



**CONFLICTS OVER WATER USE IN MALAWI:
A SOCIO-ECONOMIC STUDY OF WATER RESOURCES
MANAGEMENT ALONG THE LIKANGALA RIVER IN ZOMBA
DISTRICT**

by

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ABSTRACT

This paper examines conflicts over water use and management among communities living along the Likangala river in the Zomba district of Southern Malawi. The data for this paper was collected at five different points along the Likangala river which involved the use of focus group discussions, interviews and field observations. Situated on the south eastern part of the Zomba mountain, the Likangala river is one of the major rivers in Zomba district which empties into Lake Chilwa.

The paper argues that although water supply in this area is generally sufficient, its distribution and use is extremely skewed. This generates conflicts that underscore the deeply entrenched power relations existing in the area, particularly between the domestic and productive users of water resources. Conflicts have also increased as a result of the emergence of many development projects in the area. By highlighting the socio-cultural dimension of contestations over water use, the paper contributes to the growing body of literature on water resources management in Malawi.

Because the study of the Likangala river represents a microcosmic survey of the river systems in the Lake Chilwa basin, some of the conclusions drawn may be of relevance to other areas as well. Notwithstanding its many unique characteristics, the study of the Likangala river offers some insights into questions of general water resources management for the country. In addition, it has significant implications for policy formulation and implementation.

I. INTRODUCTION

The Draft Water Policy and Implementation Plan in Malawi remarks that although 3,000 cubic metres of water per capita are renewed annually in rivers and lakes, only 300 cubic metres per capita are available in the dry season.¹ This means that a fairly small proportion of water resources in the country are available for the various domestic and productive uses. Moreover, significant variations exist in the distribution of and access to these water resources. This scenario raises a number of important issues about water resources use and management in Malawi.

One of these issues concerns the fact that there has been a shift in the perception of water as a social good that used to be freely available to every person to that of a precious scarce resource whose control and ownership is increasingly being contested. When its supply is limited in quantity or quality or its distribution is uneven, water can be both a source of cooperation and contestation among its different users. Since different groups of people have different sets of needs and values, access to scarce water resources becomes no longer a matter of choice. Instead, it becomes a competitive process requiring people to exercise their various coping strategies and survival skills.

This paper examines conflicts over water use and management among communities living along the Likangala river in the Zomba district of Southern Malawi. It is based on an on-going BASIS research project whose aim is to study water resource use and management in the river systems of Zomba district.² The data for this paper was collected at five different points along the Likangala river which involved the use of focus group discussions, interviews and field observations. Situated on the south eastern part of the Zomba mountain, the Likangala river is one of the major rivers in Zomba district which empties into Lake Chilwa. It is also the most heavily (mis)used river in Zomba and the entire Lake Chilwa catchment area.

Because the study of the Likangala river represents a microcosmic survey of the river systems in the Lake Chilwa basin, some of the conclusions drawn may be of relevance to other areas as well. Notwithstanding its many unique characteristics, the study of the Likangala River offers some insights into general water resource use and management for the country and it has significant implications for policy formulation and implementation.

The paper argues that although water supply in this area is generally sufficient, its distribution and use is extremely skewed. This generates conflicts that underscore the deeply entrenched power relations existing in the area, particularly between the primary and productive users of water resources. Conflicts have also increased as a result of the emergence of many development projects in the area. By highlighting the socio-cultural dimension of contestations over water use,

¹Malawi Government, Draft Water Policy and Implementation Plan

²BASIS (Broadening Access and Strengthening Input Market Systems) is a USAID-funded project whose main objective is to conduct collaborative research and training on ways to improve access to and efficiency of land, water, labour and financial markets; and also to promote policy and programme interventions through effective synthesis, training, communication, and research dissemination. See BASIS CRSP, External Evaluation Panel Report, 1999 (May 2000).

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II. USE AND MANAGEMENT OF WATER RESOURCES

Apart from the Likangala river itself, several types of water sources were identified in the study area. These included streams, rainwater, wells, both protected and unprotected ones, small dams, lake, boreholes and taps. However, these water sources are not evenly distributed. There tends to be more water supply in the upstream area which is adjacent to the urban concentrations than in the largely rural communities located in the down stream area. In addition, the upstream area has more boreholes and tapped water sources than the downstream area. Communities in the downstream rely mostly on the river itself, the Lake, wells, and a few boreholes.

