Fisheries CPR

The main important fisheries are the, Oxbow lakes and tributaries where breeding mostly occurs. Fish movement is active at the on set of the rain season as migrations start from the main river channel, lagoons and oxbow lakes to tributaries where they breed. Thus sub catchment's on local storm flooding is very significant to fish species population growth. Studies on estimates of fish species productivity populations and distribution are quite limited. Nevertheless, records from Lae and Levesque (1999) showed fish biomass production in high waters to be 338 kg/ha but 435kg/ha in low waters.

Table 3. Population distribution of traditionally owned cattle in some Chieftaincies of the lower Kafue Basin

DISTRICT	CHIEFTAINCY	YEAR		
		1974	**1976**	**1990**
Namwala	Mungaila	44 657	53 843	59 290
South Bank	Nalubamba	18 110	21 606	24 000
	Mukobela	11 900	14 427	16 700
	Muchila	8 283	9 645	10 738
	Shezongo	7 158	8 536	9 538
	Musungwa	4 863	5 792	6 500
	Subtotal	**94 971**	**113 849**	**126 758**
Namwala	Shimbizyi	16 325	19 453	21 674
North Bank	Muwezwa	7 041	8 329	9 338
	Chilyabumfwu	5 710	6 170	6 925
	Sutotal	**29 065**	**34 002**	**37 937**
Mumbwa	Shakumbila	63 238	68 162	121 400
	Moono	3 366	3 620	6 540
	Mumba/Chibuluma	2 965	3 204	5 760
	Subtotal	**69 569**	**74 986**	**133 700**
	Grand Total	**199 605**	**222 837**	**298 395**

Although fisheries were not regarded as very important common pool resource in Kafue flats flood plain in early years until 1950s, this changed that by 1954 as immigrants from Northern areas and Western province suddenly began using the Fish resources in order to compensate for the loss of jobs in the copper industry. As discussed by Haller (2007), extraction of fish from the Kafue flood plain is largely driven by economic incentives, although subsistence fishing has been going on for many years.

Data from Mortimer (1965), Chipungu and Muyanga (1982), Subramanian (1992), and Haller, (2007) give a 43 year trend fish catches in the Kafue flood plain. After recalculating the data to give approximately mean annual catches in each decade from 1954 to 2007, there is a trend in the highest figures occurring between 1971 to 1979 (8,161.67 MT) per year and between 1960 and 1970 (6,962.7 MT) per year. However highest catches per year were recorded in 1958 (11,300), 1979(10,831) and in 1967(10,709)
A comprehensive seasonal catalogue was compiled by (Haller 2007) on fishing regimes. The rules and tools of exploitation are adequately summarized (Table 4). Fishing is largely influenced by seasons and flooding: a) fishing in December and January is limited to tributaries and is commercial. Fishing baskets are used but because this is a breeding period, fishing is not allowed in breeding areas, b) high floods occur between February and April and during this period, fishing is open access and boats and canoes are used. No rules are used to control fishing, c) the period between May and July when floods are receding, fishing is then confined to lagoons, ponds and main river channels. Fishing is commercial, d) the dry season period in September to December, fishing is generally commercial and occurs in ponds and lagoons and baskets and spears are used.

Table 4 : Fishery regimes according to season among Ila, Balundwe and Batwa

Season	Where	Regime	Rules	Technology and Name	Costs of economic dependability
RAINS (Dec-Feb)	Tributaries, Ponds and River sections	CLOSURE COMMUNIAL COLLECTIVE (People from Chichi and others)	Breeding areas at the River Fishing in village and Chichi reciprocity	Baskets(women) Spears(Men) **Ikuo**	LOW HIGHER
FLOODS (Feb-April)	In all Inundated areas	OPEN ACCESS	No rules exception, Breeding areas at River	Boats, Spears, Tonga baskets (Women) Weirs(**buyeelo**)	HIGHEST (Low for specifically known places , end of season)
RETREAT(May-July)	River, Ponds and tributaries	CLOSURE PRIVATE COMMUNIAL COLLECTIVE	When water stops flowing, Invitation by Rit. master reciprocity	No fishing in restricted areas. Some weirs (**buyeelo**) still allowed **Lwuando** controlled Ila baskets and Spears	HIGHER To LOW

DRY(Sept-Nov)	River, Tributary and Ponds	COMMUNIAL TO CLOSURE at Kafue River Batwa still fish	Reciprocity Rit. Master closes when little water.	**Lwuando**, Spears at River boats (Batwa)	LOW

RESOURCE GOVERNANCE AND INSTITUTIONAL STRUCTURES

The pre- colonial period as discussed by Clark(1952), Fagan,(1965,1966) and Roberts (1970) is of particular significance because it was during this period known to archeologists as the Iron Age that signified the evolution of agriculture, pasturalism, organized hunting and organized social system. Many of the tools used for hunting are believed to have been introduced during this period (Fagan, 1965). Nevertheless, much changed in 1924 as Northern Rhodesia (Zambia) was accorded the protectorate status, and its administration became the direct responsibility of the Native Authority (Taylor, 1972; Musambachime, 1992). Taylor (1972) remarked that although a local villager was probably unaware of the change, the date was important because this marked the beginning of a new era regarding both policy and personnel in this country. Infact, as Chipungu, (1992) commented, the shifting of power from the traditional establishment of chiefs was a result of the enactment of the native authorities. These Native Authorities had considerable power as they were the extensions of the British government under the system of indirect rule. Thus by 1930, the country recognized many chiefs as leaders of the Native Authorities and it was during this period that much of the traditional leadership was recognized. The chiefs enjoyed power more than they did during the pre-colonial times (Haller 2007).

