

**QUESTIONING THE RELEVANCE OF EXISTING FISHING REGULATIONS:  
EXAMPLES FROM LAKE KARIBA.**

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

**Research Fellow  
Centre for Applied Social Sciences  
University of Zimbabwe**

**Paper presented to the IASCP 2002 Conference, June 17-21, 2002, Victoria Falls**

**DO NOT QUOTE**

---

<sup>1</sup> mambwe@mweb.co.zw

## Introduction

Fisheries management and the regulations on which it is based have mainly been premised on the values of positivistic science with its strong emphasis on rationality and impartiality. Positivistic science tend to portray the universe as mechanistic and deterministic and its workings as being governed by a few fundamental and unvarying laws. Based on these laws scientists can derive regulations that inform the manner in which a particular natural resource such as fish should be exploited to ensure the sustainability of the stocks. However, the implementation and enforcement of these regulations have to fit into the political and economic rationality of a state in which they emerge and these rationalities may be at variance with those of science. The purpose of this paper is to explore the reasons for the type of fisheries regulations that emerged in Zambia and Zimbabwe. It will be shown that although there were attempts to justify the regulations with reference to scientific principles, the regulations had to fit the political and economic interests of their respective states as well as they reflected the dominating representations and images of the man-nature relationship that prevailed among the agents of the states. This resulted in conflicts between fishermen and government agents and ambiguity in implementing the regulations. Using examples from Lake Kariba the paper shows how efforts to develop uniform fishing regulations for the fishery of the man-made lake were not successful because of fundamentally different state interests towards fish and fisheries in the two countries.

### The management of fish as game

One of the most noticeable relationships between game and fisheries is the manner in which these resources have been managed especially in a southern African context. In most African countries game and fisheries have been managed under the same bureaucratic institution. But much more fundamentally is the similarity in the regulations defining the way in which they are accessed and utilised. The scientific arguments that had been used to develop game laws were transferred to the way the fisheries sector would be regulated. Consequently, fisheries regulations emerged as an adjunct of the Game Laws. From 1925 the fisheries sector in Zambia was managed under various Game Laws until 1943 when the Fish Control Regulations Act was enacted. Similarly, in Zimbabwe the Game Laws that were introduced in 1891 were also applicable to fish until 1938 when a section specifically dealing with fisheries was incorporated into the Game and Fish Amendment Act. In these various acts a fish was classified as an 'animal' and fishing was perceived to be another form of 'hunting.'<sup>2</sup>

---

<sup>2</sup> Zambia National Archives (ZNA), Ref. No. ML 1/7/19, Vaughan Jones, 'Preliminary Report on the Fishing Industry and Its Markets, 1942'

Hunting restrictions that are a common feature of game legislation were applied to fisheries. Restrictions through various means such as closed seasons and licensing are meant to allow for selective removal of certain specimen at particular times to avoid over-hunting. When extended to fishing it is argued that closed seasons and licences are necessary because they limit the amount of fish to be harvested thereby preventing the depletion of fish resources (Jackson 1961). Another aspect of game laws that were transferred to the way fish was to be regulated is related to the protection of young specimen. This measure was meant to avoid the killing of young specimens as this would eventually lead to the extinction of a given species. It was necessary to only allow for the hunting of animals that had reached such an age that their removal would not have an impact on the ability of the remaining specimens from replenishing themselves. This legislation is comprehensible in that most game, especially those that the laws sought to protect, such as e.g. elephants, do not reproduce rapidly and in large numbers. Thus, when specific fishing regulations began to emerge in Zambia and Zimbabwe there was emphasis on setting minimum mesh sizes of fishing nets and the admissible width of apertures in fishing traps and baskets. These clauses on minimum mesh-sizes were aimed at preventing the harvesting of fingerlings. Other fishing gear such as weirs were legislated against because they were considered to be successful only if the fish move, and a fish moves, nearly always, under the impulse of its spawning migration (Jackson1961).

Ideological reasons were also behind some of the regulations that emerged. As legislation for the conservation of game was emerging calls were made to proscribe certain hunting methods considered to be 'unfair' to the hunted animal (Beinart and Coates 1995). This was advanced into the public domain as the element of 'sport' in game management began to be pushed to the top of the conservation agenda.<sup>3</sup> When hunting game, an animal had to be given an opportunity of escaping in the spirit of 'fair play.' Hunting methods considered as not giving hunted game a chance to escape were considered 'unsportman-like' and prohibited. For instance, Section 33 of the Game Ordinance of 1941 specified that no person shall drive, stampede or unduly disturb any animal when hunting. This "fair chance" approach to the hunting of game proved to have considerable impact on formulation of fisheries regulations.<sup>4</sup> When new legislation on fishing

---

<sup>3</sup> According to Mackenzie (1987: 22-40) hunters also anthropomorphised animals in attempt to suggest a degree of equality in the contest and therefore emphasise the physical endurance and courage required in the Hunt. Thus, the killing of intelligent animals such as the elephant provided the greatest exhilaration.

<sup>4</sup> The classification of hunting between 'good' and 'bad' hunting methods was aimed at outlawing the latter methods. The use of traps, baskets and nets, which had been predominantly the preserve of Africans, were proscribed in the new pieces of regulations. The accepted methods were basically modelled on Anglo-Saxon notions

was drawn-up in 1943 in Zambia, active fishing or *kutumpula* as it is locally known, was banned. This fishing method of driving fish into nets by splashing and beating of paddles was considered to be intrinsically harmful as it operates in shallow and weedy areas where the fish go to breed.<sup>5</sup>

However, these scientific and ideological justifications mask the economic and political interests that they intended to achieve. Dominant groups in society used these justifications to advance their economic and political interests in the way people accessed and utilised natural resources. For instance, while the need to licence a fisherman is scientifically sound as it controls entry to the resource it, nevertheless, conceals the social, political and economic role of fishing licences in subsidising colonial rule. In most British colonies local administrative structures in rural areas known as Native Authorities issued licences to fishermen. The revenue raised was used to pay the salaries of chiefs and other employees of the authorities. Gordon (2000) notes that in 1943 chiefs in the fisheries in northern Zambia were eager to enforce fishing regulations because they benefited from the fish-licensing system. For instance, the Shila and Chishinga Native Authorities from these fisheries derived most of their income from this fish levy.