In this study area, the main uses of water include:

- Drinking by people and animals
- Domestic purposes, such as cooking, bathing and washing
- Small-scale farming in dambo areas
- Large-scale rice irrigation schemes
- Large-scale estate production.

Each water source has rules and rights that govern its use by the communities surrounding the source. While some of these rules appeal to the natural rights of human beings to use water resources, others are clearly made by the people themselves to deal with existing conditions in the area. For example, water in the Likangala river is seen as a gift from God to His creation.³ Thus, every person has the right to use the water for any purpose. For instance, an individual may divert the course of the water flow if it passes through his/her land to construct a dam or use it for irrigation. However, there is a tacit understanding/rule that in using water from the river, users need to be responsible enough to consider the needs of other people. Although the water supply from the river is generally adequate it is not so clean and safe for drinking purposes.

Wells have some expressed rules. Often owned and controlled by the individuals who dug them up, communities can use the water for domestic purposes only. Except for the owner, no one can use the water for productive purposes such as irrigation or washing of clothes and dishes in the vicinity of the source. For example, one farmer/businessman at Ramsey Trading Centre, who owns a covered well, does not allow his neighbours to use the source for activities other than domestic ones. He does not ask other users to pay for water and yet he is responsible for the maintenance of the well.⁴ Wells can be unsafe, especially if no sanitary measures have been made to protect it. In cases where there is no proper protection and, where objects have fallen inside, it can be difficult to remove them.

There is also the Muliyanhwazi water reservoir in Chiliko Village which provides water to the general public throughout the year. Tradition holds that this small dam was created naturally and

³Interview: Mr. S. Nkhota (Village Headman Chiliko) Irrigation Sector dated 2 March 2000.

⁴Interview: Mr. Thunya, Ramsey Trading Centre, Irrigation Sector dated 16 February 2000.

has been in existence for hundreds of years. The reservoir contains fish which attracts people from the surrounding villages to come and catch the fish. Most people use water from this source for bathing and washing. But in the dry season, the local people experience competition from commercial farmers who divert water for the irrigation schemes at Likangala and Chiliko. Anyone is free to use water from this source.

Boreholes and taps are often provided by government through self-help schemes or by non-governmental organizations such as churches. Ideally, these sources are supposed to provide safe and clean drinking water. They also have the capacity to provide enough water when the sources are working perfectly although, based on experience in the last few years, less than half of them function properly for more than six months in a year. The government's approach has all a long been to empower the local communities in the management of such water sources. To this effect, committees are established which set up their own rules for the use of the water source. Some of the commonest rules governing the use of boreholes and taps include:

- regular contribution of money to maintain the water source
- getting water is done on a first come first serve basis
- regular cleaning of the water source
- no washing of utensils and nappies near the source
- each household can only draw one pail of water at a time
- children should not get water on their own without the presence of an adult.

In principle, all water points are supposed to have local committees to administer the use and management of water resources. The roles of these committees are, among other things, to raise money for the maintenance of a water source, to ensure general cleanliness and to discuss any other issues affecting the water sources.

III. ANALYSIS OF CONFLICTS OVER WATER USE

The regulation of river flow regimes and the conflicts that this generates is a subject that has been extensively studied elsewhere.⁵ It has been shown that most of the conflicts tend to revolve around users in the upstream and downstream areas. In our case, the study of water use and management by communities living along the Likangala River is similarly replete with stories of conflicts and tensions that operate at different levels. There are manifest as well as latent conflicts. Underlying these conflicts is the fact that water has increasingly become a scarce resource. The seasonal variations in the supply of water and the increasing demands for it in the upstream area create many problems for the users. In the past, it used to be that people were getting water within short walking distances. Now they not only have to walk long distances to fetch water but they also have to wait for a long time. The real problem is obviously the waiting time at the various water sources. People wait for up to six hours in a day to get twenty litres of water.