Although most chiefs were limited in skills and education, the Native Authorities structure by 1930 included chiefs, court clerks, assessors and a number of *ba kapaso* (Native Authority policemen). Headmen who handled most responsibilities at grass root levels were not salaried but were however privileged with powers to distribute pieces of land, looking after special areas such as lagoons and were responsible for collection of taxes and settling disputes within their areas.

It is further important to note that during the colonial period, Southern Province went through drastic land reforms. While the area was generally affected by land alienation reforms, especially when the Crown Land was handed over to white settlers along the railway line including the area of Mazabuka and Monze plateau Tonga, the land of the Ila, and some of the Balundwe was not affected. This land was a Native Reserve. This was unlike the laws governing fisheries and wildlife which considerably affected the lives of most of these tribes (Richards 1974). However, the only pieces of land lying within the traditional land were the Lochinvar and Blue lagoon areas (now National Parks) which were privately owned as ranches in colonial times. Haller (2007) however mentions that these pieces of land were given by chiefs to the white settlers.

Pasture Institutions.

Pastures were a communal property. During the rainy season pastures were open to all village members. After the harvest, fields were open to all the cattle of the area. But control over dry season pasture was in the hands of the Kazoka group who claimed to be the first to come to the area after the indigenous Batwa fishermen. This conflict was resolved by formalizing the rule that a cattle camp could only be obtained after giving one head of cattle to the Kazoka and allowing the latter to enter the flats first (Haller et al, 2005). The user right could be inherited without renewing the payment. The *Kazoka* group was in charge of supervision and monitoring of the pasture areas. This rule also prevented further conflicts and allocated clear user rights. The boundaries of the *matanga* (plural of lutanga) were mostly natural ones: Most of them were located within the tributaries of the Kafue River and the Kafue River oxbow lakes where the cattle were safe during the night. However, today these traditional rules do not exist and pastures are open to grazing to every one in the area.

The Ila and Balundwe of the different chiefdoms had specific institutions governing the use of the fisheries. Most important is the notion of spiritual ownership of the river sections and ponds whereby the headmen claimed to have ownership given to them by their ancestors. In the early rainy season, the whole village first fished in the tributaries. Later on, the people in the *chichi* invited neighbors to a controlled collective fishing called *ikuo*. In this case, fishing was done by the women controlled baskets (*ihumbo*) and by the men with spears (a special barbed spear called *muimba*) in the shallow waters. The different owner groups claimed to control the area under a form of spiritual ownership given to them by ancestral spirits (this also applies to the permanent ponds in the dry season). They survived fishing activities and sanctioned those who did not comply with the rules with the help of the leaders. During colonial period such sanctions were carried out by headmen and chiefs. In the full flooding season, everybody could fish without restriction, engaging in individual fishing in shallow waters with spears, canoes and hooks. The area was open access.

Fishing institutions

The Kafue River was controlled mainly by the indigenous Batwa. These people were concerned with the breeding grounds during the early rainy season and sanctioned fishing with reference to their belief that ancestral spirits (*mizhimo*) would punish them through the loss of fish stocks and attacks by crocodiles and hippos. It was especially believed that the *mizhimo* would not release the fish from the holes into the river. In the Batwa settlements at Nyimba in the Kafue River, rituals would be performed for female spirit whose body was put in a hole at a place called Hippo Corner. This spirit was believed to protect the breeding grounds of *Tilapia* which made their own nests there. In addition, the local Batwa headmen would control the river sections, and grant access to fishing grounds as well as ponds within the area (Haller, 2007).

At this time, changes already occurred during the colonial era, when the fishery rules were enacted in the 1930s9 Haller, 2007). The colonial administration had infact opened up the areas of the Batwa to commercial Lozi fishermen. The Batwas were too small a group to prevent this. The administration wanted more

protein produced for the urban centre and encouraged the Lozi to move into the area.

The colonial and post independence periods were marked with a number of policy, legal and institutional framework for managing fisheries CPR, and most of these have been adequately reviewed by CONASA (2002). Zambia's fishing industry has had a regulatory framework since 1929 when the Fish Ordinance No. 3 of 1929 was passed. The Fish Ordinance of 1929 was repealed by the Game Ordinance of 1941, which reduced the Fish Ordinance into a section entitled Control of Fishing. The control of fishing was affected through regulations passed under Section 27 of the Game Ordinance. This arrangement lasted until 1955 when The Fish Conservation Ordinance No. 37 of 1955 was passed. The objective of the Ordinance was to make new and comprehensive provisions for the conservation of fish and the control of fishing which was previously done through regulations passed under the Game Ordinance.

