Urban water scarcity management: civic vs. state response in Bulawayo

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Abstract

In most sub-Sahara African cities, rapid urbanization has placed a heavy burden on available human, financial and socioeconomic resources. The problem has been compounded by the intricate and interactive effects of rapid population growth, the inability of local authorities to handle the increasingly complex functions of metropolitan management, centralization of decision-making by Central Governments, economic structural adjustment programmes, and even unfavourable variations in weather patterns.

This is a historical case study, covering the period of roughly from 1939 to 1995. It is based on secondary sources, participation by the author in water supply feasibility investigations for Bulawayo, Zimbabwe, and views expressed in stakeholders' meetings. It illustrates specifically how civic response has challenged the Central Government of Zimbabwe to review and revise its long-term water provisioning strategy for this [illegible] municipal authority.

Keywords: Urbanization; Water; Centralization; Self-reliance; Public participation; Bulawayo; Zimbabwe

1. Introduction

A statement in *An Urbanizing World, Global Report on Human Settlements 1996* (United Nations Centre for Human Settlements, 1996, pp. 150–151) has noted that many cities worldwide have outgrown the capacity of their localities to provide adequate sustainable water supplies. It cites Dakar (Senegal), Mexico City (Mexico), Los Angeles (USA), Larioja and Catamarca (Argentina), among others, as cases in point. With respect to the urban water situation in sub-Saharan Africa, the Report notes (1996, p. 151):

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> Many urban centres in Africa's dryland areas face particularly serious problems because of a combination of the rapid growth in demand for water and unusually low rainfall in recent years, with consequent dwindling of local freshwater resources. Many other cities face problems in financing the expansion of water supplies to keep up with demand.

The problems of rapid population growth, fluctuating rainfall patterns, and finance are all of serious concern to planners. However, as will become clear from this study, these problems are further complicated and compounded by political and administrative factors.

This paper addresses these issues. After this introduction, it establishes a methodology that will shed light on this situation. This is followed by an analysis of patterns and causes of urban water scarcity in sub-Saharan Africa. Then, the geographical background of the study area, Bulawayo, Zimbabwe, is presented, followed by an overview of its water supply and consumption patterns. The various strategic options which have been conceived to meet Bulawayo's water needs are then considered. Reactions to the problem by the Central Government and a populist NGO, the Matabeleland Zambezi Water Project (MZWP), are then discussed, followed by certain conclusions that emerge from the analysis.

2. Methodology

This analysis is basically a historical case study, covering the period from about 1989 to 1995. As such, it focuses upon a set of events that occurred in Bulawayo, Zimbabwe, and attempts to explain them within the broader context of resource planning analysis.

The information for this study was obtained from the available existing literature on the topic, from records from the Bulawayo City Council, from statistics from the latest national population census, and from information from the Department of Water Affairs and the Ministry of Energy and Water Resources and Development.

This official information has been supplemented by personal views, as the author was attached as a consultant to the organizations which conducted both the pre-feasibility and feasibility studies on the major projects designed to provide additional supplies of water for the City of Bulawayo.

The pre-feasibility MZWP study was conducted by SWECO, HYDRO-UTILITIES (PVT) LTD and COM-LOC (PVT) LTD. The main feasibility study, on behalf of the Matabeleland Zambezi Water Trust (MZWT), was conducted by SWECO and PLANAFRIC (PVT) LTD.

Both the MZWP and the MZWT held a number of private and open meetings to which the consultants and/or the general public were invited. The views of these two NGOs were clearly articulated at these gatherings.

It is from a synthesis of these diverse sources that the interpretations and conclusions presented in this paper are drawn.

3. Sub-Sahara African urbanization and water scarcity

During the closing decades of the last century, the rate of urbanization on the African continent continued to record levels surpassing those of the other world sub-regions. This was primarily due

to three reasons: rapid rural–urban migration, natural increase and the reclassification of rural settlements.

