

Location

There will be twelve case study sites, one from each of Zambia's nine provinces and three randomly chosen towns. The sites visited within each town will cover a major city, peri-urban area and a rural area. The randomly selected towns will be chosen based on their proximity to a body of water within Zambia.

Administration

Zambia is a fairly large country covering 752 614 sq Km, with an estimated population of 10.3 million in 2001. For administrative purposes it is divided into nine provinces namely, Copperbelt, Lusaka, Northern, Southern, Eastern, Western, North Western, Central and Luapula province. Each province has a provincial headquarters and several towns and districts. Each district has a local district council from where most decisions are made at the local government level. Each province has several ethnic groups, each ethnic group with a different language, different traditions, beliefs and values.

Water Resources

Zambia is relatively well endowed with water resources. Water covers 11 890 sq km of the Zambian surface area with a total surface water potential estimated at 237 million m³/day. There are four main rivers in Zambia namely the Zambezi, Kafue, Luapula and the Luangwa River. Only the Kafue lies completely within the Zambian borders while the other three are shared with one or more countries. Smaller Rivers include the Chambeshi River and the Kabompo River.

The Zambezi River lies along the Southern border of Zambia, is the largest of the Zambian rivers and is shared with Zimbabwe, Angola and Mozambique. The Luapula River is situated along the North Western border of Zambia and is shared with the Democratic Republic of Congo. The Luangwa River lies in the North Eastern side of the country and is shared with Mozambique. Zambia lies within three international watercourse basins, namely the Zambezi River basin, the Tanganyika basin and the Congo River basin.

The groundwater resources of Zambia are yet to be quantified though guesstimates do exist. The total average groundwater recharge is estimated at 57.5x10⁹ m³/ year. Most of the Zambian population relies on surface water resources while the rest make use of the ground water resources. The distribution of water resources varies according to the location and season.

Background

The water control and allocation in Zambia is managed by the State which can issue licences for private ownership. The Government body with the licensing authority is the Water Board. The current legislation relating to water i.e. the Water Act is allegedly outdated and seems to concentrate on surface water resources, while leaving out the ground water resource. The institutions that are responsible for water allocation, conservation and management of the resource operate at low levels of efficiency due to lack of manpower, technical support and infrastructure. There also seems to be frequent duplication of work due to relatively large number of institutions and fragmented legislation relating to water.

Like most other developing nations the water rights are closely tied in with the land rights. Thus control and allocation will vary according to location. In the urban areas

the water is distributed by the newly created Commercial Utility firms or by a transitory firm known as Asset Holding Company. The Asset Holding Company only exists on the Copperbelt Province and is transitory in the sense that it has taken over the water distribution networks that were previously owned by the mining companies but will be integrated into the already established Utilities or replaced by a different permanent firm. All the Utility firms are currently under the Ministry of Local Government and Housing as these firms recently took over the operations that were previously run by Local City Councils and Local Authorities in all large stand-alone districts of Zambia.

In the peri-urban areas the communities either dig shallow wells within their premises or use communal wells or boreholes. The latter are usually funded by the donor community and NGOs. Those that live close to streams or rivers also use these as sources of water. In the rural areas the water is normally obtained from lakes, rivers, streams and wells or boreholes that are usually provided with the help of the donor community funded projects.

Methodology

Initially the twelve main sites will be identified. A period of four weeks will be spent in each location to ensure the area is well covered. A sample of water users and stakeholders will be identified in each location and informed before the site visit if possible. Semi structured interviews will be conducted with the identified users and stakeholders. Interviews will be recorded if permitted. Where possible, focus groups will be used to enable better use of time.

Choice of Sites

The initial selection was based on the position of the towns along the rivers of Zambia and the need to include provincial capitals in the site selection. Other factors include road access and variation in settings and location.