The Fish Conservation Ordinance could be described as having embraced decentralization by empowering native authorities to make orders and rules under the Native Authorities Ordinance for the control of fishing in their respective areas. However, where the orders or rules in relation to the control of fishing passed by the native authorities were inconsistent with the provisions of the Fish Conservation Ordinance, the provisions of the latter prevailed. It is worth noting that though control of fishing ceased to be provided for under the Game Ordinance and its successor the Fauna Conservation Ordinance of 1954, management of fisheries continued to be carried out by one department, initially known as the Game and Tsetse Control Department under the Game Ordinance and later as the Game and Fisheries Department under the Fauna Conservation Ordinance (CONASA, 2007).

It is important to note that the Fish Conservation Ordinance of 1955 had several significant parts among which were the general restrictions under which powers of native authorities, powers to restrict and regulate fishing, prohibited methods of fishing and powers to restrict methods of fishing were defined. Furthermore, the legislation clarified fishing licenses and permits, their cancellation, suspension or variations fell as well as trespass upon private property, and also provided were offences and penalties under which powers of search, seizure and arrest were spelt out, forfeitures, cancellation of licenses, conduct of prosecutions, payments of fines to native authorities.

Hunting institutions

Hunting is done by nearly everyone in the area as nearly all wildlife species are hunted including small mammals, birds and reptiles. Hunting is significant because wildlife has been one of the major sources of protein for the people of the wetland. Nevertheless hunting is a very controversial issue in Kafue flats. This is because wildlife is in the hands of the president and Zambia Wildlife Authority (ZAWA) which is the state institution mandated to look after wildlife in the area is responsible for the two national parks, Lochinvar and Blue Lagoon and the Game Management Area (GMA 11). Hunting of wildlife is not permitted in the National Parks but can be allowed in the Game Management Areas

Wildlife species allowed for hunting on license are Zebra, lechwe, wildebeest Reed Buck, Hippopotamus, Crocodiles and game birds.

Whereas the Chila was one of the most exciting hunting systems, it has since been withdrawn(Chabwela, 1994). It was considered as destructive, brutal and barbaric. The Chila however evolved in to an institution resulting in rituals, ceremonies and spirits and a well designed structure of art. A detailed and interesting account of this hunting system was provided by Haller (2007). The Chila was a kind of inter community collective hunting event binding communities together (Rennie, 1982).
It is important to comment that traditional game hunting in post colonial Zambia has never been quite different from that which was being practiced during the preceding periods, but because of the transformation of the tribal economies, game hunting values had also changed (Chabwela 1980). Chabwela and Harland (1994) made comprehensive reviews and analysis of environmental legislations and conventions and CONASA (2002) have provided detailed historical analysis of the conservation legislations in Zambia. Zambia has had a long history in so far as wildlife legislation is concerned. Legislation for the sector spans from 1925 when the first Game Ordinance was passed which was later repealed by Ordinance No. 47 of 1941. It is worth noting that in 1954 the Fauna Conservation Ordinance No. 43 of 1954 was passed with a view to repealing Ordinance No. 47 of 1941. The Repealing Section, however, gave the Governor the option to repeal different sections or part of the said Ordinance at different dates. This was the case as not all sections of the Game Ordinance were repealed. The pieces of legislation, renamed as the Game Act, Chapter 106 of the 1962 Edition of the Laws, and the Fauna Conservation Act, Chapter 241 of the 1964 Edition of the Laws were jointly repealed by the National Parks and Wildlife Act No. 57 of 1968.

The Zambia Wildlife Act No. 12 of 1998 can be described as a milestone in so far as the management of Zambia's wildlife estate is concerned. Zambia Wildlife Act No. 12 of 1998 can be described as very significant in the management of wildlife estate in Zambia. The Act was passed for a number of reasons and among which are the following:

- Creating the Zambia Wildlife Authority and to define its functions and to provide for the establishment, control and management of National Parks.
- Promoting opportunities for the equitable and sustainable use of the special qualities of National Parks
- providing for the establishment, control an management of Game Management Areas
- providing for the sustainable use of wildlife and effective management of the wildlife habitat in Game Management Areas
- enhancing the benefits of Game Management Areas both local communities and to wildlife
- involving local communities in the management of Game Management Areas

Thus the Wild life Act No. 12 of 1998 has brought with it a number of innovative features among many others are (CONASA ,2002):

a. Ownership of wildlife animals- where a land holder and leasehold title holder may be granted the right to own wild animals found resident on that person's land. Government believes that granting the rights to the economic use of species of wild animals on one land is an effective incentive to that landholder to conserve a valuable wildlife resource.
b. Enhancement of economic and social well being of local communities - the enhancement of economic and social well being of local well being is based on the premise that local communities share land with wildlife. Government strongly believes that the best way to involve rural people in the conversation and economic utilization of wildlife resources as they already the land with wild animals is through the establishment of Community Resource Boards. The boards when established are intended to embrace the principles of democracy, transparency, accountability and equity. Furthermore, the Act recognized traditional rulers as custodians of wildlife resources by bestowing chiefs as designated patrons of Community Resource Boards.
c. Empowerment of village scouts – in recognition of the role village scouts under the ADMADE Programme have played in the conservation of wildlife, Act No. 12 of 1998 empowers the village scouts corps under the supervision of the wildlife police officers to exercise and perform the duties of wildlife police officers in the jurisdiction covered by the Community Resources Board.