It is, however, the first factor which has been primarily responsible for the phenomenal urban growth rates. The rural-to-urban migration process is a direct response to structural factors set in motion by the spatial socioeconomic investment patterns, which have been adopted and pursued by the colonial and post-colonial administrators. Whilst desirable from the viewpoint of agglomeration economies, rapid urbanization has brought in its wake the much dreaded negative externality effect associated with over-urbanization, where population growth has outpaced the available social and economic facilities needed by the growing population of these emerging cities.

Perhaps, the most threatened life-support resource in this unfolding scenario is water. Lundquist (1993) has cited reasons why this is the case. First, water has normally no substitute for either the functioning of life-support systems or industrial production. Second, the amount of water which is available to humans is finite and, on a per capita basis, its availability is dramatically reducing over time with the increasing populations.

The importance of water has been further highlighted by Falkenmark (1992, p. 33) who noted that it is the most crucial natural resource in providing security for livelihoods in the tropical and sub-tropical regions. This fact has been well appreciated since the time when early civilizations settled along large rivers to benefit from the water brought in from remote areas. The over-riding importance of water for life itself, food production, society's activities and economic production, in general, therefore implies that any form of development will meet the greatest difficulties in places where water is scarce.

Water scarcity characterizes the Bulawayo Area. Yet before the problems related to water inadequacy can be definitively resolved, it is necessary to define the causes of this water scarcity.

Falkenmark (1992, pp. 43–44) distinguishes between genuine and human-induced causes of water scarcity. Genuine causes of water scarcity relate to the hydro-climate, and therefore their solutions have to be adapted to large inter-annual fluctuations in rainfall which itself is due to variations in the atmospheric water vapour flux system. Such a situation is associated with recurrent droughts (Falkenmark, 1994, p. 109).

These problems of drought and desertification are currently topical environmental issues in the Kalahari–Namib sub-region of the Southern African Development Community (SADC). The area covers Southern Angola, Namibia, most of Botswana, parts of South Africa and Zimbabwe. The critical perennial shortage of river and other viable surface and groundwater sources severely constrains urban-industrial development in the region.

Within the SADC region, where droughts are common and water is critical to development, a series of workshops have been held to highlight water security issues. At its latest Annual Consultative Group Meeting, the Southern Africa Technical Advisory Committee (SATAC), submitted a draft report entitled 'Southern African Vision for Water, Life and Environment in the Twenty First Century.' The report provides an overview of water availability in SADC. It highlights the variability of rainfall geographically and seasonally, which is normally responsible for severe droughts and water shortages within the region. It observes that droughts exert a severe impact on a broad range of environmental and economic activities and most people struggle to gain access to the minimum human requirement of 25 l/day.

The problems arising from genuine scarcity must be met by organizing storage facilities to offset deficits during the dry climatic seasons. A complementary strategy involves the drilling of

boreholes. However, the mining of fossil groundwater may be unsustainable. In one sense, over-reliance on boreholes merely delays the necessary re-organization of society to adapt to the climate until the aquifers have been depleted.

Falkenmark (1994) also identifies human-induced water scarcity. This includes cases where (p. 110) 'the population pressure on water increases rapidly. This makes access to an adequate amount of water needed as a lubricator of socioeconomic development more and more difficult'.

In some cities, there are serious constraints on expanding freshwater supplies. These include the size of the city as well as the economic production levels of the cities, which may have grown to exceed the capacity of local freshwater resources to supply their needs on a sustainable basis. This problem is clearly apparent in studies such as those by Haughton and Hunter (1996, pp. 170–172) on sustainable cities.

Hardoy, Mitlin, and Satterthwaite (1997) have added a politico-cum-institutional dimension to the explanation of water scarcity in Third World cities. They argue that although the severe shortage of water supplies for many Third World urban populations is a serious environmental problem, its cause is rarely environmental. Rather than being hydro-climatic, the cause is frequently Central Government's refusal to give a higher priority to water supply (p. 224). In this context, water shortages may be more a Central Government management issue than simply an environmental one.

Two such major management problems have been cited by SATAC in the SADC region. They are a rapidly growing and urbanizing population and constraints on water management institutions.

The report further states that a developing and sustainable southern African population, which is economically prosperous, needs to take into consideration (1) water policy, management institutions and participation in decision-making, and (2) new approaches to the management and financing of water management.