Emergence of fisheries legislation in Zambia

*It was only after 1940 that efforts to develop a local policy for the conservation of fish were made in Zambia. Firstly, while fishing had been a source of food and employment, even before the colonial period, it was now discovered that it would benefit the economy more if some measures were implemented to control the industry. This was based on the prevalence of numerous water bodies that were estimated to have produced fish worth more than one hundred and fifty thousand British Pounds per annum.<sup>6</sup> Secondly, the need to support the booming copper industry with the provision of cheap food prompted the authorities to begin to draw fisheries legislation. Although beef had initially been used to feed the labour on the mines, problems associated with supplies that occurred in the early 1940's, prompted the authorities and mine owners to begin to explore alternative sources of cheap food supplies for*

---

of 'good' hunting affording a hunted prey a 'fair chance'. According to Beinart and Coates (1995: 28), this crusade of outlawing local hunting methods gave rise to the emergence of various conservation oriented groups such as the Royal Society for the Protection of Birds whose main concern was to fight against the plumage trade. Such groups emerged in the colonies as well.

<sup>5</sup> Although *Kutumpula* was frowned upon as a fishing method, the authorities were sometimes forced to ignore this fishing method due to the resistance of local fishermen. For instance, the Fish Control (Mweru-Luapula) Fishing Regulations specifically noted that *Kutumpula* was to be authorised. (ZNA, Ref. No. ML 1/7/18, Correspondence from District Commissioner, Kawambwa to Director of Game and Tsetse Control, 1949.)

<sup>6</sup> ZNA Ref. No. Sec 6/190, Correspondence from Acting Director of Game and Tsetse Control to Secretary to Cabinet, 1943.

*labour. Gordon (2000) observes that severe beef shortages that occurred in 1941, 1943 and later in 1948 compelled mine owners to import five hundred tons of fish from a Congolese supplier to pacify the restless workers. During these food shortages prices went up causing instability in the urban areas. This compelled the authorities to impose price controls as a short-term measure. The Provincial Commissioner (PC) responsible for the Copperbelt implored the Director responsible for the fisheries sector to maximise fish production by also suspending the existing fishing regulations that were still under the Game Ordinance Act of 1941. The strict enforcement of the regulations was seen as contributing to the shortage of fish on the Copperbelt. The PC argued that:*

“We are having some difficulty in keeping our workers contented here owing to short supplies. The point may be reached when discontent will have serious repercussions on copper production, which would be more disastrous even than upsetting the internal economy of Northern Province or depleting its fish supplies for a time. Bangweulu fish supplies have some bearing on copper production.”<sup>7</sup>

This statement is evident of the importance with which copper production was linked to the availability of cheap food for the labour. Although the fishing regulations had been implemented to protect the fishing industry, these were now seen as hindering copper production. To the state, the collapse of the fishing industry was not as paramount as long as copper production was sustained. The Director of Game and Tsetse Control concurred with the Provincial Commissioner by observing that ‘the importance of maintaining a smooth atmosphere on the Copperbelt was so great that fish supplies should be given a high importance relative to that of opposing factors.’ Consequently, fishing regulations were relaxed and the supply of fish to the Copperbelt improved.<sup>8</sup> Following other food shortages that occurred on the Copperbelt in 1943 the authorities responded by invoking Emergency Powers (Control of Fish) Regulations. These emergency measures were designed to control the distribution of food, especially fish.<sup>9</sup> These

---

<sup>7</sup> ZNA, Ref. No. Sec 6/190, Correspondence from Provincial Commissioner, Western Province to Director of Game and Tsetse Control 1943.

<sup>8</sup> Although fish supplies temporarily improved following the suspension of the fishing regulations, the fish-price controls that were also imposed at the same time merely drove fish from the formal into the parallel market.

<sup>9</sup> According to the Provincial Commissioner in charge of the Copperbelt, which was then known as the Western Province, beginning in 1943 there was a shortage of various commodities on the Copperbelt, including foodstuffs. The consequence of these shortages was that fish prices went up and controls were introduced. However, this only

regulations gave the Director of Game and Tsetse Control a wide range of powers to deal with the distribution of fish by prohibiting the importation or export of fish into or from any Fishery Area.<sup>10</sup> They further empowered the Director to make limitations on weight of fish or the market in which it was supposed to be sold. These controls were only abolished in 1946 when the distribution of fish improved.<sup>11</sup>

#### Ambiguity in the application of fisheries regulations

Because of the diverse manner in which fisheries regulations had emerged and were implemented there was bound to be ambiguity and resentment in their application. This was also compounded by the fact that The Department of Game and Tsetse Control, under which fish was managed, did not have adequate staff to implement the fishing regulations. In some of the fisheries in remote areas it was left to the District Commissioners and other colonial officers acting on basis of their own (sometimes preconceived) assumptions of fisheries management to enforce the fishing regulations. The issuing of fishing licences was particularly problematic. Native Authorities issued licences to fishermen who fished from water bodies under their jurisdiction. However, local fishermen could migrate from one fishery to another for different reasons. This movement of fishermen across boundaries proved to be a problem in some Native Authorities as it deprived them of much needed revenue

The enforcement of minimum net mesh-sizes and types of nets to be used were also a contentious issue between the authorities and fishermen. The minimum mesh sizes were designed to ensure that all the fish caught in a net were bigger and would have bred once. This regulation ignored the fact that some fish species could reach their maximum size without being caught in the minimum allowed mesh-sizes. In 1949, fishermen in Kasempa in the north-western part of the country complained that the institution of minimum mesh-size for their fishing nets caused them to lose many fish.<sup>12</sup> They argued that the fish species that they particularly targeted were so

---

led to drive fish off the official market into the parallel market where prices were high (ZNA, Ref. No. 6/190, 1/8/1943).