COLLECTIVE PARTICIPATORY APPROACHES INITIATIVES

Underlying issues

In general, the local attitude towards resources (particularly wildlife and fisheries) is one of resignation; that the resources belong to outsiders. This frustration is understandable, because fishermen are predominantly immigrants and hunting is done by safari or urban hunters. The inhabitants feel neglected, discriminated against, and there appears to be no provisions to allow them to participate (directly or indirectly) in resource administration or at least to share the benefits of such exploitation; yet these are the indigenous people of the area (Chabwela, 1992)

Conflict is a behavioral characteristic inherent in individuals as well as in societies. Lewis, (1997), defined conflict as any situation in which there is a clash of interests or ideas. In the context of conservation, conflict suggests that there is a group or groups whose interests are in opposition to those in conservation. Differences in opinions and interests between groups are natural in societies, but these differences can be political or violent. While the conflicts may be rooted to poverty, they manifest when groups within society pursue their objective divergent from others. There are many reasons why conflicts arise in the Kafue Flats:

i. Inter-ethnic conflicts

These are not considered as critical in Kafue Flats, but are a threat. Haller (2007) has given an example of potential inter-ethnic conflict and is a result fear of ethnic dominance in the Mbeza area. Inter-ethnic conflicts arise as hunters, fishermen and farmers from outside the area meet with locals such as the Batwa, the Ila and the Balundwe. The Tonga people in the Southern part of Mbeza are well established who use land for cultivation and small-scale irrigation. Contact with the Lozi who fish near the Kafue River and close to Lagoons, is not always hostile. They have established permanent villages and feel accountable to the local chiefs. However, immigrants are engaged in commercial fishing and seen as not respecting local laws and regulations.

ii. Dam Development conflicts

The Kafue hydroelectric dam development was not of regional nature as to include other economic activities that could grow based on the developments. The scheme was purely for such development for generating electric power. While initial studies by UNFAO in 1968 focused on what could be some of the impact of this development, no recommendations implemented. Furthermore, the dam development in the area did not address local needs such as health and social services, and income generation resulting from change of the environment. Among the conflicts arising from dam development include the following:

a) Lack of rain season flooding

The normal annual flooding in Kafue Flats starts in December and ends in May with peak period between February and April. These flows relate closely to the condition of flooding. The average annual flooding in the period before the dam was constructed at Itezhi-Tezhi is much higher than the flooding as a result of the operating rules by ZESCO. There is difference of about 35%, which means that 25% of Kafue Flats does not flood any more, or 1625 km^2 of land has remained un flooded (Chabwela, 1998; Chabwela and Kayocha,2004).

Table 7: Lechwe habitat lost to permanent inundation (Adapted from Kapungwe, 1993).

Area of Flood Plain	Lechwe habitat before 1970(km^2)	Lechwe habitat after construction of dams (km^2)	Habitat lost (%)
Lochinvar National Park.	200	126	37.0
Lochinvar West	196	167	14.8
Lochinvar East	144	140	2.8
Total area South of Kafue River	540	433	19.3
Blue Lagoon N Park.	252	230	7.9
Mwezwa	287	267	6.4
Total area of North	539	497	7.4
Overall Total	**1079**	**930**	**13.6**

The lack of flooding has been one of the major problems in the Kafue Flats. Under the flood plain conditions, a flood plain is required to be flooded at least for some time during the flooding period (Welcomme, 1979). This condition is important for the flood plain ecology for fish, wildlife and vegetation. Seasonal flooding is also needed for the flood recession aquaculture and livestock grazing.

This condition has promoted the growth of woody weeds in the area where flooding does not occur. There is evidence now of the expanding *Mimosa pigra* and *Dichrostachyus cinerea* are rapidly encroaching in the area which does not flood (Chabwela and Siwela 1985; Marchand and Drijver 1985; Drijver and Chooye,1995). A loss of this area means a decline on grazing land for cattle and wildlife. Studies by Kapungwe (1993) show clearly the loss of wildlife habitat as a result of dam developments (Table 7).

b) *Dry season flooding*

Dry season flooding occurs mainly from July to November. This is a result of the operating rules at Itezhi-Tezhi which allow a flow of 300 m^3 sec to feed the lower dam at the Kafue Gorge. Before the construction of the Itezhi-Tezhi dam, water flows used to be generally confined to the main channel and lagoons, and according to the flood plain conditions, it is required that a flood plain dries up during the dry season (Welcomme, 1979). However, this does not occur in Kafue Flats because of ZESCO operating rules. As a result, a large part of the land (75%) is covered with the dry season flooding, meaning that nearly 5000 km^2 is lost to floods during the dry period. The dry season flooding has been the most critical issues in the Kafue Flats primarily because of the loss of land for grazing and also loss of dry season flood recession gardening. This problem was strongly stated by witnesses to the commission of inquiry into land matters in the Southern Province in 1982 (GRZ,1982):*"Some of the witnesses from chiefs Mukobela, Mungaila, Chilyabufu and Shimbizhi informed the commission that the Kafue Flats water regime has changed and that the area does not dry up as it used. They indicated that the grazing potential of the Kafue Flats has been reduced."*

Conflict in management of pastures

The most important threat derives from the interests of different stakeholders in the use of pasture area. The traditional institution regulating access to pasture is being seriously questioned and two contradicting views have emerged. For example, at Mbeza one group of people (mainly those without livestock) want the flats to be surrendered to the private sector for crop agriculture for growing rice, banana, wheat or winter maize while the other group want the area to remain as it has been for grazing livestock (Haller, 2007).