These issues are highlighted in the Bulawayo case study presented below, where it will be seen that water scarcity is attributable to both genuine and human-induced cases.

4. Geographical background of Bulawayo

The City of Bulawayo is the oldest modern urban settlement in Zimbabwe, having gained its municipal status in 1943. With a population of about 900,000, it is the second largest city in the country after Harare, the nation's capital (Bulawayo City Council, 1998b).

4.1. Location and the physical environment

The city covers an area of 479 km^2 and lies at an altitude of 1350 m, on the western limits of the central watershed of Zimbabwe. It is generally flat and featureless except to the south where this topography is disrupted by intrusions of the granite *kopjies* (hills). There are four main seasonal rivers: the Umguza, the Khami, Mpopoma and Matsheamhlope. The Umguza River has the largest catchment area while the Khami is the main river to the western part of the city. Both of these rivers are dammed.

However, the city currently derives most of its water supplies from elsewhere because the nearby sources are highly polluted. This is also because these reservoirs are very small and suitable dam construction sites are very limited in the vicinity of Bulawayo.

Although altitude does play a moderating influence on climate, high temperatures of 30°C are sometimes experienced in summer (Goetz Met. Station Records, Bulawayo). Winter days are mild, but due to clear skies, there can be cold temperatures and the occasional frost. The city lies in the driest ecological zone of Zimbabwe. It receives an average annual rainfall of 555 mm, mostly during the wet season between November and March when, unfortunately, evapotranspiration is also high. Rainfall variability is the norm, and droughts are frequent.

4.2. Demographic economic and social characteristics

Bulawayo's population is growing at an annual rate of 5.0% (Bulawayo City Council, 1998b). Some 15% of the population are children <5 years old, and 3.6% are infants. About 49% of the population are below 15 years of age. Only 2% of the city's population is over 65 years of age (Government of Zimbabwe, 1993). These are characteristics of a population with a high growth potential.

The latest census report shows that 66% of the city population is economically active (Government of Zimbabwe, 1993). Of this group, 62% were paid employees and 28% were unemployed. The occupational distribution shows that the majority, 25%, works within the service sector, followed by 20% in manufacturing, with 8% in mining and construction and the same percentage as clerks and secretaries.

Table 1 shows the residential distribution of the population.

Over 80% of the population reside in the high-density suburbs while the remainder reside in the medium and low-density areas and the City Centre.

Over 85% of the residences have electricity. All the houses in the middle and low-density areas have reticulated water and waterborne sewerage systems. Only Killarney, Kumalo, Parklands,

Table 1
Population distribution by residential area, 1995

Sub-area by density	Dwelling units	Average occupancy rate (persons/unit)	Estimated population by type of dwelling unit
Low-density areas	7000	4.0	28,000
Medium-density areas	9000	5.0	45,000
Flats/hostels	5000	5.0	25,000
High-density areas	114,286	7.0	800,000
Total	135,286		898,000

Source: Bulawayo City Council (1998b).

and Sunninghill suburbs have septic tanks. Almost 95% of the high-density houses have either direct or communal reticulated water connections. They use flush toilets. The estimated domestic water use in Bulawayo is 90–130 l/day in the low-density suburbs and 9–45 l/day in high-density areas, compared with consumption of 195 l/day in most US cities.

5. Water supply and consumption

Up to 1987, municipal authorities in Zimbabwe had the responsibility for both providing and distributing water in their jurisdictions. At that time, the Central Government took over this responsibility. More or less concurrently, Central Government started levying substantial taxes on revenues generated by local authorities. Such revenues had been important for the financing of development projects in those areas under the jurisdiction of local authorities. Such action was contradictory to the idea of decentralization and subsequently undermined local participation in decision-making and implementation to a substantial degree.

Bulawayo had, up to 1976, built a major water supply scheme every 8 years to cope with its ever-increasing domestic, institutional and industrial water requirements. Table 2 provides a breakdown of the main reservoirs on the basis of their catchment areas, capacity and yield.