<sup>10</sup> A Fishery Area was a fishery covered by the Fish Control Regulations.

<sup>11</sup> It was during this period that the Director of Game and Tsetse recommended that fish exports to Zimbabwe be banned. This ban affected the urban population in Zimbabwe that was reliant on fish supplies from Zambia. These fish- exports had amounted to about 5000 kg's in 1943. However, the ban on fish-exports did not stop Zambian fish-traders from smuggling large quantities of fish into that country. (ZNA, Ref. No. Sec 6/190, Correspondence from Provincial Commissioner to Chief Secretary, 1944.).

<sup>12</sup> ZNA, Ref. No. SEC 6/570, Acting Director of Game and Tsetse Control, 'Preliminary Report on the Fishing Industry and its Markets, 21/10/1949.

small even at maturity as not to be captured in the nets that they were legally allowed to use. The District Commissioner disputed this argument by observing that the fish that was not caught in the legally allowed nets was not of economic value and did not warrant the change of the mesh-size regulations. In 1953, a Fisheries Officer in Kawambwa reported that he was unable to enforce the mesh-size regulations due to resistance by local fishermen. He complained that the mesh system in the fisheries under his jurisdiction was farcical due to non-observance of the regulations by the local fishermen. He recommended that fishing regulations should no longer apply in that fishery.<sup>13</sup> In another example, in 1954 it was agreed that due to resistance by local fishermen and the lack of adequate personnel, fish conservation regulations in the Northern Province be abandoned in all but the following fisheries; Mweru-Luapula; Mweru-wa-Ntipa; Lake Tanganyika and Bangweulu-Luapula.<sup>14</sup> The regulations were relaxed but despite the abandonment or suspension of all or certain provisions, the clause pertaining to licensing was always retained. This was meant not to disrupt the collection of revenue for Native Authorities.

The restrictions on the use of weirs were also declared ineffective and impossible to enforce especially in the swampy Bangweulu fisheries. Faced with these problems, the Fisheries Officer for the area unilaterally declared that weirs did not in fact destroy the fry in the lake and called for their relaxation in the fishery. The Fisheries Officer was also compelled to take this decision following the Luwingu Native Authority's refusal to fine fishermen brought before it for using weirs. Such fishermen were usually discharged with verbal warnings and not fined.<sup>15</sup>

The ambiguity in the application of fishing regulations was also premised on the preconceived ideas that local fishing methods were inherently harmful. This prompted authorities to unilaterally declare certain methods illegal even when there was no scientific evidence to prove it. The problem with this evidence was that it was more often based on perceptions. In 1942, the seine net was banned after one District Commissioner observed that it was destructive and would

---

<sup>13</sup> ZNA, Ref. No. SEC 6/570 Correspondence from Fisheries Officer, Fort Roseberry to District Commissioner, Kawambwa, 1953.

<sup>14</sup> ZNA, Ref. No. SEC 6/570 Correspondence from Director of Game and Tsetse Control to Fisheries Officer, 1954.

<sup>15</sup> ZNA, Ref. No. SEC 6/570, Correspondence from Fisheries Officer to Director of Game and Tsetse Control, 1954.

lead to depletion of fish.<sup>16</sup> In 1948 the Director of Game and Tsetse control wrote to a Game Warden based in Fort Rosebery (Kasama):

“*Labeo* and *Hydrocyon* (sic) are agreed as being in need of control so far as trade in immature specimens is concerned. I feel that *Auchenglanis* (sic) is badly in need of protection, though I have no data at present to support this general opinion. *Chrysiichthis* is perhaps fairly safe; if, however, it is likely to have to come into this restriction within the fairly near future, it had best be put in now. Are there any other species which should be considered in this connection?”<sup>17</sup>

To conduct research, it was argued, was not necessary in the face of a perceived catastrophe in the fishing industry if regulations were not implemented. Proper research would take time and the results might be too late to prevent a tragedy in the colony's fisheries:

“We cannot proceed very far without proper research, but as, even if commenced now, that would take some time to give results, I consider that our present action on empirical lines is fully justified in view of the urgency of the fishery problem in the territory.”<sup>18</sup>

In the absence of a full-fledged research framework it is not clear what the Director of Game and Tsetse Control referred to as ‘empirical lines’ in terms of the policy towards the fishery sector. It can however be assumed that due to the importance of the fishing industry to the economy of the country one would not take chances. The other reason why the authorities could not wait for scientific research was the perception by staff of the Department of Game and Tsetse Control that their primary function was to protect the destruction of natural resources and not that of conducting research.<sup>19</sup>

Differences in the efficacy of the fishing regulations were not only confined to the authorities and the fishermen but were also present within the colonial establishment itself. In 1953, a biologist from the Commonwealth Office in London challenged the manner in which fisheries regulations

---

<sup>16</sup> ZNA, Ref. No: SEC 6/508, Correspondence from District Commissioner, Gilbert Phillips to Provincial Commissioner, Kasama, 7th November, 1942.