⁵See, for example, the works of William Adams, *Green Development: Environment and Sustainability in the Third World* (London, 1990), p.130-142; and *Wasting the Rain: Rivers, People and Planning in Africa* (Minneapolis, 1992).

Some people contest the notion of “primary” or “domestic” use of water. Definition of what constitutes a primary/domestic purpose is heavily contested among the users. For example, while drinking, washing and cooking are commonly accepted, the use of water by livestock is not. Sometimes washing utensils and nappies is also not considered part of domestic use. There have been conflicts over who should use the water for what purposes at various water points.

In other cases, users contest the notion of the “right” to use water. Traditional values hold that water is a gift from God. While it is accepted that every person has a right to use water, some variations do exist depending on particular circumstances of the water source. It is also evident from the study that some people tend to have more rights than others. A recent immigrant into the area may have fewer opportunities to use a particular water source than an older settler. Rights to water use are also dependent on wealth, gender, status and age. A research assistant stationed in the Estate Sector reported that “on my countless visits to draw water at the taps, I have always been given the first seat... At first I was startled. I therefore sought the views of Mrs Ellen Kainga. She said, ‘it is rare to find a man drawing water... so he is given the front seat.’”⁶ In one village, residents refused to allow their neighbours to use a borehole on account of the fact that they pay for its maintenance. They further argued that if their borehole breaks down after being overused, their neighbours will not help them with the money for its maintenance.

Conflicts sometimes occur at the intra-household level. Impatience, selfishness and petty jealousies within or between families sometimes extend to bullying or ostracising others when accessing water sources. In some cases, users simply ignore the rules and capitalize on intra-household differences to get water before the others on the queue can do that. One informant, who owns an open well at Ramsey 2 in the Irrigation Sector, noted that “there have been times when women fight for water here specifically during the dry season when the water level goes down and one has to wait [for a long time] to fetch water.”⁷ Petty jealousies and suspicions occur frequently, as is exemplified by an incident that occurred in December 1999 at a water tap at the Mikuyu Prison Museum. A certain woman decided to overtake her friends who were already on the queue. But when obstructed to jump the queue, she began cursing all the women at Mikuyu Prison Museum houses. She is quoted as saying “I know there are some women at the museum who don’t want us to draw water from their taps. But one day we will see. I will beat one of them and that will serve as a lesson to the rest.”⁸

There have been reports of school children contesting with women (domestic users) over access to drinking water. This often occurs in areas where a water source, such as a borehole, tap or well, is located near a school. During break time students rush to drink water from the source. Because of time limitations, students want to drink as quickly as possible and return to classes. However, this breaks the rule of first come first serve.

The positioning of water sources is another bone of contention. Where and how boreholes and taps are sited often depends upon several factors, such as water level and proximity to houses. Given the scarcity of water in the area, everyone would like to have the water source close to his/her home. But donors are ideally supposed to place the sources in areas of enough water

⁶Davidson Chimwaza, Research Notebooks, Estate Sector dated 11 March, 2000.

⁷Interview: Mai Maggie Matope, Irrigation Sector dated 17 May 2000.

⁸Interview: Mai Christina Magalasi, Estate Sector (Notebooks) dated 25 December 1999.

supply. However, this is not always the case. A clear case comes from the Peri-Urban sector where conflicts have arisen over the siting of boreholes. At Mteche Village a borehole was sunk at a place of low water table, hence it is often non-functional. Another borehole at Mainuka Village is believed to have been politically installed. Some people thought that the former member of parliament for the area brought it to the village but when he lost in the 1999 elections, his supporters vandalized it and stole the equipment.⁹

The establishment of agricultural estates and irrigation schemes along the Likangala river provides yet another site of contestation for water use. Some of the major commercial enterprises in this region include the Likangala, Njala and Chiliko irrigation schemes and the Chimpeni and Kachulu estates. While the irrigation schemes mainly produce rice, estates produce tobacco for commercial purposes. At the irrigation schemes, more men access plots than women and this has implications for understanding the nature of conflicts over water use. Since these agricultural activities require a huge and a regular supply of water, dams and canals have been dug to divert water from the natural course of the river. This obviously creates problems for people downstream. During the wet season, the canals serve as conduits for the water to flood downstream villages. However, when the water level goes down in the dry season, large scale farmers who desperately need the water for the irrigation of their crops, divert its natural course. For example, there is an on-going conflict between water users at Kalinda Village in the Irrigation Sector. Communities living in the downstream area complain that they are deprived of adequate water during the dry season because the water is diverted upstream for irrigation purposes at the rice scheme. The introduction of the scheme has increased the incidence of flooding downstream because a canal was dug to redirect the flooding towards this particular village downstream.¹⁰