The Bulawayo water supply system has two main delivery facilities: (1) the Treated Water Pumping Mains at Ncema Waterworks which pumps water to the Tuli Hill reservoir via Fernhill the booster pump station, with a conveyance capacity of 83,000 m^3/day; and (2) the Twin Raw Water Pumping Mains from Ncema Dam to Criterion Waterworks via Fernhill booster pump station, with a conveyance capacity of 18,000 m^3/day.

Unfortunately, the Government appears to have failed to meet its commitment to augment Bulawayo's over-utilized water sources. Between 1976 and 1992, no new major water schemes were developed. The net effect of this failure is that demand for water has exceeded supply. The deficit has been worsened by the effect of droughts, which occurred in the 1980s and early 1990s.

Table 3 shows that the industrial, institutional and domestic sectors are the main water consumers.

The Bulawayo City Council has, over the years, used a 'stepped' tariff pricing structure in order to control the returns on various consumption levels of its potable domestic, reclaimed and

Table 2
Catchment, capacity and yield of Bulawayo's water supply dams

Dam	Catchment area (km^2)	Capacity ($\times 10\,m^3$)	4% yield ($\times 10\,m^3$)[a]
U/L Ncema	702	62.9	16.6
Umzingwane	407	43.8	8.4
Inyankuni	350	74.5	10.2
Insiza	1800	173.5	16.3

[a] The 4% yield in the last column means that either 4% of the years will have periods when the dam is empty or the dam will be empty for 48 months in every 100 years.
Source: Bulawayo City Council (1998a).

Table 3
Per cent water consumption by sector

User by sector	Percentage use of total
Industrial	37
Domestic	24
Municipal institutions	20
Government institutions	17
Commercial	12

Source: Bulawayo City Council (1998a).

untreated water.[1] Table 4 shows, as an example, the progressive tariff system for potable domestic water for the urban and peri-urban areas.

The non-domestic city areas have a uniform 3000 cents per unit charge whereas in peri-urban areas, the amount is 2000 cents. The difference in non-domestic rates by area perhaps reflects the increased cost of diseconomies in providing the service to a scattered peri-urban clientelle.

Table 5 shows the aggregate raw and treated water consumption by year from 1989 to 1993. The difference between the two is that a loss occurs in raw water as a result of purification and transmission.

What is apparent from Table 5 is that the general consumption trend is downward (except from 1992 to 1993) even though domestic, institutional and industrial demand for water (in contrast to effective demand for water, i.e., what users can afford to buy) has been increasing. The trend reflects the removal of government subsidies on social services as a cost-sharing measure, the effects of the stepped tariff structure on water consumption and the impacts of short-term rationing responses to the water scarcity problem. Strategic options to solve the chronic water scarcity problem are discussed in the next section.

[1] The pricing structure for untreated water is stepped as follows:

Quantity consumed	Unit price (Zimbabwe Cents)
0–200	300
201–400	650
⩾401	1055

The rates for reclaimed water tend to be relatively steeper. The rates below are typically those levied for sports clubs.

Quantity consumed	Unit price (Zimbabwe Cents)
Step 1	410
Step 2	1180
Step 3	1795

There is a flat rate of 830 cents per unit for industrial and 455 cents per unit for school use.

Table 4
Tariff structure for potable water: urban and peri-urban areas

Quantity consumed (kl)[a]	City areas (Zimbabwe cents/unit)[b]	Peri-urban areas (Zimbabwe cents/unit)
0–18	800	1000
19–30	1540	2380
≥31	4074	3860

[a] 1 kl is 1000 l.
[b] 1 US cent equals 55 Zimbabwe cents.
Source: Bulawayo City Council (2001).

Table 5
Raw and treated water consumption by year, 1989–1993

Year	Raw water consumption (m^3)	Treated water consumption (m^3)[a]
1989	54,300,000	43,400,000
1990	51,900,000	41,500,000
1991	46,300,000	37,000,000
1992	31.300,000	25,000,000
1993	36,000,000	29,000,000

[a] Reflects a 10% loss during purification and 15% loss in transmission.
Source: Bulawayo City Council (1998a).