<sup>17</sup> ZNA, Ref. No: SEC 6/158, Director of Game and Tsetse Control to Fisheries Officer, Fort Rosebery, 1941.

<sup>18</sup> ZNA, Ref. No. SEC 6/10 Correspondence from Acting Director of Game and Tsetse Control to member for Agriculture and Natural Resources, 16th January, 1951.

<sup>19</sup> Vaughan-Jones, T.G.C., ‘Memorandum on Policy Concerning the Foundation of a Game Department and the Conservation of Fauna in Northern Rhodesia,’ Government Printers, Livingstone, 1938.



were designed and implemented in the colonies. He observed that fisheries regulations in the colonies were modelled on United Kingdom Fisheries Regulations of 1866 and on game laws and thus faulty. He said that these 1866 laws had borrowed heavily on game laws and the analogy between game and fish was dangerous because stocks of game can be watched and even enumerated and their breeding rate is slow. On the contrary, fish stocks had an extremely rapid rate of breeding, and they cannot be directly watched, but only indirectly by conclusions drawn from the results of commercial fishing and of biological research. He observed that most of the restrictions and prohibitions currently in use in the colonies were of a doubtful nature. The licensing of gear or nets required large and expensive enforcement staff. Other measures such as closed seasons; mesh-size restrictions and size of fish regulation were not very useful either. Fish fences were also harmless because if only a small number of fish suffice to replenish stocks, then there was no need in allowing excessive numbers to spawn and the capture of the surplus was an economical exploitation. He argued that mesh-size regulations, which were designed to take only the largest category of fish, must result in the dysgenic removal, for generation after generation, of the best-growing strains.<sup>20</sup> This left future breeding increasingly to the poorer strains and the result of attempts to restrict capture only to the larger fish might be fewer and fewer large fish to be caught.

The reaction to the biologists' observations by officers in the Department of Game and Tsetse Control was mixed but generally reflected the government's political and economic interests in the fishing industry. While agreeing to the biologists' general thesis, a Fisheries Officer observed that the former was ignorant of factors important in Central Africa. He said that African fishing methods so primitive that weirs across tributaries allowed no fish to escape and that some river-pools fished communally by spears and baskets had no survivors.<sup>21</sup> The Director in the same department was more open about the political and economic objectives of the fishing regulations in the colony. He said that the reasons for the existing regulations were that licensing was a source of revenue for Native Authorities.<sup>22</sup> Secondly, it was argued that fishing was the major industry in which most of the Africans in rural areas were employed. These local people were so

---

<sup>20</sup> ZNA, Hickling, C.F., 'Memorandum on Fisheries regulations,' Colonial Office, London, November, 1952.

<sup>21</sup> ZNA, Correspondence from Fisheries Officer to Director of Game and Tsetse Control, 'Dr. Hickling's Circular on Regulations, 1953.

<sup>22</sup> Officially this was not put so openly. It was usually said that the main reason for licensing was 'to stimulate the Native Authorities interest in the conservation of fish' (ZNA, Correspondence from Fisheries Officer to Director of Game and Tsetse Control, 'Dr. Hickling's Circular on Regulations, 1953).

dependent on fishing and had not developed alternative economic activities that there was a need for the existing fishing regulations to avoid an unemployment catastrophe in the event that the fishing industry collapsed. Such fishing regulations, observed the director, were not only reasonable but positively desirable.<sup>23</sup> Thirdly, he acknowledged that the mesh size regulations may or may not be an unnecessary restriction, but as it already existed it was going to be a psychological error to abolish it until it was quite certain that it was not necessary.

Following this debate the Fish Conservation Ordinance of 1955 was enacted. The new ordinance sought to remove the clause of leaving a gap in a weir. It was reasoned that licensing weirs would in itself be a hindrance to the making of the same gear and would automatically cease to be used.<sup>24</sup> However, the principal objectives of the new ordinance remained the same as those of the previous ones. It regulated fishing appliances, placed restrictions on minimum mesh sizes and also prescribed that offences and penalties to be meted out to those fishermen who violated the ordinance. In particular it also specified that licensing would continue to be imposed on all fishermen operating from fisheries under the control of the various Native Authorities.

#### Post-colonial fisheries regulations

In 1963, the Department of Game and Tsetse Control was renamed the Department of Game and Fisheries. It was also transferred to the Ministry of Lands and Natural Resources following the abolition of the Ministry of Native Affairs under which it had been located. In 1965, the Fish Conservation Ordinance and the Fish Control (Mweru-Luapula Fisheries Area) Regulations were amended. In 1974 all the different pieces of regulations such as Fish Conservation Ordinance and the Fish Control (Mweru-Luapula Fisheries Area) Regulations were combined to create the Fisheries Act of 1974. In the same year, the Department of Fisheries (DoF) was also established. The Fisheries Act currently provides for the development of fishing in the country. It is principally still based on the restrictions that emerged in the game laws of the 1940's. However, due to the manner in which the regulations emerged coupled with reduced government funding to DoF, the implementation has not been effective. Most fishermen admit that the fishing regulations are not an inconvenience to their fishing activities.

#### Fisheries regulations in Zimbabwe

---

<sup>23</sup> ZNA, Ref. No. 6/190, Correspondence from Colonial Office, London, to Governor of Northern Rhodesia, 18th May, 1944.

<sup>24</sup> ZNA, Ref. No. 6/570, Director of Game and Tsetse Control, Notes on New Features in the Draft Fisheries Conservation Bill, 11/12/1952.