Conflicts in the management of fisheries

Detailed discussions were pointed out by Haller, (2007) in his study of Mbeza community. These studies show that main drivers to the issues of affecting fisheries are poverty and growing fisher's population. There are too many fishers in a limited fishery**.** Secondly, fishing in the Kafue Flats is not effectively regulated and monitored. In presence of management regulations should stipulate; a) Number of fishers allowed in the fishery, b) duration of fishing, c) type of gear and d) areas where fishing should be permitted. Today fishing effort has increased as fishers spend more time fishing for the same amount of catch which they used to have in the 1970s. Furthermore, the quality and size of fish have significantly declined. This means that levels of sub subtratibility are very high giving the fish no room to recover. In other words, the fishery is depleted.

Some of the examples of conflicts in fisheries management in the flood plain were recorded by Haller *et al* (2007):

i. *Failure to follow rules and practices.* There has been an outbreak of violence by the local people from Mbeza and in the neighbouring chichi Bweengwa have expressed their opinions in several interviews and on several occasions. One of the most cited phases was, "The Lozi and the Bemba are taking our fish away. They are fishing with destructive techniques". Others said, "We are going to throw the Lozi into the river" or "These Lozi and the Bemba do not respect our rules". Many people complained that they do not have access to fish anymore because all the fish that is caught in the flats goes to traders. The local Ila, Batwa and Baludwe would like to do something about the situation, but they are afraid and so they are urging the Fishery Department to step in. There are also growing tensions at village level because collective fishing dates are not being respected by young men, who fish before the dates are announced. In addition, more traders and immigrated fishermen are moving closer to the settlements of the Ila and Balundwe because when fish is in short supply in the main river and the lagoons, fishing can still be carried out in the tributaries and the ponds. Tension is also growing between men and women. Women accuse men of fishing with baskets and spending the money on beer and other women. On the Kafue River and in the big

ii. *Fishing in Protected Areas*. Fishing in the protected area is only permitted on licence and with angling methods only. However the Batwa claim that they have traditionally been fishing in the areas such as Chunga lagoon which is in the protected area. The Batwa at Nyimba have emphasized that Chunga lagoon used to be the CPR area of the Batwa and is now controlled by the game scouts of Lochinvar national Park. The Batwa complain that they are harassed in the park when they want to fish and that the scouts confiscate their nets and fish and then sell them on to other people. This conflict is growing.

Conflict in management of wildlife

The argument that wildlife resources are largely enjoyed by the already advantaged urban populations is, however, valid. Rural communities, whose traditional rights of wildlife utilization were withdrawn as their methods of exploitation were regarded as archaic and destructive, have remained powerless and neglected. There are currently no adequate administrative arrangements which could allow them direct access to wildlife resources. Most regulations and policies work against them; the following illustration will help to emphasis this point. Chabwela (1992) gave an interesting illustration of how unfair are hunting arrangements to the local communities. "*Since regulations stipulate that only a gun or rifle can be used for hunting, rural people, who are naturally poor and remote, have no money and influence, and consequently can not own firearms. They are therefore in no position to hunt, moreover, even if one had a gun and had the money; it is not possible to obtain a District Game License, as quotas are usually shared among the urban dwellers themselves. Purchase of a national Game license would be cumbersome in any case. The villager has to submit an*

official application which has to be on an approved official form. This is often unavailable near the village because they are often remote. The absence of rural post office means that a villager would have to arrange for a special trip to the nearest Post Office to mail the application form. This would take him not less than three days to walk, and in the end the application may still not be accepted by the Director of National Parks and Wildlife services. As a result rural people see these arrangements as working against them, hence their frustration and resentment". Unless adequate arrangements are established in order to allow direct benefits from resources such as wildlife, the feeling of resignation by rural people will persist, and wildlife will continue to suffer as a consequence. Furthermore, Local people have expressed concerns that scouts shoot at them even if they are not poaching and just trying to get their cattle to the river. Stories of killings have been recorded in various chiefdoms. An open conflict broke out between Chief Choongo and the Zambia Wildlife Authority (ZAWA) because the chief did not want to be visited by the wildlife officials because as he put it - "they are killing my people". In focus group discussions, most people argued that they see the intervention of the game scouts as unjustified.