6. Strategic options to solve the water scarcity problem

Bulawayo has instituted short-term, medium-term and long-term measures to deal with its perennial water scarcity problem. These include as follows.

6.1. Short-term measures

In 1992, Bulawayo, experienced a very serious drought and was for the first time in its history declared a Public and Under-ground Water Shortage Area under the terms of the Zimbabwe Water Act. Such a declaration enabled legislation to control water usage. Bulawayo City Council rationed water use to a daily consumption target of 75,000 m^3. Surcharges and heavy penalties were imposed on those domestic and industrial users who exceeded permitted limits. However, the rationing exercise had the following unplanned impacts:

- massive drilling of boreholes for domestic and industrial use;
- reduction of consumption, working hours and the labour force by heavy water-using industries particularly those in textiles, footwear, rubber, dairy, abattoir and food processing;
- loss of revenue from loss of industrial production; Loss of revenue from the tourist sector;
- relocation of a few companies either to Harare, Hwange, Mutare or Botswana;
- sewerage blockages; and
- increased risk to public health and sanitation.

Apart from these impacts, perhaps the main and longest-lasting effect was an acute realization in the city of its socioeconomic vulnerability to water scarcity. Medium- and long-term strategies were then seriously considered to achieve a sustainable water supply.

6.2. Medium-term response

This involved the exploration for groundwater resources. The Matshcamhlope and Nyamandlovu aquifers were identified as potential sources of groundwater. Initial explorations predicted annual yields of 3500 million litre from the former and 9600 million litre from the latter. Nyamandlovu was thus considered to be more viable and, after drilling several boreholes, a 47 km pipeline was constructed to tap the well fields to supply the city. In the long run, this water mining strategy, which supplies 10% of the city's water consumption, is not sustainable and should therefore be treated as a stop-gap measure.

6.3. Long-term strategies

This has sometimes been called the permanent solution to the water shortage problem by its proponents. The contemplated long-term measures entail both the recycling of wastewater and the tapping of additional water from new reservoirs. According to the first option, if 20% of the water used can be recycled, then there would be savings of up to 25%, in terms of consumption. SWECO, a Swedish consulting engineering firm, has strongly recommended this approach. Consequently, the construction of a 15 million litre/day treatment works and a major collection sewer is almost complete and Bulawayo City Council is in the process of inviting tenders for the construction of another 20 million litre/day system. These new developments are expected to significantly relieve existing wastewater treatment facilities, which are already chronically overloaded.

Alternative potential water reservoir sources which have been considered include those on the Glassblock, Gwayi-Khami, Mtshabezi, Gwayi-Umguza, Gwayi-Shangani and the Zambezi rivers. The first three have been deemed as cost-ineffective. The Gwayi-Umguza source would, however, produce a dam with a 4% yield of 21,000 million litre. It would require a 70 km pipeline extension to the existing line from the Nyamandlovu aquifer, which has been included in the discussion of medium-term strategies. Subsequent feasibility studies have nonetheless shown that the dam site is vulnerable to excessive seepage and high evapo-transpiration (SWECO, 1995; Gwebu, 1995a, b).

This then leaves a phased approach involving the last two riverine sources. The Gwayi-Shangani Dam, located 260 km from Bulawayo, has a capacity of 634,000 million litre. It would have a yield of 141,000 million litre. Once completed, the Gwayi-Shangani Dam would be linked by pipeline to the Zambezi River, which is located ~450 km from Bulawayo (SWECO, 1995; Gwebu, 1993, 1995a, b).

The Zambezi River has vast quantities of water, with average low flows exceeding 15 million m^3/day. Off-take from the Zambezi would be 10–20 m^3/s, compared to the Zambezi flow average of 1500 m^3/s (Mitchell, 1988; SWECO, 1995; Government of Zimbabwe (1995)). Bulawayo's total peak daily requirements could therefore be sustained by abstracting only a little more than 1% of this minimum flow. Capital and recurrent costs of the Zambezi Water Project would be close to US$0.75 billion and the cost to the end-user would be about US$0.5/$m^3$. This

certainly would be very expensive, particularly for the low-income groups. Therefore, an element of subsidy would seem to be inevitable. An alternative option to reduce costs is through cost-sharing. Parallel economic activities could be developed in conjunction with the water project. The feasibility study has recommended agriculture, aquaculture, ecotourism, mining and the establishment of processing and manufacturing down-stream industries (Government of Zimbabwe, 1996). It is believed that such an approach would reduce the cost of the water to the end-users considerably.