It was also during colonial rule that regulations for the management of fisheries began to emerge in Zimbabwe. In a Proclamation of 10<sup>th</sup> June, 1881 issued under Order-in-Council of 9<sup>th</sup> May, 1891, the Game Law Amendment Act, 1886 of the Cape of Good Hope became the game of laws of Zimbabwe. This piece of legislation was aimed at protecting big mammals such as elephants that were considered to be in danger of being over-hunted by ivory hunters, missionaries and builders of railway lines and roads.<sup>25</sup> In 1923 the white settlers in Zimbabwe declared self-rule and six years later in 1929 they passed the Game and Fish Preservation Act. It was in this new act that there was a direct reference to the way fisheries resources were to be utilised in Zimbabwe. The new act attempted to consolidate and amend the law for the better preservation of game and to design an act that would reflect the realities in Zimbabwe. The amendments dropped all references to Cape Province that had remained in the previous pieces of regulations. It was in this act that a section dealing with fishing was also included. As in the way that game was conserved, the section on fish in the act prohibited the use of drag, cast, stake or other nets and determined that any under-sized fish shall be returned to the water. The act also prohibited the use of dynamite or chemicals or fishing without a licence. As with other pieces of regulations on natural resources these restrictions on hunting methods marginalised Africans' access to fisheries or game. Most of them could not afford to obtain the required licences and did not have resources or time to utilise the required hunting or fishing implements and methods.

Reflecting the emerging discriminatory land tenure system in the country the Game and Fish Preservation Act made it a punishable offence to enter or trespass the land of another person in the pursuit of game or fishing without the authority of the landowner. The ordinance gave a wide range of powers by those who had private properties to prosecute anyone who poached or trespassed on their properties with the intention of poaching. This provision engendered the emergence of a strong lobby-group from among the settler community that started importing exotic fish species for stocking local waters. Although these initiatives to import exotic species had been started in the late 1920's they were now officially recognised in the new act. It gave powers to any association or person to introduce, in defined waters, any fish not native to such water and making provision for that introduced fish to grow to exploitable levels.

This emergence of a strong sport-fishing lobby in the country is also due to a number of factors. Firstly, the country had a much large settler-community compared to colonies such as Zambia.

---

<sup>25</sup> It is during this phase of colonial penetration into the interior that Mackenzie has associated with the transformation of hunting into the Hunt for the benefit of a few people from among the settler community (McKenzie 1987: 41-62).

Most of the settlers were from Europe and made efforts to see the development of fish angling as a sport in the country. They formed associations and lobbied government for funding to import ova from the Cape and further north as Scotland. In 1938 trout ova were imported from Scotland for the stocking of the colony's fisheries (Bell-Cross and Minshull 1988: 30). Later an umbrella organisation known as the Trout Acclimatisation Society was formed to co-ordinate the operations of associations interested in the importation of trout ova. When the imports of ova from Scotland became expensive efforts were made to obtain the ova from South Africa. Imports from South Africa consisted mostly of the Largemouth Black Bass, Carp, Rainbow and Brown Trout. One common feature of these imports is that they were meant to improve the fish-angling facilities in Zimbabwe and little attention was paid to their potential as food (Toots 1970: 1-6). Secondly, the land tenure system introduced through the Land Apportionment Act of 1930 benefited the settlers at the expense of the local people. It was on these private lands that most of the water bodies initially constructed to provide irrigation water were stocked with exotic species. The other water bodies that local people could have accessed were located in National Parks. However, due to stringent restrictions very few people accessed them.

In 1938 the Game and Fish Preservation Act was renamed the Game and Fish Amendment Act. These amendments were a result of strong pressure that was being exerted on government by associations with an interest in angling; sport and fly-fishing that wanted direct government funding for their activities. Institutions such as the Flyfishers Association of Southern Rhodesia lobbied government to provide financial assistance to angling clubs that wished to import exotic fish species from outside the country. The society also asked for more powers to control the manner in which the exotic species were stocked and harvested. Between 1936 and 1946 a total of seventy-three government notices were made in relationship to the Game and Fish Preservation Act of 1929. Most of these notices were to authorise an organisation known as the Rhodesia Angling Society to introduce alien fish into the waters of the colony and also to ban fishing for a period of five years to allow the introduced species to expand.

In 1944, the Southern Rhodesia National Anglers Association was formed. By 1947 similar associations had become so politically entrenched that they began to lobby government to amend the Game and Fisheries Act to give more responsibilities on the management of water bodies to its members. These amendments were made towards the end of 1947 when the act made members of the Angling Societies into Honorary Fish Wardens. The wardens had powers to

prohibit fishing and apprehend those doing so in water-bodies located on private property<sup>26</sup>. Those caught were liable to fines ranging between five and twenty-five Rhodesian pounds. The various angling associations also established research stations in the country to improve the strain of imported fish species to local conditions. Some of these research stations were privately run while others relied on government subsidies. These included the Mashonaland Highveld Research Centre at Lake McIlwaine, Trout Station at Nyanga, Matopo's and Southeast Lowveld at Kyle. The research station at Kyle was responsible for research on Bass. It was only in 1966 that the Department of National Parks and Wildlife Management assumed responsibility for all fish research in the country.<sup>27</sup>

In Zimbabwe the development of fishing regulations were driven more by individuals, associations and clubs with an interest in sport fishing than government initiative. The government's involvement in the industry was not as manifest as was the case in Zambia. Partly, this is because the agricultural industry was well developed and able to provide cheap food products such as beef to labour. Secondly, fish requirements, especially for the large immigrant community in the mines and farms, were met through imports from Zambia and Malawi (Chirwa 1996).<sup>28</sup> Thirdly, as fishing did not contribute much to the economy except through tourism, the government did not invest much in personnel and infrastructure. This was left to private interests. It was only in 1949 through the passing of the National Parks Act that for the first time the government created a National Parks Board and employed officers specifically responsible for fisheries. However, even the policy thrust of the new board was to support sport angling. It promoted sport angling in all water bodies in the country's national parks.<sup>29</sup>

The change in government policy which led to the establishment of the board was prompted by the findings of a 1948 consultancy report commissioned to advise the country on the potential of inland fisheries.<sup>30</sup> The report observed that the country already had water bodies that were well

---

<sup>26</sup> Zimbabwe National Archives, Ref. No. S482/637/39, Correspondence from Parliamentary Secretary to the Secretary, Department of Agriculture and Land, 2/4/1942.