The flooding or lowering of the water level in the river also engenders conflicts among the different users. These seasonal changes have in some cases been induced by human beings. For example, informants observed that the reduction in the flow of the river has been caused by deforestation of watershed areas. They noted that deforestation has increased greatly in recent years because people use trees for making canoes and others for drying fish. The result is that water flow has been declining, thereby making it difficult for communities downstream to have sufficient supplies of water for productive activities.

Lake Chilwa is another important source of water for the communities living downstream. Although the water is not used for drinking purposes, it has other productive uses which generate conflicts among the users. The fishermen blame upstream users for the reckless cutting down of trees and poor agricultural practices which have resulted into soil erosion and the eventual siltation of the Lake. This siltation of the Lake in turn results in a low fish catch by the fishing communities in the area. An interesting dimension to the fishing industry in Lake Chilwa is that it tends to be dominated by men. This means that there are more men who are directly earning a living from fishing in the Lake.

Dambo areas are also important sites of conflicts. The importance of dambos comes from two main factors. First, due to population pressure, there is a serious land shortage problem in the

⁹Interview: Mai A. Wasi, Mteche Village, Peri-Urban Sector dated 28 June 2000.

¹⁰Interview: Mr. Augustine Fatch, Kalinda Village, Irrigation Sector dated 7 December 1998.

area. Second, even where people have land, the rainfall is often inadequate and unreliable so that cultivation in the upland areas does not yield much crop. Dambos, therefore, remain by far the best and surest way of producing such food crops as maize, peas and potatoes. But dambo land is relatively inadequate to support the population and their various productive activities in the area. So some people have resorted to cultivating their crops on stream banks and this infringes upon environmental policy issues. Mr. S. Mwandama of Ramsey 2 in the Irrigation sector reported that there have been conflicts between farmers and the environmental staff over the cultivation of land along stream banks. The Agricultural and environmental staff recommend that there should be no cultivation at least 8 metres from the river but most farmers usually ignore this.¹¹

Livestock production is not a major economic activity in the area so that there are few people who keep domesticated animals. The commonest animals kept are goats and chickens. Those people who keep animals experience conflicts over access to grazing land such as the dambo areas in the dry season. Wetlands are not only ideally suited for a range of agricultural crops but they also have good grasses for livestock grazing. But allowing livestock to graze in the wetlands, often results in destroying crops in the fields. There is also another problem regarding whether livestock should drink water in the river upstream when people use the same water for domestic activities downstream. People complained that livestock contribute to the pollution of the water. Moreover, they pointed out that some people have the tendency of allowing their livestock to drink water coming out of a borehole or a tap. This makes the water source dirty.

There is sand mining at different points along the Likangala river. Not only does this activity pollute the water but it also contributes to the destruction of river banks and thereby altering the natural flow of the river. People downstream experience problems with the muddy water. In addition, settlements in the upstream area, such as Chikanda, St. Mary's and Mpondabwino contribute to the pollution of the river. A good amount of the refuse that is used by residents in these locations is often thrown away into the river, such as sugar cane peels.

IV. WATER POLLUTION

The increasing use of water for industrial and other productive activities in the upstream area creates numerous problems for downstream communities. For example, the establishment of an abattoir near the Likangala bridge, and the leakages from the sewage disposal systems by Zomba Central Prison, Zomba Central Hospital, Cobbe Barracks and Zomba Mental Hospital have resulted in the dumping of waste into the river. This contributes to the pollution of the water. Mai Roseby Nandolo remembers that a few years ago "a vehicle moved around the village announcing that we should stop drinking and bathing from the Likangala River because Zomba Central Hospital had emptied sewage into the river. Since we had no where to draw water, we continued taking water from the river".¹²

The decline in the water quality is often attributed to pollution by various agents and most people are aware of the fact that the water they use is polluted. A Focus Group Discussion with one user at Ramsey 1 in the Irrigation Sector revealed that "Likangala River is the worst source ever

¹¹Interview: Mr. S. Mwandama, Ramsey 2 in the Irrigation Sector dated 4 March 2000.