Central Government has always maintained the view that an exhaustive utilization of the nearby potential water sources should precede any attempts to obtain water from the Zambezi River because this is the most cost-effective solution to the city's problem.

7. Central Government's attitude towards resolving the water crisis

Government centralization of the responsibility for the sourcing and distribution of water supplies from Zimbabwe's local authorities since 1987 has been mainly responsible for the Bulawayo's water problems. Never before has the seriousness of the problem been more highlighted than during the 1991/1992 drought, when drastic measures, referred to above, had to be taken to minimize water consumption.

On several occasions the Central Government appears to have backed away from its promises to assist City Council in its quest for a lasting solution to its water problem.

In early 1992, the Central Government had promised City Council Z$16 million for the drilling of emergency boreholes in pursuit of its medium-term solution strategy. Although by October 1992, 260 boreholes had been drilled, the Municipality had received only Z$1 million from the Central Government's pledge.

The Nyamandlovu aquifer program was to be a joint effort between Bulawayo City Council and Central Government. Central Government was supposed to supply the pipeline funding, estimated at Z$57 million, including a substantial foreign exchange component. However, by October 1992, none of the money had been released by Central Government.

Even the long-term Zambezi Water Project was initially shunned by Central Government as being not being cost-effective. In March 1992, officials from the Department of Water Development opposed the idea at a seminar held by the Zimbabwe Institute of Engineers. Again, in May 1993, at an International Conference organized by the International Union for the Conservation of Nature and Natural Resources (IUCN) on utilizing the Zambezi River System, the Director of Planning in the Department of Water Development insisted that he saw no reason why people should view the Zambezi River as the viable source of water for the City of Bulawayo because, according to him, it was not cost-effective.

The Central Government thereafter claimed that neighbouring countries were opposed to the City of Bulawayo extracting water from the Zambezi River. First to be singled out was Botswana, which quickly denied these allegations. These claims were unfortunately repeated at a SADC consultative meeting in Harare. The respective countries, however, refuted the accusations. If anything, discussions at a subsequent IUCN Workshop demonstrated that several SADC member states, such as Botswana and South Africa, were keen to achieve regional cooperation to tap water from the Zambezi River. They all agreed that the Regional Water Management initiative,

coordinated by the SADC Environmental Unit, the Zambezi Action Plan (ZACPLAN), and the proposed regional protocol on riparian rights, were adequate to address this issue.

8. Civic reaction

Bulawayo's community response to the water crisis in 1992 and the negative approach which Central Government had adopted towards the long-term solution towards the water crisis was the formation of a NGO lobby, the MZWP. Included in its top hierarchy were influential persons from provincial government, local political party activists and representatives from Bulawayo's industrial and commercial sectors. Its membership was grassroots based. Dube, one of its founding members, described it as follows (Dube, 1995, p. 45),

> It was a unique grassroots initiative. People immediately, as individuals, families, organizations, churches and schools, demonstrated their support for the scheme by sending in to the trust voluntary contributions in cash and kind.

The basic aim of the NGO was to campaign for the tapping of water from the Zambezi River as a permanent solution to the water crisis of Bulawayo. Its specific objectives were to:

- increase public debate on the water crisis in the Matebeleland Region and Bulawayo;
- influence Government policy and raise awareness on water issues in Matebeleland Region, through fund-raising, research and development, public debate and lobbying; and
- provide a function of showing the need of increased public accountability by the Government.

Its strategy involved appealing to local pride and self-help action as well as striving to influence national and international opinion. Individuals, institutions and private companies were galvanized through meetings, long-distance walks,[2] discussions, advertisements, displays at the annual international trade fair, and the mass media to donate funds to the project. MZWP received significant support from the local media, such as the *Chronicle Newspaper* and the television station (Kriel, 1995),[3] for publicizing its intentions.