<sup>27</sup> Government of Southern Rhodesia, Ministry of Mines and Lands, 'Reports of National Parks Advisory Board and Director of National Parks and Wildlife Management for 1966,' Government Printers, Salisbury, 1967.

<sup>28</sup> Zambia National Archives, Reference No. Sec 6/190, Correspondence from Director of Game and Tsetse Control to Mine Office, Shabane Mine, 17/9/1946.

<sup>29</sup> Federal Ministry of Agriculture, 'Memo on Fishing, Salisbury, 1955 pp1-6.

<sup>30</sup> Hey D., 'Report of A Survey During July-August 1948 on the Potentialities of Inland Fisheries in Southern Rhodesia, Stellenbosch, Inland Fisheries Department, Cape Town, 1948.

stocked with fish. The report recommended that the creation of a new fisheries department was necessary as was the need to maintain water bodies that had already been stocked with exotic species. This department would maintain breeding pools, hatcheries, and a central experimental fish farm to serve the dual function of producing fish for stocking and conducting experiments in fish farming. The major recommendation, however, was that fisheries policy should generally put emphasis on sport fishing to attract tourists (Hey 1948). Furthermore, the restocking of some of the country's water bodies should concentrate more on fishes that have virtues of superiority in fighting ability (ibid). The emphasis on sport angling was based on the premise that the diet of white settlers was wide ranging enough so as not to make fish a staple. Instead fishing was to be promoted as a sport. Even the consultancy report recommended that priority should be given to the import of 'angling species' into the country's water bodies while undesirable (or unsporting) species such as catfishes were to be got rid of (ibid).

African fishing methods were marginalised on the grounds that they were destructive and un-sportsmanlike. African fishermen were accused of using explosives and throwing poisonous plants and remnants of beers dregs into the water and scooping out all sizes of the dazed fish. These methods, it was argued, did not give fish a 'sporting chance' and hence needed to be banned.<sup>31</sup> These views completely ignored the importance of fish as a means of food or employment for the majority of the local African fishermen. They merely re-emphasised the prejudices of the settler-community towards local fishing methods. African fishermen were further marginalised as most of the water bodies were on private lands or on National Parks. Existing legislation and land tenure system made it almost impossible for local people to access these water bodies for fishing purposes. However, other non-white races were treated much better. In 1952, it was decided that no restrictions should be placed on the rights of Asiatic and Coloured people to fish in park waters on the same basis as Europeans who were not members of particular Angling Societies concerned.<sup>32</sup>

In 1975, the National Parks Board was renamed the Parks and Wildlife Board. This followed the repealing of various acts related to the conservation of wildlife among them the Fish Conservation Act of 1960. The new act became known as the Parks and Wildlife Act of 1975. In terms of fish conservation the act still retained provisions on how fishing is to be conducted

---

<sup>31</sup> Bulawayo Chronicle, 'Letter to the Editor,' 28th June 1948.

<sup>32</sup> Government of Southern Rhodesia, Ministry of Mines and Lands, "Report of the National Parks Advisory Board for the Year ended 31 December 1953," Government Printers, Salisbury, 1954.

and the fishing methods that were not authorised. The act authorised the minister responsible for the country's fisheries to declare any person to be the Appropriate Authority for any waters in the country. The act further empowered the minister to declare any waters as Fish Conservation Areas if it was considered that there was a threat to the fish in those particular waters. However, further controls on actual fishing were instituted: no person was allowed to fish in any waters without a permit with the exception of those given Appropriate Authority. Other prohibitions included the use of poisons, chemicals or explosive devices in the killing of fish. It was also an offence to disturb any fish on its spawning run or in such areas as spawn is deposited. The provisions on the introduction of alien fish were retained from the previous acts. A number of gears was totally banned. These included spears, spear guns or basket traps. To date, the Parks and Wildlife Act of 1975 governs the conservation of fish in Zimbabwe.

#### Fishing legislation and regulations for Lake Kariba

By the time that Lake Kariba, which lies on the Zambia/Zimbabwe border, was constructed in the late 1950's two different fishing policies and regulations had emerged in each of the two countries. In Zambia the regulations supported the utilisation of the fishing industry to feed labour in urban areas and to pay for the running of Native Authorities. These objectives were met by allowing local fishermen access to the country's numerous water bodies. In Zimbabwe the fishing policy and regulations were on the promotion of fishing as a sport. Individuals and private associations imported exotic fish species for stocking water bodies most of which could not be accessed by local people. In addition to these differences, the fishing regulations in each of the two countries did not apply to the Zambezi River upon which the lake was to be constructed. The Fish Conservation Ordinance and subsequent ones in Zambia could only apply to fisheries that had been prescribed by the director responsible for fisheries. The Zambezi River was not a prescribed fishery and consequently the ordinances did not apply to it. Similarly, the Game and Fish Preservation Act in Zimbabwe did not apply to the Zambezi River.<sup>33</sup> This meant that new fishing regulations for the Lake Kariba fishery would have to be drawn-up.

