



Second Order Water Scarcity in Southern Africa

Welcome to the first issue of the Second Order Water Scarcity project newsletter. It is intended to keep you informed of our research in progress concerning the mechanisms that generate second order water scarcity in Zambia and South Africa. It is also intended for all of you who are interested in water to share your views with us. You are welcome to send us your thoughts and comments concerning our research project or concerning your own research on water in Southern Africa. They will help us refine the research and better communicate with research users. This newsletter is intended for water professionals, for researchers and for all of the precious actors in the hydropolitical constellations who were so kind as to give us their time when they accepted to be interviewed. We are very keen to hear your feedback on the ideas we develop here. It will help us make the research integrative. We thank you in advance for all your future contributions. Please do send them to Leanne.Wilson@ncl.ac.uk



This first issue sketches initial results concerning domestic water management schemes in Zambia. The author, Paxina Chileshe, carried out extensive fieldwork in Zambia in 2003 and is now back for more field work until December 2004. In this issue, Leanne Wilson also discusses the concept of water and disaster.

Pierre Mukheibir of the Energy Research Centre at the University of Cape Town kindly contributed a short piece about his project on climate change and small town water resources. The newsletter is meant to be short so that you will have time to read it. Your feedback will help all of our first contributors to progress in their work.

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Grass Root Water Management

Paxina Chileshe

One of the current issues in the Zambian water sector is the creation of community managed water schemes. The schemes are run by a Community Based Enterprise (CBE) or a Water Management Committee (WMC). The WMC is usually part of the Resident Development Committee (RDC). The RDC is a group of community representatives and leaders that are elected by the community to serve it. When the scheme is run as a CBE the management team is monitored by the RDC even though the latter has no direct involvement in the scheme operations.



A comparison of the two systems would be difficult to carry out and conclude unanimously as the schemes have only been running for a short period of time. The CBE teams see their arrangement as the most desired one as it prevents interference from the RDC. The WMC members also see their arrangement as most desirable as the community is represented in the management of water affairs and the

group does not have a concentration of power where water matters in the community are concerned. Power struggles seem to occur in CBE arrangements as the RDC does not always accept a hands off role. The main reason for such conflict stems from the revenues from the water schemes. The RDC feels it is the legitimate group to handle the revenues as it is elected by the community whereas the CBE team is composed of community members who get jobs with the Enterprise.

The areas which have community managed water schemes in operation prefer the status quo rather than the Local Authority managed projects and water schemes. The communities feel they are able to make decisions that affect them and can build capacity within their communities to deal with water related problems as they arise. They are able to hire expert help when required and take part in the decision making. The communities not only feel empowered but also make plans to extend services to new residents.



The use of the RDC is beneficial in that they are able to relate to the other community members using the “peer” type relationships and carry out effective community sensitization on the need for clean water, maintaining water infrastructure, paying for water and minimising vandalism. Community managed schemes are part of the community participatory approach that is being advocated by international groups like the World Bank. Communities are encouraged to be involved in projects in their areas and have a sense of project ownership from the start of the project. On paper this seems to be an optimal approach but in most cases the community participation occurs only in the last phases of a project. Community participation stems from a drive to prevent white elephant projects and increase community responsibility in infrastructure maintenance. Capacity building of the communities, to ensure they can maintain the infrastructure and sustain projects after they have been handed over, is essential. Some communities where projects have been handed over still feel the decisions were made without their input and they are only involved in the maintenance and sustenance of the projects. This is a key issue that still needs addressing if communities are to fully participate in water management.

Water and Disaster

Leanne Wilson

The theme of World Water Day was water and disaster. The word disaster automatically conjures up dramatic images that tend to detract from the every day risks and hazards that often have an equal, if not greater, impact upon people's lives. There is a globally recognised, although unequally distributed, increasing burden of natural hazard events, connected to economic, environmental, political, social, and technological disasters. These obviously interact with manifold situations of social vulnerability that influence day-to-day livelihood strategies. Anthropogenically enhanced climate change, in addition to more tangible and immediate impacts of climatic variability, is intimately connected with the social disaster burden, which subsequently exacerbates both first and second order water scarcity (UN General Assembly, 2003; Dialogue on Water and Climate, undated). Box 1 introduces research currently underway in relation to climate change and water scarcity.