The Nordic countries, especially Sweden, were inspired by the level of integrity, self-determination and self-reliance of MZWP, as demonstrated by its ability to mobilize and muster community support and to raise funds locally.

In spite of the scepticism accorded to MZWP by Central Government, and claims that the new NGO was operating outside a legalized constitutional framework and that it had a hidden ethno-political agenda, MZWP managed to:

- raise over Z$3 million[4] in its first year of operation. By 1994 it had collected over Z$8 million in cash and pledges;

[2] The most publicized was that by Mr. Arnold Payne who pushed a specially constructed wheelbarrow carrying a 210-l drum of water from the Zambezi to Bulawayo, a distance of about 450 km.

[3] 'Bulawayo Must Live' was the main television program. Its focus was directed at sensitizing residents about the water situation and water conservation measures.

[4] At that time, US$1 was equivalent to Z$40.

- rally support from other NGOs particularly, ZERO (Regional Network of Environmental Experts, for advocacy, technical, and professional support;
- draw support from international organizations such as IUCN, United Nations Environmental Programme, SADC, Norwegian Agency for Development (NORAD). Swedish International Development Agency (SIDA), Danish International Development Agency (DANIDA), Canadian International Development Agency (CIDA) and the World Bank for technical, organizational, financial, and organizational assistance; and
- attract moral support from neighbouring countries, such as Botswana and South Africa, and others such as Libya, the United Kingdom and the USA.

Central Government finally realized the need to be more accommodating in dealing with MZWP. In the Second National Development Plan, it gave, in principle, endorsement to a feasibility study on the project. It was, however, too slow to act and, in the interim, MZWP independently commissioned several pre-feasibility studies with funding from NORAD and SIDA.

The Central Government must have felt threatened by the apparent success which MZWP was making in spite of its own apparent slowness to act. At this juncture, Central Government advocated for the formation of another trust of which MZWP would be a part. The new trust was to be an executive and governing general assembly consisting of Central Government, MZWP, Bulawayo City Council, Matabeleland Action Group, Matabelelaland Chamber of Industry, Zimbabwe National Chamber of Commerce, Commercial Farmers Union, Zimbabwe Farmers Union, ZANU-PF Bulawayo, ZANU-PF Matabeleland South and ZANU-PF Matabeleland North.

The basic goal of the trust was to resolve the perennial water problem of Bulawayo by broadening the representation of affected and interested parties and placing the problem within a national, rather than local, development context. The main advantages of the new trust were its wider representativeness and the fact that the inclusion of Central Government presence implied that international financial loans could be readily guaranteed. In spite of its purported goal, the general feeling among Bulawayo residents was that the Trust was a Central Government co-optation strategy designed to put the MZWP on a leash. Unfortunately, several events seem to have justified these suspicions. These were:

- the constitution of the new Trust was to be drafted solely by Central Government;
- MZWP was requested to release the funds which it had collected to the new Trust, the MZWT;
- it eventually took close to 2 years for the new Trust to be gazetted;
- Central Government did not seem to explicitly and unreservedly endorse the MZWP's proposed long-term water crisis solution;
- Central Government delayed in drafting the Terms of Reference for the comprehensive feasibility study on the project; and
- representation on the board of the new Trust appeared to be biased in favour of the ruling political party, ZANU-PF, and Central Government, which were basically regarded as one and the same thing by the residents of Bulawayo.