As a precautionary measure the two governments had agreed that a 100 mm mesh-size be employed, as the lake was filling-up. At the same time the Zambian authorities began to conduct experiments upon which to justify the new regulations. There wasn't much research conducted on the Zimbabwean side of the lake at the time. By 1960 results from these experiments began to

---

<sup>33</sup> Zimbabwe National Archives, Ref. No. S1194/1647/12, Correspondence from Conservator of Forests to the Secretary, Department of Agriculture and Lands, 1945.

be available. It was on the strength of these results that the Zambian authorities began to advocate for the type of regulations that they felt would be suited to the fishery. The first differences in developing uniform fishing regulations was on the question of the appropriate mesh-size to be employed. Results from the Zambian experiments had indicated that there was no need to have a mesh-size restriction on gill nets to be used.<sup>34</sup> They argued that the initial 100 mm mesh size restriction had been an arbitrary one meant to protect species during the stocking exercise as the lake was filling up. The Zambian argued that the dominant species caught in the 50 and 70 mm mesh-size nets were *Alestes imberi* and *Hydrocynus vittatus* (Tiger Fish), which, between them, comprised eighty six percent of fifty millimetres net catches and 38 percent of the 70 mm net catches in experimental netting.<sup>35</sup> Neither of these species was commercially attractive and that the effects of using 50 and 70 mm mesh-size nets was not harmful as these nets did not affect dominant commercial species such as *Tilapia*, *Labeo* and *Distichodus* to a significant extent because when these species were caught they would already have spawned.<sup>36</sup> The nets would not affect *Alestes imberi* either as this fish has already bred before being caught in even a 50 mm mesh-size net. On the other hand, these nets would remove large quantities of the voracious *Hydrocynus vittatus* which would be of considerable benefit to the fishery. It was further argued that the prevailing emphasis of removing vegetarian species tended to produce an imbalance in the predatory/prey proportions of the fish population.<sup>37</sup> It was observed that the continued use of 100 mm mesh-size nets was allowing a constant removal of the bigger fish and best breeding stock, reproduction of the race being left to the small and poorer stock. The Director of Game and Fisheries argued that:

“In the light of information from research, it was fully agreed that there was no necessity whatsoever for continuing to impose the four-inch mesh size as a minimum. If anything, encouragement should be given to the use of smaller meshes in an endeavour to achieve a more

---

<sup>34</sup> ZNA, Ref. No: ML 1/15/17 Correspondence from Director of Game and Fisheries to Permanent Secretary, Native Affairs, 20th July 1962.

<sup>35</sup> *ibid*

<sup>36</sup> *ibid*

<sup>37</sup> ZNA, Ref. No: ML 1/15/17 Correspondence from Director of Game and Fisheries to Permanent Secretary, Native Affairs, 20th July 1962.



balanced take-off from the fish population. It is not known on what evidence Southern Rhodesia bases its desire to persist with the four-inch minimum restriction.”<sup>38</sup>

The Zimbabwean authorities rejected this proposal arguing that they did not favour any changes to the proposed mesh size of 100 mm. They counter-proposed that the 100 mm mesh size should be adhered to until commercial fishing on the lake as a whole had been in operation for a minimum of six months.<sup>39</sup> Secondly, the Zimbabwean authorities argued that they did not have adequate data to support the Zambian argument on mesh-sizes because information collected from their commercial fishing concessionaires was confidential and not for public use. Thirdly, the Zimbabwean authorities argued that they felt it undesirable to remove restrictions ‘to avoid confusion to African fishermen.’<sup>40</sup>

The other difference in fishing policy and regulations between the two countries was the question of allowing for full-exploitation of the entire fishery. The Zambian authorities sought to allow for full-scale commercial fishing using gill nets even before the lake had reached its maximum extent. Their counterparts on the Zimbabwean shoreline refused to open the entire fishery to fishing. They argued that there should be no net fishing in the fishery until stocks had stabilised.<sup>41</sup> However, this restriction on the use of nets applied to African fishermen only and did not extend to the white-owned fishing concessionaires. This discriminatory policy was justified on the grounds that the concessionaires had different contracts with the government and were also assisting in the collection of data and could thus not be restricted from fishing.<sup>42</sup> Consequently, gill net fishing for African artisanal fishermen on the Zimbabwean side was not allowed until the passing of the Fish Conservation (Kariba Controlled Fishing Area) Regulations in 1962. This contrasts with the Zambian side where fishing had commenced as soon as the lake began to fill-up.

---

<sup>38</sup> ZNA, Ref. No. ML 1/15/17, Correspondence from Director of Game and Fisheries to Permanent Secretary, Native Affairs, 20/7/60.

<sup>39</sup> ZNA, Ref. No. ML 1/15/17, Correspondence from Secretary of Lake Kariba Co-ordinating Committee to Permanent Secretary, Native Affairs, Northern Rhodesia, 27/6/62.

<sup>40</sup> ZNA, Lake Kariba Co-ordinating Committee, ‘Technical and Organisational Matters relating to Fishing in Lake Kariba, 21/3/1963.

<sup>41</sup> ZNA, Ref. No: SEC 5/201, Summary Record of a Meeting of Ministers Held in Salisbury on 29/2/60, Kariba Lake Development Company.