The term disaster is often used to describe situations where natural hazards impinge upon people's lives. The most prominent water related disasters are floods, droughts, and cyclones¹ with their well known associated health impacts such as cholera, and malaria. However, this disease burden is often (usually) present before and after the 'disaster' event, and ill health increases other features of social vulnerability. Disasters are rarely 'natural' events in themselves, but a result of the inability of people, communities and/or societies to cope with the (often natural) hazard event. This is often an abysmal reflection of the socio-political vulnerability of people, for example changes in the political arena rather than 'weather' as a trigger for famines, and droughts (Sen, 1981; Hewitt, 1983; Wisner, *et. al.*, 2003). Water related disasters include issues that may not immediately seem to fall under the 'banner' of disaster. Stratified access to potable water and sanitation is as much a water related disaster as a flood event.

Socio-political definitions of disaster illustrate that life does not fit neatly into conceptual boxes. In most contexts, structural violence is a 'disaster' of greater magnitude than 'natural' disasters, whilst contributing to emergencies and conflicts.

¹ Although dams influence tectonic activity (Gupta, 2001).

Box 1: Climate change and small town water resources

Project implemented by Pierre Mukheibir of the Energy Research Centre, University of Cape Town. (pierre@energetic.uct.ac.za)

The aim of this study is to investigate the evidence of strategies for coping with climate variability at catchment level. By documenting the existing coping strategies in times of climate variability i.e. drought in small towns in the Northern and Western Cape of South Africa, the project will propose long term strategies for dealing with the impacts of predicted climate change in these small towns. By evaluating the effectiveness of these strategies to meet the local and national development goals, as well as the impacts of longer term climate change, recommendations for mainstreaming these strategies will be made.

The study will identify 10 small towns on the western part of South Africa, where it is predicted that the rainfall will reduce by 10% over the next 10-15 years. In the past this area has experienced periods of drought. This project will identify those periods from weather records.

Through interviews and field visits, the project aims to identify and capture the various coping mechanisms that were put in place by these local authorities during these periods. By analysing these strategies, using multi criteria analysis, their effectiveness to address climate variability impacts will be assessed. The most effective strategies will be identified for their effectiveness in addressing longer-term climate change impacts in terms of water resource management goals in the long term.

It is our hypothesis that strategies to deal with climate variability may be appropriate to address climate change impact and hence reduce vulnerability to its impacts.

We expect to find strategies falling into three broad types:

- ❖ Increased water supply
- ❖ Reduced water demand
- ❖ Deferent management of supply and demand

The outcomes from this study will be presented in a report as well as appropriate publications.

Structural violence is a concept developed by Galtung (1969) to describe systemic marginalisation, including political, economic, cultural and legal restrictions upon various members or historically constructed groups within society. It is less tangible than manifestations of direct (physical or psychological) violence and is often implicitly accepted even as direct violence is challenged – for example debt ‘relief’ in the face of structural adjustment. Washing Away Poverty was the DWAF focus for world water day, focusing upon awareness raising for wise water use by *all* South Africans. However, 95 percent of irrigation water is used by large scale farmers; in some provinces 97 percent of water resources are used by 10 percent of the population; and although rural South Africans (excluding large scale farmers) comprise almost half the total South African population, they consume only up to 2 percent of national water supply (Schreiner and Van Koppen, 2003; Butler and Hallows, 2002). Technical approaches alone are hardly sufficient to address the implicit disaster of structural violence.

Second order water scarcity and vulnerability to disaster are features of structural violence. Although they are fundamental components of human well-being, water scarcity, or vulnerability to disaster are not always the highest priorities of low income households – see Holloway (2003). Galtung (1990), widened his concept to incorporate the cultural violence that sustains the invisibility of, or apathy to structural violence. Cultural violence is interwoven within certain forms of art, ideologies, languages, religions, and sciences, and implicitly serve to legitimise structural violence. Sanitised language, for example ‘natural disaster’ is one of many forms of cultural violence. Young (2003) argues that this characterises most of the contemporary world, where massive cultural inclusion is experienced simultaneously with systematic structural exclusion.

This paradox even holds to a certain degree at an international level, specifically in relation to transboundary water management, where ‘holistic’ collaborative approaches can be constrained by the relative, and usually incongruent, economic and political status of cooperating parties (Trottier, 1999; Green Cross International, 2000). The incongruent status of parties is certainly relevant to the international dimension of disaster management, where international budgets for disaster management are still heavily biased towards relief, rather than prevention (Middleton and O’Keefe, 1998). The by no means original conclusion is that a narrow focus on extreme events certainly grabs attention but can also divert from the context in which extreme events occur and can obstruct a deeper analysis.

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