¹²Interview: Mai Roseby Nandolo, Estate Sector, (Notebook) 25 January 2000.

since. Every year people suffer from cholera just because of this source”.¹³ Another informant said that it was not uncommon to see children using the river as a toilet.¹⁴ Downstream users lamented that the colour of the water has changed to green and there is a lot of debris and other rotten material seen floating in the river. The water quality becomes particularly bad during the wet season when a lot of foreign objects are washed down into the river and at that point its colour changes completely. For instance, some people have seen dead snakes and frogs which contribute to the pollution of the water sources.¹⁵ Another problem is that every user/household has their own bucket for drawing water and it is difficult to tell the hygienic condition of these buckets. Finally, an open well at Nansongole in Chiliko Village is located near the graveyard and there is no guarantee that the water quality is good at all. Considering that there may be a possibility of the water being polluted, an official from the Health Department advised the people to construct another well far from the graveyard. That has not been done and, meanwhile, people continue to get water from the same well.

The pollution of the river has obviously created health hazards to the riverine communities. There has been an increase in the cases of cholera, bilharzia, dysentery, typhoid fever and other water-borne diseases. These cases are confirmed by a water quality study which showed a high presence of faecal coliform and faecal streptococci in the various water sources.¹⁶ Skin diseases too, such as scabies, also occur on a regular basis. Mai Nandolo further complained that “at one time we heard that prisoners in Zomba had developed scabies and asked to bathe in Likangala every Monday and Friday. It was rumoured that those who will continue bathing from the river will contract scabies.”¹⁷

There are conflicting views on the general public’s perception of the time of year when the water quality is supposed to be good. Some people said that the quality is good during the dry season because, although it tastes salty, the colour is generally clear and does not harbour many water-borne diseases. On the other hand, other people said that the water quality is good during the wet season when the water runs fast and filters through the dirt. The only problem is that it is muddy and tends to carry many dirty objects.

V. CONFLICT RESOLUTION

The increased demand for water resources and the growing inequalities in access to such resources has intensified the level of conflicts in this area. Consequently, people have developed various coping strategies as well as means of resolving these conflicts. First, at an individual and household level, people discuss problems that are not very serious, such as quarrels over who should draw water first from the source. However, if a problem is deemed to be too difficult to

¹³Focus Group Discussion with Mrs E.Unyolo, Mrs M. Kang’oma, Mrs F. Walley, Mrs D. Nyalape, Mrs E. Katuli, Mrs E. Tandwe of Ramsey 1 in the Irrigation Sector dated 12 May 2000.

¹⁴Interview: Mr. G.C.K Chiyaya, Irrigation Sector dated 12 February 2000.

¹⁵Interview: Mai Nanthambwe, Chiliko Village, Irrigation Sector dated 10 February 2000.

¹⁶Geoff Chavula, “Water Use and Quality along the Likangala River in Zomba District” (Unpublished Paper).

¹⁷Interview: Mai Roseby Nandolo, Estate Sector, (Notebook) 25 January 2000.

be handled by the individuals themselves, the intervention of a local water source committee, where this exists, is sought. For example, water committees look at matters relating to non payment of money for maintenance of a water source or failure to clean the source. Third, all serious matters are reported to the chiefs who, depending on the gravity of the problem, may involve a village headman or a traditional authority. Chiefs are supposed to handle all cases that have failed to be resolved by the water committees in the different villages.

VI. CONCLUDING REMARKS

Conflicts in the use and management of the Likangala river is but one example of the larger problem experienced by rural communities throughout the country. The study shows that although water resources are sufficiently available, their use and management has become an important site of negotiation and contestation by the riverine communities. The traditional idea of right of use of water resources is rapidly being contested as more and more productive uses have increased.