Participatory initiatives

A successful conflict resolution is one which stakeholders (individuals or groups who are directly involved in the conflict or who may be affected by how the conflict is resolved) have the opportunity to really understand each others needs, develop a range of alternatives to address these needs and reach a mutually agreeable solution (Lewis, 1997). For the most part, conflicts become counter productive and destructive, leading to bad results and hostile relationships, and it is important that conflicts should by all means be avoided if war on conservation can ever be won. As for the Kafue Flats where most conflicts are intractable and long standing, it is important that a decision should be towards managing conflict instead of trying to resolve them. Therefore, for those conflicts which are long standing and difficult to resolve, both government and communities should consider conflict management so that both conservation and communities can benefit. Major conflict resolution effort began in 1980s in which the government realized that conservation goals could not be achieved without the participation or involvement of local communities. To do this the government opened up a dialogue of negotiations with communities through various initiatives such as the wetlands conservations project and there was a change in wildlife policy and legislation which aimed at bringing local people into the management of CRC. However, this has not been easy for the government. These examples illustrate the point:

a) ADMADE Initiative and the Wetlands Project

The ADMADE initiative was introduced in 1983 with the view to bring in local people in the management of wildlife and to share all benefits accruing from wildlife revenues. The Zambia wetlands pilot project began in August 1986 and whereas it's main goal was to establish a scheme of an integrated resource use based on sustained utilization of wetland resources. The projects specific objectives were Chabwela (1987):

- To maintain productivity of the two major wetlands through increased protection and manipulation of wetland habitat.

- To improve and broaden the benefits which local people derive from the wetland resources

- To mobilize support for conservation of living resources among local people through their active participation.

The project used the ADMADE program policy framework to establish a means of funding the activities of the two Wetlands Management Authorities (Blue Lagoon and Lochinvar) from wildlife revenues. The facility allowed the authorities to retain 50% of statutory (government) revenues and all non-statutory revenues from certain categories of wildlife utilization including revenues from hunting, cropping and donations. These revenues accrued were apportioned by the authorities according to the following formula (Jeffery, 1993): 40% to the local wildlife management activities, 35% to local community development activities, 15% to National Parks and Wildlife Services (NPWS) costs of program administrations and 10% to ADMADE costs of program administration.

The project ended after being implemented for eleven years, but results remain largely inconclusive.

- It was not clear if the objectives were achieved as the project limited itself to four chiefdoms – Nalubamba, Hamusonde, Chongo and Shakumbila. Whereas some benefits were realized, such as money, which accrued from Safari hunting operations, and the rehabilitation of infrastructure such as roads, airstrip, a school and a clinic, it must be emphasized that the project relied heavily on funding from WWF International, but failed to establish internal mechanism to sustain itself.

- The government did not consider sharing of power with the local people in management of wildlife and fisheries in the area. Co-managing wildlife resources community involvement or community participation was in no way clearly defined and consequently development of power was never in the language of ZAWA. While the ADMADE system was used to establish a mechanism of benefit sharing, there was no mechanism on the ground to extend dialogue in conflict resolution, and not even a consultative process was ever established.

- The Kabanze tourist camp which was established by the project for the local communities to realize tangible benefits has not been managed as initially planned, as the camp was located inside a national park and thus was subject to very stringent National Park Regulations. It is almost completely abandoned.

b) **Partners of the Wetland.** Mwanachingwala Conservation Area project (MCA).

The purpose of this project was to attain self-sustainability of the MCA as a new conservation approach and effective conservation of the Blue Lagoon National Park (BLNP0, Lochnivar National Park (LNP), MCS individually and combined with the adjoining GMA's as a 320,000 ha biosphere reserve realized by 2007.
This project was established as a follow-up to the wetlands project, except in this case, it was to be conducted by partners. The Mwanachingwala conservation module provide interesting discussion as it was conducted by partners – ZAWA, WWF, Commercial farmers and local communities. Work on this module started in July 1998. The project was implemented as a commercial venture on land offered by Chief Mwanachingwala and his community and by local commercial farmers. The project attracted considerable funding from WWF, and animals were supplied from Lochinvar National Park and the GMA 11.

After nine years of project implementation, the project faced serious limitation. First, was the strife among the leaders of the Mwanachingwala community. Although the Chief and Headmen pledged their support to the project at the start of the work, some of the Headmen used the project to settle old disputes with the Chief (WWF, 2007). Because the Chief placed himself in a very prominent position in the project he made himself vulnerable and an easy target for his opponents. The Chief was even made chairman of the MCA Management Board. Because nobody will argue with the traditional leader, the dialogues in the Board were hampered. Because the Chief placed himself in a very dominant position he blocked the involvement of the community, the local government, and ZAWA. Thus placing a highly respected traditional leader in the forefront of a process of change brought much risk of lack of support at the grass root level and of blocking a proper dialogue (WWF, 2007). Second, the communities were not sufficiently informed or made owner of the project. Thus the communities were left too ignorant and too much out of the process. The dispute among the members of the community resulted in a negative attitude to the project and to WWF. One Headman, supported by over 700 members, even started a court case against WWF and ZAWA, accusing the latter two to take over landownership from the community. The court case took three years to end at the High Court when it was decided to stop the case because the accuser did not have sufficient time for, or interest and confidence in the case. The project was nevertheless subsequently terminated in 2007.

c) Community Based Natural Resources Management (CBNRM)

In an attempt to resolve conflicts between communities and conservation, the government passed legislation through Wildlife Act of 1998 in which any community could establish a Resource Board, with the purpose of participating in Natural Resources Management. Since 1998, the establishment of Resource Boards has been rather slow, and lacks commitment from its members. Furthermore, this arrangement faced serious limitations including the lack of capacity of local people, poor accountability powers for making important decisions were not defined In addition, boundaries of these Resource Boards were ill- defined and Terms of Reference were not fully understood. The CBNRM regime is still at a distance for the management of CPR.

d) Development of Fisheries Co-management.