In July 1994 when the new MZWT (in which senior government officials were represented) was being launched, the then Minister of Local Government, Rural and Urban Development said 'I

wish to salute and congratulate all those people whose dream and commitment have put the possibility of bringing Zambezi water to Matabeleland and Bulawayo within sight.'[5]

Subsequently, the Minister of Lands, Agriculture and Water Development confirmed the drawing up of a Matabeleland Water Policy to a general meeting of the Matebeleland Chamber of Industries in Bulawayo. Through this policy, the Government committed itself to drawing up a comprehensive sub-regional water development strategy which was intended to address urban, industrial, mining and irrigation water needs. This, coupled with the inclusion of the Zambezi Water Project, in the most recent Five Year National Development Plan, and the Government's adoption of the 1996 Bulawayo–Matebeleland–Zambezi Water Feasibility Study, finally demonstrated some semblance of convergence between MZWP and Central Government (1996) in seeking a lasting and sustainable solution to the city's water crisis.[6]

The recommendations of the comprehensive feasibility study on the Zambezi Water Project do essentially endorse the original MZWP view that the water required to supply the City of Bulawayo has, on a long term and sustainable basis, to be drawn from the Zambezi. A 'leapfrog' approach in which a reservoir is to be constructed at Gwayi-Shangani, an intermediate point between Bulawayo and the Zambezi River, was recommended. The funding of such a major water supply Project, however, requires substantial funding from key external financial institutions such as the World Bank, the African Development Bank and donor agencies such as SIDA, the US Agency for International Development and NORAD. Unfortunately, Zimbabwe's frail economy has been on the brink of collapse for the last 5 years. Economic mismanagement, undemocratic governance and involvement in the Democratic Republic of Congo conflict have all pushed the realization of national development goals in general, and the Zambezi Water Project in particular, further toward the horizon. Once these problems are resolved, however, solid groundwork for the implementation of the project has already been laid down. The actual implementation of the project will now have to await the day when Zimbabwe will meaningfully respect human rights and the rule of law.

9. Conclusion

The water scarcity problem experienced by the City of Bulawayo has been both genuine and human induced. Because of a limited, variable rainfall regime that is periodically interspersed with drought, water unavailability has been a chronic problem. The problem has been worsened by the increasing demands, due to the city's growth, from the domestic, institutional and industrial sectors. A further dimension, to the problem, has been added by Central Government actions. By centralizing decision-making on the sourcing and distribution of water since 1987, Central Government denied local authorities in Zimbabwe the right to take effective and informed decisions on forward planning for the timely provision of their water demands.

[5] The President of Zimbabwe echoed these observations during the centenary celebrations for the city when he said, 'We salute the people of Bulawayo for the indomitable will to survive and prosper demonstrated especially during the 1992 drought.'

[6] The then mayor of Bulawayo, and a founding member of the MZWP, made the following remarks during the centenary celebrations for the city, 'Government has now accepted the Zambezi Water Project in principle…This is a welcome development indeed. Hopefully, at long last, rhetoric will give place to action.'

A strongly participatory self-help lobby organization, the MZWP, has played a decisive role in defining and developing a long-term strategy to source water from the Zambezi River for Bulawayo. Among the three basic strategies for directly influencing government identified by Gunby, Mpande and Thomas (1996), MZWP seems to have been compelled to adopt an almost confrontational stance. This might have been inevitable given Central Government strong initial apparent opposition to a lasting solution to Bulawayo's water problem.

MZWP demonstrated the extent to which community participation could influence Central Government policy. MZWP achieved success by rallying mass support from the various sectors of the community, namely civic associations, civil society, the local business and industrialist sector, local political leadership, media organizations and local authority officials. It also succeeded in mobilizing other supportive non-governmental organizations and the international community. In the end, it was apparent to Central Government that, financially and technically, MZWP, a people's movement, could go it alone to secure and provide a long-term solution to Bulawayo's water problems. The Central Government was left in a delicate position of having to accommodate both local grassroots and advocacy sentiments and to be seen to assert its role as a key player in facilitating bilateral and multilateral international funding, the guaranteeing of loans and the endorsement of riparian protocols.

In general, this case study of Bulawayo also highlights, albeit indirectly, the fact that the facilitation by Central Government of effective and efficient municipal resource management, at local authority level, should embrace devolution in terms of decentralized participatory development planning, program financing, implementation, monitoring and evaluation (World Commission on Environment and Development, 1991, pp. 247–250; United Nations, 1996, pp. 70–71). Local governments need support from the many other actors in the city, including private companies, local communities, civil society organizations, and international funding organizations (Baud, 2000, p. 1).

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