The results of the study of the Likangala river has important implications for policy formulation and implementation. The current plan to decentralize government services, including the management of water resources, is aimed at increasing efficiency and giving more power to the local communities. The Draft Water Policy and Implementation Plan clearly states that its overriding aim is to relate water resource management to the overall goal of poverty alleviation and economic growth in Malawi. Indeed, while ensuring that every individual has *equitable access to potable water supply*, the new water policy emphasizes that water should be *available at affordable cost to those who need it for use in the social and economic endeavours*.¹⁸ Given that water is no longer seen from the supply side of the equation, it is a scarce commodity that should be given more attention in the implementation of new water management structures.¹⁹

The use of water resources in the study area is gendered in ways that suggest a non equitable distribution of scarce resources. There tends to be more men using water for productive purposes while women's use of the resource tends to be restricted to primary activities. This means that women, and particularly female-headed households, are less empowered to access water resources for productive purposes. Moreover, the scarcity of water which requires women to spend long hours waiting to fill in their containers means that they have less time to invest in other productive activities. As the research work progresses, it will be interesting to see the impact of this demand on time on the income levels for women and especially for those female-headed households.²⁰

¹⁸Malawi Government, Draft Water Policy and Implementation Plan

¹⁹For details on this issue, see Margreet Z. Zwarteveen, "Water: From Basic Need to Commodity: A Discussion on Gender and Water Rights in the Context of Irrigation" World Development Vol.25, No.8 (1997):1335-1349.

²⁰Studies elsewhere have shown that new policies and practices, which place additional demands on women, have continued to displace them from the management of water resources. See, the work of Frances Cleaver & Diane Elson, "Women and Water Resources: Continued Marginalization and New Policies" Gatekeeper Series, International Institute for Environment and Development, No.49, (1995):1-18.

Although most people know that the Likangala River is heavily polluted and, although they want to avoid using it, they have absolutely no choice. They are caught in an extremely difficult position of accepting to use the polluted water and live with the consequences. As one informant complained, “the most popular source is the open well at the Agricultural Officer, though in true sense it is the Likangala River. It is the most popular point just because it supplies water all the year round for about six villages. I am sure that very soon you will be able to see... long queues”.²¹ Given the gravity of water problems in the area, one informant despaired that “there is nothing to be done since this is to do with nature. But what I can say is that people should pray hard to the Lord.”²²

Since the Likangala river lies within the Lake Chilwa catchment area, its study has implications for the entire basin. The Lake Chilwa basin itself became a designated wetland of international importance when the Malawi Government ratified the Ramsar Convention in 1997. By being party to this Convention, Malawi is required to use the wetlands in a wise and sustainable manner for the mutual benefit of both human beings and other natural properties in the ecosystem. Moreover, the recent production of the Lake Chilwa State of the Environment Report not only documents the environmental resources in the catchment area but also charts out a wetland management plan and strategies for intervention.²³ It should also be noted that the government is in the process of drafting a new Water Policy and Implementation Plan which will spell out water resource management plans and strategies. These institutional developments will undoubtedly have an impact on water use and management in the Likangala River.²⁴

Finally, the construction of the Mulunguzi Dam on Zomba Plateau, one of the highest dams in the country, has obvious implications for water use and management in the district. The highly vaulted expectation is that it will improve the supply of water mainly to residents of Zomba municipality. But it remains to be seen what kind of ripple effects this development will have for people in the downstream area of the river.

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²¹Focus Group Discussion with Mrs E. Unyolo, Mrs M. Kang’oma, Mrs F. Walley, Mrs D. Nyalape, Mrs E. Katuli, Mrs E. Tandwe of Ramsey 1 in the Irrigation Sector dated 12 May 2000.

²²Interview: Mr. S. Nkhota (Village Headman Chiliko) Irrigation Sector dated 2 March 2000.

²³Malawi Government, Lake Chilwa Wetland State of the Environment Report June 2000.

²⁴Anne Ferguson is currently working on this particular aspect, see her paper “Water Contestations in a Changing Institutional and Policy Framework: Perspectives from Zomba District, Malawi” Paper Presented at the BASIS Workshop held at Zomba, 1-3 July, 2000.

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