The main incentives to start negotiations for co-management of the Kafue Flats appear to be:-

- Over exploitation of fish resources;
- Conflict between artisanal fishers and semi or industrial fishers;
- Poor living conditions of fishers and fishing communities;
- Conflicts among artisanal fishers;

Co-Management of fisheries is known as an arrangement where responsibility for resource management is shared between the government and user groups (Sen and Nielsen, 1996; Pomeroy and Williams, 1994; ICLARM / IFM, 1996). Co-Management is considered to be one solution to the growing problems of resource over-exploitation. The possibility of establishing co-management institutions in Kafue Flats exists but mechanisms for doing so have not yet been known. As Haller (2007) points out, fishers in Mbeza fishing camps have indicated desire to develop fishing regulations in their fishery, and negotiations were initiated at one time with the Fisheries Department, but the process faced difficulties. Nevertheless, introducing a Co Management institution in Kafue Flats faces a number of challenges: a)The fishers are not organized into associations with membership properly indicated and most fishers are migrant., b) Areas to be covered by each co-management regime are not well-defined, c)The Fisheries Department did not consider negotiations process to originate from fishers groups as appropriate, and d) Absence of information. The situation may, however, change with the passing of the amendments to the Fisheries Act as this may speed up the process in formulating Co- Management of fisheries.

DISCUSSION AND CONCLUSION

In this article we have tried to bring out issues that have been a major concern in the management of natural resources of the Kafue Flats, as well as how people exploit these resources for their livelihood. We have also examined various institutional structures from the pre-colonial period to the present. Whereas the article has tried to bring out issues and historical perspectives of governance of common pool resources of the Kafue Flats, it should be clear that this area is large, consisting of heterogeneous communities with complex issues. The governance of pastures, fisheries and wildlife should broadly be viewed as the interactions and structures the process and practices or traditions that are exercised, how powers and responsibilities are exercised, how decisions are taken, or how citizens and other stakeholders have their say in the management of these resources (I U C N, 2004). Most importantly, it should be understood as a regulatory mechanism to effectively manage natural resources for the benefit of people. Our findings in this study show that the question of governance was not fully addressed as to achieve the objectives of effectively managing the resources.

The argument is valid that the situation in the Kafue Flats is largely being an *open access* for CPRs. An open access situation means that there is complete absence of properly rights and that the resources become free for everyone and is unregulated, and there are no mechanisms for allocating resources (Murphree, 1997). There are many reasons that have lead to the open access situation in the Kafue Flats. Pomeroy and Williams (1994) have argued that under the

common pool resource regime, it is costly or difficult to exclude potential users but which are subtractable or rival in consumption. The main problem in CPR is that regime requires considerable amount of investment to develop institutions to exclude potential beneficiaries from the resources. Therefore, the declining CPRs are a clear indication of failure by the Department of Fisheries (DOF) and Zambian Wildlife Authority (ZAWA) to effectively manage these resources. An open access situation means that there is complete absence of properly rights and that the resources become free for everyone and is unregulated and there are no mechanisms for allocating resources (Murphree, 1997; Ostrom 1997). There are many reasons that have lead to the open access situation in the Kafue Flats. Pomeroy and Williams (1994) have argued that under the common pool resource regime, it is costly or difficult to exclude or rival in consumption. The main problem in CPR is that it requires considerable amount of investment to develop institutions to exclude potential beneficiaries from the resources. The declining CPRs are a clear indication of failure by the Development of Fisheries (DOF) and Zambian Wildlife Authority (ZAWA) to effectively manage these resources. Other findings in this study point to severe degradation of CPR. First that pastures have declined due to poor flooding regime and loss of habitat caused by the proliferation of weeds such as *Mimosa pigra*. As shown in the Tables 3, nearly 300,000 animals graze in this area, but with declining range carrying capacity. Although the Foot and Mouth disease may continue to cause cattle population decline, we believe that limited grazing will be most critical to livestock industry in the area. Second, fisheries have severely been degraded due to poor water regime, loss of breeding grounds and over-exploitation of species, which is attributed to the use of wrong gear and excessive fishing effort. Although studies are limited, two aspects seem to support the view that fisheries are degraded; some fish catches are very low for each unit effort. Third, the decline of wildlife species population is evident in the Kafue Lechwe. In the 1970s, the population of the Lechwe used to be over 100, 000, yet today, this number has dropped to 40,000 in the 2006 census. Most scholars consider this drop to be attributed to loss of habitat and increase legal hunting, and that his trend will continue unless there is some intervention to stop it. Species such as Sitatunga are believed to have gone extinct.