<sup>42</sup> *ibid*

The differences between the Zambian and Zimbabwean authorities reflect the different roles of the fishing industry to the two countries social and economic interests. The Zambians advocated for a policy and regulations that would maximise the exploitation of commercially important fish species. This was in line with the need to make the fishery provide food to labour in the urban areas. To the authorities species such as *Hydrocynus vittatus* (Tiger Fish) were not commercially important and thus of little value. However, this contrasted with the Zimbabwean fishing policy that put emphasis on sport fishing for recreation and tourism. Within this policy the promotion of fish species such as Tiger Fish that have virtues of superiority in fighting ability was paramount. The second difference reflects the Zambian policy of using natural resources such as fish to raise revenue for Native Authorities. It was on this basis that they advocated for full-exploitation of the fishery as a means to raise money for the local Native Authority known as the Gwembe Tonga Native Authority (GTNA). Owing to the manner of colonial rule such a policy did not emerge in Zimbabwe and, much more fundamentally, was that there were no permanent human settlements along the shores of the lake whose inhabitants would have benefitted from such a revenue.<sup>43</sup> All the local people who had lived on the banks of the river had been resettled further from the lakeshore. There was also a general belief on the Zimbabwean shoreline that local fishing methods were inherently harmful. Therefore, there was need to control the activities of local fishermen to avoid the new fishery, which became the biggest in the country, from being over-fished.

These differences were not resolved. To date, the fishing policy and regulations between the Zambian and Zimbabwean fisheries have remained different. The entire Zambian shoreline is fished and the minimum mesh-size net employed is 75 mm. This contrasts with the Zimbabwean shoreline where about only 60 percent of the lakeshore is open to artisanal fishing. The rest of the grounds are closed to fishing as they lie close to National Parks area where only sport angling is permitted or they are used to re-stock the fished areas. Artisanal fishing is also not authorised in river mouths that are considered to be breeding areas of fish species such as Tiger Fish. On this shoreline the minimum mesh size allowed is 100 mm. Evidence from both shorelines, however, indicates that the use of methods considered illegal is still prevalent. Active fishing or *kutumpula* is still widely practiced by artisanal fishermen especially on the Zambian shoreline. The fishermen contend method is not harmful to the fishery. They observe that without employing this method they would not catch particular fish species. On the Zimbabwean shoreline the violation of fishing regulations such as fishing from closed areas or using small mesh-sizes is

---

<sup>43</sup> Zambia National Archives, Reference No. SP 4/7/16, Minutes of a meeting of ministers held in Salisbury on 11/12/1959.

also rampant. On this shoreline it was observed that fishermen have formed well-organised networks to assist them in the violation of fishing regulations. These networks report the presence of fish guards in closed areas or when using smaller mesh size nets.

### Conclusion

The paper sought to show that although it is generally believed that fishing regulations are based on science, their implementation have to meet the economic and political interests of the state. It was shown that the scientific arguments that had been made to justify the management of game were transferred to the way fisheries were to be managed. It is for this reason that fishing restrictions through licensing, the setting of minimum mesh sizes and the manner in which certain fishing implements such as weirs were to be used became part of the new fishing regulations. However, these restrictions not only masked the economic interests of the state, such as the need to obtain revenue from fishing licences, but their implementation was also haphazard and brought conflicts between government agents and fishermen. This was particularly the case in Zambia where the government sought to maximise fish production to meet food requirements for labour in the mines while attempting to protect the industry from the destructive fishing methods of local fishermen.

In Zimbabwe fishing regulations emerged as a result of pressure from a sport-fishing lobby from among the settlers. Here there was emphasis on stocking water bodies with exotic fish-species that were amenable to angling. With the emerging land tenure system that placed most of the water bodies in private and state lands, most of the local people were marginalised from fishing. These differences in approach to fishing regulations were to manifest themselves when attempts to have joint fishing regulations for Lake Kariba were made. The Zambian sought regulations that would maximise fish production to feed labour and meet the revenue requirements of the local Native Authority. The Zimbabweans wanted regulations that would promote sport fishing and prevent control the fishing activities of local fishermen. These differences in approach to regulations were not resolved and each country went on to implement its own type of regulations.

What the paper has shown is that although science has influenced the manner in which regulations emerged, these have to fit in the economic and political interests of the country involved. As these interests may be at variance there is conflict and ambiguity in the manner in which they are implemented.

## References

Beinnart W. and P.Coates, *Environment and History: The Taming of Nature in the USA and South Africa*, Routledge, London, 1995,

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

Berry, S., *No Condition is Permanent. The Social Dynamics of Agrarian Change in Sub-Saharan Africa*, The University of Wisconsin Press, London, 1993.

Chirwa, W.C., “Fishing Rights, Ecology and Conservation along southern Lake Malawi, 1920 – 1964,” in *African Affairs*, Vol. 95 (380), 1996, pp 351-377.

Gordon, D.M., “The Making of a Hinterland: Environment and Politics in Mweru-Luapula from the 1880’s to the 1990’s,” unpublished D.Phil. dissertation, Princeton University, Princeton, 2000.

Hey D., “Report of A Survey During July-August 1948 on the Potentialities of Inland Fisheries in Southern Rhodesia,” Stellenbosch, Inland Fisheries Department, Cape Town, 1948.

Jackson, P.B.N., *the Present Condition of Northern Rhodesia Fisheries*. Joint Fisheries Research Organisation, Samfya, 1961.

MacKenzie, J.M., “Chivalry, social Darwinism and ritualised killing: the hunting ethos in Central Africa up to 1914,” in D. Anderson, and R. Grove, (ed’s), *Conservation in Africa. People, Policies and Practice*, Cambridge University Press, Cambridge, 1987.

Toots, H., "Exotic Fishes in Rhodesia," Rhodesia Agricultural Journal, Vol. 67, No.4, 1970, pp 4-10.

Vaughan-Jones, T.G.C., 'Memorandum on Policy Concerning the Foundation of a Game Department and the Conservation of Fauna in Northern Rhodesia,' Government Printers, Livingstone, 1938.