Place	Admin Division	Pop. 1980	Pop. 1990	Pop. 2003	Latitude	Longitude	Altitude
Chipata	Eastern	32.3	52.2	92.1	13.63°S	32.64°E	1212 m
Kabwe	Central		154.3	219.6	14.44°S	28.45°E	1173 m
Kasama	Northern		47.7	72.4	10.20°S	31.18°E	1240 m
Kitwe	Copperbelt		288.6	306.2	12.81°S	28.22°E	1213 m
Livingstone	Southern		76.9	111.2	17.86°S	25.86°E	897 m
Lusaka	Lusaka	498.8	769.4	1265.0	15.42°S	28.29°E	1270 m
Mansa	Luapula	34.8	37.9	51.0	11.20°S	28.89°E	1220 m
Mbala	Northern		11.1	16.9	8.84°S	31.37°E	1657 m
Mongu	Western	24.9	29.3	37.1	15.28°S	23.12°E	1010 m
Ndola	Copperbelt		329.2	349.3	12.97°S	28.64°E	1305 m
Solwezi	North-Western		2.8	4.0	12.18°S	26.40°E	1367 m
Lundazi	Eastern						

Population of Towns and Cities in 1000

Source: http://www.world-gazetteer.com/c/c_zm.htm (Accessed on 10/02/03)

Data Collection

Interviews will be conducted with the various stakeholders and water users in a semi-structured format. The semi-structured format will enable a non rigid interview routine in which the interviewee will be able to raise issues that the researcher may not have thought of or included in the interview outline. The number of interviews conducted will vary depending on the site and other logistical considerations like accessibility and language barriers.

The interviews will be recorded if this is permitted by the interviewee. Focus groups will also be used as this will save time and incorporate a larger sample size thus involving more stakeholders. Consideration will be given to interview times around the planting and harvesting season where the rural population and those who practice subsistence farming may have less time on their hands. An alternative would be to focus on the selected towns during this time as the residents in these areas are less likely to practice farming. Seasonal aspects also determine access to some areas in Zambia and this also has to be considered.

Stake Holders and Actors

In order to achieve the main objective of this project, a large cross section of stakeholders needs participate. The stakeholders that have been identified so far include:

Commercial Utilities, Ministry of Local Government and Housing, Ministry of Energy and Water Development, Ministry of Environment and Tourism, Water Board, National Water and Sanitation Council (NWASCO), Water Board, Department of Water Affairs, Environmental Council of Zambia, Farmers, Village Heads, Community Heads, General Public, Private Companies, Parastatals e.g. ZESCO, Non Governmental Organisations, Donor Representatives, Conservation Officers, Wildlife Officers, Tourism Operators and District Officials .

Current Status

The initial stages of the project involved building a bibliography of work done in second order water scarcity and related material in Zambia, Southern Africa and other regions. This information was then used as a starting point for field work.

The first phase of the field work was for a period of three months, from July to October 2003. The second phase of the field work will take place from April 2004 and will last for 12 months to 18 months. During the first phase of the field work three different sites were visited; Lusaka, Ndola and Kabwe. One month was spent at each site and the residential areas visited included high cost areas, medium cost, low cost and peri-urban areas. The rural areas will be covered in the remaining nine sites.

The interview transcripts from the first phase of the field work have been transcribed and analysis of the information collected during the interviews and focus group meetings has begun.

Personal Perspective of the Work

Zambia makes an interesting case study for the project as it deals with both internal and shared water resources. The other interesting point is that Zambia is a landlocked country and so only the reserves it has and receives in annual rainfall are available unlike coastal countries that may have options of desalination. In addition there has been no research

that looks at the interactions among the stakeholders that have been identified for the project.

One of the end products of the project will be a hydro-political map of Zambia showing the different interactions between different actors and their strategies for ensuring water access. The hydro-political map can be used to assess the impact of water projects, ensuring the vulnerable have access to water, reducing the repetition of efforts by different users, strengthen useful links between water users and filling in gaps that may exist. The end result will also be useful in the effective management of water resources in Zambia by ensuring the control of water access and allocation is in the right hands and different competing uses are catered for. It will also help ensure that a wide variety of stakeholders are identified with the hope of being included in the process of decision making.