The increasing ethnicity among fishers is an indication of a breakdown of the traditional system. The exploitation of C P R can no longer follow the chiefdom or tribal communities. Haller, *et al* (2006) made a detailed study on one chiefdom (Nalubamba) at Mbeza, and whereas the traditional rules and practices were being practiced, these rules were confined to within local lagoons and pastures. However, with the increasing immigrations, the rules and practices have largely collapsed. The enactment of the wildlife Act in 1998 and the amendments to Fisheries Act only describe rules and regulations, but the problem lies in their implementation. At present, both DOF and ZAWA have no capacity to manage the CPRs.

The question of the boundary for CPRs and for participating units remains critical. Under the Zambian Wildlife Act, (GRZ 1998), a local community along geographical boundaries contains a GMA or an open area or a particular

chiefdom with common interest in the wildlife and national resources in that area may apply to ZAWA for registration as a Community Resource Board, thus the boundary is determined by geography and chiefdom disregarding the ecosystem or animal species habitat. Under the present law it would mean that there would be no limit to the number of community resource boards, and consequently lead to chaos.

Although CBNRM has developed by adopting the ADMADE and the 1998 Wildlife Act, it however, provides a wide base for discussion. The wetlands project in 1986, and Partners for wetlands in 1998, both can be viewed through the CBNRM framework. We want to state that CBNRM is a response to ecological and social circumstances and ownership of resources (IUNC, 2001). For the most part, it does not necessarily mean participating management or joint management but also collaborative management in which the government and communities would share different levels of ownership, control and responsibilities for management of CPRs in Kafue Flats. Although legal instruments and good policies are available, particularly for the management wildlife resources, there are no Community Based Natural Resources Management structures in the Kafue Flats. Obviously, this is the serious disadvantage to both CPR and the communities if ever sustainability is to be achieved.

Various discussions on CBNRM (IUCN, 2001) have pointed out on a number of its limitations, and most important being lack of capacity, participation and lack of accountability. Furthermore, the government of Zambia is not in a position to decentralize power of management of natural resources. The failure to decentralize has become an important element in the Kafue Flats as no one would take the responsibility for the depletion of the resources. One aspect which also needs to be considered as quite significant is the management of water resources, land and ecosystem. Any form of management of these pastures, fisheries and wildlife will have to take into account the interactions of resources. We believe that water resources and land will cause serious conflicts in the future of the Kafue Flats and steps should be taken to minimize them.

Changes in governance of CPR from traditional practices, through colonial to post independence systems provide areas of serious debate. These changes resulted in completely ignoring the process of involving local people but alone treating them as partners in conservation of natural resources. The colonial administration considered local and indigenous knowledge and practices as primitive, destructive and barbaric and thus never paid attention to bringing them into planning, management and decision making process for Kafue Flats. The native authorities were merely an extension of the colonial rule in the area.

The needs of the local people were entirely ignored, particularly in the hunting of Wildlife. Thus the objectives and practices of CPR uses by local communities were directly against those included in conservation design in the colonial and post independence and not local administration plans. People entirely depended on these resources for livelihood. As it is, the rights of access to CPR by local people were consequently denied, and although land may seem to belong to the

people under the customary rights (as traditional land) according to land act of 1995, this is no guarantee as land may still be alienated easily. The ownership of Wildlife, fisheries and forests is in the hands of the president or the government and local communities are powerless and have no influence in management decisions on CPR.

Land and CPR issues: One of the major sources of conflicts comes from the fact that CPRs are sitting on customary land. Traditional or customary land is land preserved for natives protecting them from any form of acquisition and settlements by non natives or other immigrants. Much of the Kafue Flats were reserved as a native reserve during the colonial period and even today the status has not changed. In order that we understand the meaning of land to inhabitants, we may wish to examine that explained that certainly, rural people view their land differently that (Chabwela ,1994): Most workers in towns are from different tribes as migrant workers, and use this system as a last place where one can go on retirement. It is land where stranded people can go to find hope; there is no paper work involved and no unnecessary hustle of title deed procedures; and one does not have to be confined to one piece of land. The system is a community adaptation to environmental conditions and consequently it is a system which protects members of the tribe from loosing their adaptive values.
As regards the management of CPR in Kafue flats, most tribal inhabitants clearly view CPRs as resources "renting" the land, or that tribal communities are leasing land to government for management of CPR. Thus they consider keeping Wildlife, fisheries, and water resources on their land as an act of intrusion and that such conflict must be resolved.

In our conclusion, we consider the following to be quite significant. Although there is a very indication that CPRs are largely degraded, we see high potential that these resources could be build back provided there was sufficient investment and that a well organized and effective management institution was put in place. Already, there are plans to decentralize Kafue Flats as Water Catchment Management Authority, (WWF, 2002). Under this strategy, existing policies and legislations would be harmonized, making a single institution as the authority for all the resources in the Kafue Flats. Nevertheless, should such efforts remain lacking, emerging issues such as declining economy in the country, expanding population, increasing land demand for agriculture and settlement and change in technology, the CPRs in Kafue Flats will have been irreversibly destroyed.

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